YOJANA

NINTH YEAR 26

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25 PAISE

SCIENCE SHOWS HOW TO MAKE FULL USE OF A REGION'S RESOURCES

REPORT ON HYDERABAD LABORATORY : PAGE 2

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ESEARCH OR BETTER ARMING

PAGE 9



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ABOUT YOJANA

Yojana seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion of problems of social and economic development.

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NEXT ISSUE

YOJANA

STEPS INTO ITS TENTH YEAR

To mark the occasion

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WILL BE BROUGHT OUT ON REPUBLIC DAY

This will carry exclusive articles by eminent specialists on food production, import substitution, economies in construction and various other topical subjects.

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YOJANA

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FIRST AID

GOOD tidings have come from Washington. The Food Minister, Mr. Subramaniam, has announced that President Johnson has ordered the speedy despatch of huge quantities of American grain. This help is in the true tradition of American large-heartedness. And President Johnson's observation that war against famine is more important than military wars will find ready response in a country that values peace and is engaged in fighting poverty.

Food will move from U.S. farms to Indian kitchens as fast as ships and trains can move it. A great anxiety will lift from the mind of the Indian people. But these emergency supplies carry their own commentary—that it is ironic for a predominantly agricultural country to depend on an industrial country to cover its food deficit. The United States is said to feel that we have at last begun doing something on our own in agriculture to deserve help. All these years we have talked of agriculture being the first priority. We have put up dams, dug channels, built up an extension agency, introduced new methods of credit and material supply—still the deficit widens. Our record in agriculture best illustrates a remark made by a scholar to the effect that nothing fails in India and nothing succeeds. In the last fourteen years, we have not failed in agriculture; but neither have we succeeded. Food production indeed has gone up. And so has population. The general increase in incomes has enabled large sections of rural people to indulge in the luxury of eating just a handful more than the old meagre rations, and to miss fewer meals. Demand has grown at a greater rate than even the population has. And production has not grown fast enough to meet this combined challenge.

We must grow more. There is nothing new in this prescription. But how to do so has defied all our ingenuity. Ultimately food is seen to be a problem of management—management both of production and of distribution. Numerous experiments are going on in the country to find the key that will really open the door to spectacular harvests. The Package Programme is one. The Intensive Area Programme is another. The Emergency Agriculture Programme will try certain new lines of approach. The agricultural research institutes and universities have achieved notable success which can be taken up on a larger scale. There is the 40-maund club movement (described elsewhere in this issue). Agronomists, irrigation engineers, economists and others are advancing new theories and schemes of organisation. Possibly the Commission on Administration will put forward its own suggestions for agricultural management. We have only to hope that all our cards will be trumps.

Although it is poor consolation, we should remember that we are not the only country experiencing food deficits. The one country that has a larger population than ours, China, is also an importer of grain. Science has gone on making discoveries; but our forms of organisation are at least a generation or two behind what technology would make possible or the circumstances demand. An important fact we have to learn to appreciate is that the food problem can be solved, within India or the world over, only if higher farm production is attempted hand in hand with population control. A time may come when people can, with the help of science, manufacture their own food from light, air and water, as the trees do. Meanwhile, we must have chapatis and rice. From lack of bread and diseases born of poverty 30,000 children die in the world every day, says the U.N. Children's Emergency Fund. We cannot light our kitchens with scientific dreams. And we cannot also solve India's problem with P.L. 480 alone. The very givers have been emphasising that P.L. 480 is only first aid. The real treatment we must attempt ourselves.

We invite your suggestions for making YOJANA more useful in the coming year. Please tell us what new features you would like to see in the journal.

—Editor

KNOWN KNOWLEDGE PUT TO NATIONAL USE

Research Laboratory at Hyderabad designs industrial plants to use local raw materials and saves crores of foreign exchange

SHOULD scientific research always result in the "Eureka" kind of discoveries? Or has it a more immediate and utilitarian role to play in underdeveloped countries like India by applying 'known knowledge' for fuller use of raw materials in the service of industry? The Regional Research Laboratory at Hyderabad has, by precept and example, given a 'no' to the first question and a 'yes' to the second.

The Laboratory is situated on a 220-acre plot near Osmania University and is one of the 30 National Laboratories of India.

Dr K.T. Achaya, Deputy Director of the Laboratory, took me back to the days of its humble beginnings.

A small group of two or three chemists worked on the manufacture of alcohol from the *mahua* flower which grows in these areas. Then they succeeded in preparing paper pulp from local woods. The process they worked out developed into the Sirpur Paper Mill.

In 1945 the Hyderabad Government set up the Central Laboratories for Scientific and Industrial Research with Dr Quereshi as director. He chose the local coal and vegetable oils for research. Dr Husain Zaheer, who succeeded him, drew up a comprehensive programme for utilising the raw materials of the Hyderabad State. Some people when told about the research schemes of the Laboratory used to say, 'Oh ! Is this research? What is new in it?' On every occasion Dr Zaheer took great efforts to tell them how those schemes would help the country to industrialise and save foreign exchange. In the 1950s Dr Zaheer installed a plant to enhance the use of locally available Singareni coal. Established in 1953 at a cost of Rs 7 lakh, the plant has already paid off Rs 25 lakh.

YOJANA REPORT
BY ROSSCOTE
KRISHNA PILLAI

The main building of the laboratory is surrounded by pilot plants—steel reactors, massive furnaces, mills, grinders, solvent extractors and distilleries.

"KOYLA KI DUKAN"

"The original aim of the Hyderabad Laboratory was to explore the possibility of the industrial utilisation of the indigenous raw materials of Hyderabad. Instead of Hyderabad it is now Andhra Pradesh", said Dr Achaya. "We took up the coal found at Singareni about 240 kilometres from Hyderabad, as one of our first subjects."

The Singareni deposits are placed around 1,000 million tonnes. The coal, explained Dr Achaya, has a high ash content and has to be carbonised.

"Has not coal been carbonised and utilised in other places before?"

"This was the first time that Indian coals had been carbonised in a low temperature carbonisation plant and marketed. You see, coal found at one place will not be the same as the coal mined at another place. The composition varies and the by-products may be very different. The geological age of the area has a lot to do with it. So we had to work out the composition and by-products of the Singareni coal. In 1953 we set up a low temperature carbonisation plant (L.T.C.). We had a loan of Rs 7 lakh from the Hyderabad Industrial Trust Fund initially. It has been continuously working for the last 12 years. The main product—semicoke—is a very popular smokeless domestic fuel sold under the trade name "Kolsit". The demand for the fuel has far exceeded the capacity of the plant. It is so popular now that common people know our laboratory as "Koyla ki Dukan".

"What are the by-products?" I asked.

"Several", replied Dr Achaya. "Road tar, for instance. Our tar has been tried on some Delhi roads by the Central Road Research Institute with great success. Others are creosote, a disinfectant, and many phenols which can be used for making plastics."

"Has your L.T.C. pilot plant been of commercial importance?" I asked.

"Oh, yes. The Central Government has decided to set up four large L.T.C. plants, for instance in Singareni, in Neyveli, in Madhya Pradesh and so on. We were asked to prepare the feasibility plan for a plant at Singareni collieries with a capacity of 900 tonnes progressively going up to 2,000 tonnes per day. We prepared the plan at a cost of Rs 25,000. You know, if a foreign firm prepared such a plan, we would have shelled out several times that amount. Now they have accepted the plan and we shall do it on a turn-key basis."

"Has machinery to be imported for this?"

"Not much. Of course it will involve a few crores of foreign exchange. But 80 per cent of the machinery will be made here. We have gained considerable knowledge from our pilot plant and so we can give the entire trained staff for manning the plant at Singareni."

The Regional Research Laboratory (R.R.L.) is also setting up a pilot plant to prepare gas from the low-grade coals. The gas can be used as town gas for heating or for synthesising fertilisers. The pilot plant will produce one million cubic feet of gas per day. Based on the data collected from the pilot plant, R.R.L. will design large-scale gasification plants for anyone who intends to set up such plants.

YOUNG ENGINEER'S BIG ACHIEVEMENT

"Another product that we make here on a pilot plant scale is active carbon and 80 per cent of the total production in the country is from here. A brilliant scientist, just 28 years old, has designed, fabricated and set up this plant which is now earning for us three to four lakh rupees a year", said Dr Achaya pointing out to me a three-storeyed mass of machines standing proudly in the open. Coal has a limitless capacity to blacken any place, but the environments of the plant looked neat.

I met the young scientist who was the "father" of the active carbon plant. Mr K. Seshacharyulu, the tall, young chemical engineer, was all smiles when I discussed with him his achievement.

"It is no new invention", he said. "Active carbon has been known for a very long time now. It has many uses. It is used in purifying air, gases, water. It refines, decolorises and deodorises sugar, vegetable oils, glycerine and many chemicals and pharmaceuticals. Materials like lignite, coal and charcoal made from wood, bone, coconut shell, groundnut hull and rice husk have been used for making activated carbon. We had coal as the starting material. This is the first time in India that active carbons have been made using coal. You know, we have our low temperature carbonisation plant. We get a lot of char fines from the plant. They were taken for activation."

The laboratory work was completed by Dr D.S. Datar and his group. Dr Datar is now the Director of the Central Salt and Marine Chemicals Research Institute. Mr Seshacharyulu joined this Institute six years ago and was assigned the work of developing a pilot plant.

The first pilot plant had 20 kilogramme capacity. Based on the studies made on that, a prototype plant was fabricated at a cost of Rs 15 lakh. The foreign exchange component was Rs 3 lakh, mainly for instruments and stainless steel sheets for the reactors.

The process consists in first making semicoke by carbonisation of coal at a temperature of 600-650° C and then activating porous semi-coke with superheated steam and air.

"What is the main feature of the plant?" I asked. Mr. Seshacharyulu replied, "This plant gives us a type of active carbon which is absolutely uniform in quality. As regards the product made by private industry, it varies in quality from batch to batch. The careful control of process conditions is very important. This prototype plant of 2-tonne capacity gives us all data for designing commercial plants. Also we are trying to find newer applications for active carbon, for instance, in catalytic reactions, water treatment and dry cleaning."

"You know, our country is still importing active carbon", said Dr G.S. Sidhu, Director of R.R.L., when I met him later and asked him about the institution's work in import substitution. "When our prototype plant works to its full capacity, it will save for the country Rs 15 lakh in foreign exchange. Our product called hykol stands comparison with the highest quality of imported active carbon. And it is only a prototype plant producing 2 tonnes a day. It is only a beginning, you see."

"When commercial plants are erected, will the pilot plants be dismantled?" I asked Dr Achaya who took me round.

"Yes, only after they are fully utilised", he said. "For instance, the old pilot plant of half-tonne capacity for producing active carbon is still being put to good use. It makes active carbon from coconut shell charcoal for gas masks. It is the only institution supplying this material to the Defence Ministry."

PROTEIN-RICH FOOD FROM CATTLE FODDER

The Regional Research Laboratory not only deals with fuel but also with one of man's vital needs, food. Of all things that the R.R.L. has chosen for developing into man's food is cotton seed, generally used as cattle fodder in India.

The Laboratory has done pioneering work in that it has been able successfully to get two valuable foods from the largely neglected oilseeds, a golden yellow edible oil and an attractive and nutritious yellow powder containing a special type of protein called lysine, which is essential and which vegetarians do not get from their normal food.

"You know, our cereal diet does not provide sufficient levels of protein, and cotton seed is an excellent source of protein", said Dr Achaya, while explaining to me the work done by R.R.L. in this field. He continued:

"Oil seed meals are nothing new. Soyabean flour is widely used in the U.S.A. We in India consume groundnut through different preparations although not with the main meal. But cotton seed, which is one of our major agricultural by-products, is entirely used for cattle feed and not for human consumption. More than 20 million tonnes are produced in India and 20 per cent of it is in Andhra Pradesh. As a Laboratory devoted to utilisation of indigenous raw materials, we took up the study of cotton seed oil and flour."

"Are we importing cotton seed oil", I asked Dr Achaya.

"We import soyabean oil which is almost the same as cotton seed oil", he replied. "In 1963-64 some

75,000 tonnes of soyabean oil was imported for making vanaspati and 50,000 tonnes of tallow for soap-making. They are worth Rs 20 million."

"What work has R.R.L. done in the field?"

"Fifteen years ago we began our study of cotton-seed oil and flour", Dr Achaya went on. "We selected different kinds of cotton seed, analysed them, worked out the different methods of crushing. The oil that is crushed cannot be consumed. It is black and looks like old motor oil. We have worked out refining processes here by which we get a golden yellow oil which is in many respects better than many other edible oils.

"As a result of our work, interest has grown in cotton seed crushing. About 20 per cent of the seed grown in India is now crushed. We have been urging the Government to establish plants for crushing the remaining 80 per cent also. Then we need not import soyabean oil at all."

"Have you set up a pilot plant?" I asked.

"No, we have a demonstration unit. Any private industrialist can come and see it. We give all details."

In the room housing the various components for making cotton-seed oil and flour, I saw the cotton seeds undergoing different processes like cleaning, delinting and dehulling. The hull-free kernels were flaked, cooked and then the oil was expelled. The oilcake was then ground and separated into coarse and fine particles. The fine portion constitutes the edible flour.

"In oil mills, they crush the seeds for the oil and not the cake", said Dr Achaya. "The cake loses much of its protein content. It is in getting the cake with the protein intact that we have succeeded. We extract the oil by using solvent, for instance, a mixture of hexane, acetone and water." He showed me a pilot plant being installed for studying the solvent extraction method in detail.

"Has the cotton-seed flour made in the Laboratory been tried out as food?"

"Yes. The UNICEF is interested in it. Various formulations for Indian diets using this flour, which we call hypro, are being carried out in collaboration with the Nutrition Research Laboratory here", said Dr Achaya. "And the same protein that is in this flour is used for fermentation in making antibiotics. In U.S.A. it goes under a trade name and they were surprised when we sent them a sample of protein made here."

FOREIGN COMPANIES BUY OUR PRODUCTS

Dr G.S. Sidhu, the Director, told me that half a tonne of fine cotton seed flour was being produced in the Laboratory and supplied to antibiotic manufacturers for use in fermentation. "Public undertakings at Pimpri and Rishikesh are experimenting with it. Private companies like Alembic and Cynamid are using it. Cynamid are negotiating with us for exporting this flour to their plants abroad also", he said.

"A bigger plant for producing this flour is being erected", Dr. Sidhu told me, "And from March our production will be 5 tonnes, worth Rs. 10,000, a day."

Dr Achaya took me to a room where all the small machinery and equipment involved in the processes of manufacture of industrial organic chemicals were made of glass.

"There is no worry about corrosion if we use glass instead of metal, you know. So, this pilot plant for chlorination of turpentine is all made of glass. Here we are developing the technical know-how for setting up ancillaries for Indian Drugs and Pharmaceuticals. We are also finding out suitable raw materials for making four different perfumes for a well-known manufacturer in India who cannot import requisite material from abroad. They are paying us handsomely. A famous British firm is proposing to set up here a factory for making large glass units. Thus, we help science, we help industry", said Dr Achaya with justifiable pride.

The Laboratory has succeeded in certain fields where American scientists with the latest equipment and facilities have failed. It has successfully evolved a process for hydrogenating castor oil which is used for lubricating jets. A Bombay firm has bought the process and is producing about 250 tonnes per month, practically all of which is exported.

The Laboratory has also worked out an excellent method to process castor oil for use in paints in the place of linseed oil, which is commonly used. A Bombay firm is making it now. It has great export possibilities, because castor is grown mostly in India and Brazil.

Light coloured paints, varnishes and lacquer for surface coatings highly resistant to water, heat and chemicals have been made by the Laboratory from cashew shell liquid.

An interesting part of the Laboratory is the hand-made paper plant which uses cotton rags which are generally wasted. The skill lies in beating white and coloured rags into certain critical degrees of hydration. Special quality bond, ledger, drawing and other papers are regularly produced and sold. The design of a vat for making paper has been given freely to paper manufacturers. And the pilot plant has been meeting almost the entire requirements of filter paper needed by our laboratories except the few superfine qualities which are still imported.

INDUSTRIES SPRING FROM RESEARCH

Quite a few industries have originated in the country, especially Andhra Pradesh, with the technical know-how and processes supplied by the Regional Research Laboratory. Among them are the utilisation of the Fuller's earth deposits found at Korvi in Mysore and used in bleaching mineral oil (Barauni in fact is taking 3,000 tonnes of this earth at Rs 300 a tonne), manufacture of anhydrous calcium sulphate used for removing moisture, chemical cotton from cotton linters for making gun cotton, rayon and cellulose, insecticides from turpentine and chlorine, silicon carbide, the import of which has ceased.

By transforming known theory into process know-how the Laboratory has installed a pilot plant to convert toluene, obtained from coal, into benzyl chloride which is an important organic chemical intermediate used in dyes, drugs and perfumes. The process has been made over to a private firm.

(Continued on Page 10)

PLANNING FOR IRRIGATION

An Industrial Approach Necessary

BALESHWAR NATH
Member, Irrigation Team,
Committee on Plan Projects

MUST STATES SHOW NET LOSS?

In planning irrigation, we must allot funds to schemes in their order of merit on an all-India basis, instead of allowing each State to take up its own schemes, major, medium or minor. In fact, the foundation of general schemes of planning irrigation consists of the knowledge of two important factors :

(i) facts connected with irrigated agriculture in irrigated lands, and

(ii) relative requirements of irrigation in unirrigated lands.

Irrigated agriculture has many facets. It differs considerably from dry farming or unirrigated agriculture. It is not limited merely to application of water to crops. It is an integral process involving consideration of socio-economic factors, agronomic and climatic features of a given area, the quality of water available and the drainage characteristics there, and even the political and administrative set-up of the region.

Statistics reveal that land utilisation efficiency has not improved significantly even where irrigation has been provided. In other words, full advantage of irrigation facilities is not being taken even in areas where such facilities exist.

Examining the statistics for 1960-61, it would appear that the ratio between the net area sown and total cropped area in that year worked out to 328:376= 1:1.15, while the ratio between the net area irrigated and the gross area irrigated in the same year worked out to 61 : 69= 1:1.13.

In 1950-51 the proportion stood at 285:322=1 : 1.08.

With the population increasing at more than 2 per cent per year and with the per capita holding being about 0.62 acre it becomes difficult to balance our annual food requirements with the yearly production unless double and triple cropping is increasingly adopted in at least irrigated areas.

Irrigation does lead to increased production, as can be gathered from an analysis of production trends and Statewise percentage of irrigated acreage in respect of two main cereals, namely rice and wheat.

Out of an area of 86 million acres under rice in India about 19 million acres are in the States of Madras, Kerala, Mysore and Andhra Pradesh. Of these, 14.5 million acres are irrigated. That is 80 per cent of the area under rice in the four southern States gets irrigation benefit. Annual production in these States being over 10.5 million tonnes, the average yield per acre works out to a little over half a tonne.

Second Part of Article. The First Was Published Last Fortnight

In the remaining States of India, of the 67 million acres under rice the production is of the order of 22.5 million tonnes, leading to an average production figure of only one-third tonne per acre. This difference could obviously be attributed to the fact that the irrigated rice area in the remaining States is only 15.5 million acres, i.e. 23 per cent of the total area under rice.

If the percentage of irrigated area under rice is increased in the non-southern States of India, and if they can catch up even with the level of average production of rice in the four southern States, i.e. half a tonne per acre, we could get an additional 10 million tonnes of rice.

Basis of Successful Farming

The conclusion is that irrigation facilities should be provided as expeditiously as possible to the rice-producing areas in the northern States as well. This may not be practicable all over the area. But attempts need to be made wherever feasibility tests justify them.

In fact, the international standard of production per acre is almost four times our production level. As such, even the progressive areas in rice production, more particularly in southern States, should be made to give higher yields of rice per acre than what has been possible so far. Irrigation is a basic measure in bringing this about.

The production of wheat averages to about one-third tonne per acre, except in the State of Punjab where it touches a level of half a tonne per acre because in that State more than 50 per cent of the area under wheat gets the benefit of irrigation. It is thus obvious that with the increase in irrigation facilities in other States, the per acre wheat production could also be raised to the level attained in Punjab, if not more, thus leading to an additional gross production

of about 6 million tonnes of wheat. That can wipe out at least our present import needs.

Lack of irrigation acts as a drag on the farmer's incentive. He remains hesitant to provide other inputs like improved seeds, manure, fertilisers and pesticides. If irrigation is assured to the farmer, he will undoubtedly shake off his reluctance to provide other inputs required to increase agricultural production.

Irrigation thus forms the datum line for sustained and successful agriculture. It is one of the primary inputs and should be made use of as far as possible even before other types of inputs like chemical fertiliser, pesticides, etc., are available. But investments on irrigation cannot always be justified unless there are adequate returns therefrom.

Looking at the figures of State investments and returns for India as a whole, we find that before Independence there was an average annual benefit of Rs 1.02 crore on the total outlay made on productive and unproductive works combined. This picture has since deteriorated considerably. In 1961-62 against the total outlay of Rs 506 crore (Rs 121 crore on productive works and Rs 385 crore on unproductive works), there was a profit of Rs 1.86 crore on productive works and a loss of Rs 16.15 crore on unproductive works. The net loss works out to Rs 14.29 crore. Since the area irrigated from the State works, for which capital accounts are maintained, was about 22 million acres, the loss works out to Rs 6.5 per acre irrigated.

This figure of loss is for the country as a whole. It varies considerably from State to State. Figures for 1961-62 in respect of some States, as given below, will illustrate this variation significantly:

State	*Area irrigated*	*Net loss*	*Loss per acre*
	(*m. acres*)	(*m. Rs.*)	(*Rs.*)
Punjab	6.81	0.3	0.04
U. P.	7.58	38.2	5.00
Maharashtra	0.45	12.9	28.67
Gujarat	0.20	26.8	134.0
Madras	2.29	24.2	10.57

If the indirect benefits to Government are taken into account the picture of financial performance of irrigation projects might alter considerably in their favour. All the same, any financial loss acts as a drag on further investments being made. The remedy lies in optimising production from irrigated agriculture and in revising water rates, which may seem justified in view of rising prices for cereals and other agricultural products and minimising losses to the State.

Another factor inhibiting development of irrigation on a wholesome basis is the present compartmentalisation of irrigation facilities. As at present, while major and medium irrigation works fall under the purview of the Irrigation and Power Ministry in the Centre, those under minor category are under the Ministry of Food and Agriculture. The irrigation set-up in the States is also disjointed; the activity is bifurcated and sometimes even trifurcated.

What is required urgently is organisational integration of all types of irrigation works under one technical control. After all, the purpose of all irrigation is the same. Field level technique is also identical in all types of irrigation. Single control will lead to a better utilisation of irrigation resources than what has been possible so far. Streamlining of irrigational management is urgently called for. It suffers at present from many angularities.

Administratively, irrigation works can be classified more rationally under two categories—local and trunk. Where long-distance transmission of water is involved the works fall under the trunk category. Where, however, water is made available from local resources, either surface or underground, they could be grouped under the type 'local'. A unitary control on both types of works could lead to proper dovetailing of irrigation facilities provided under different categories of irrigation works. It will also help a proper check on the drainage of the areas served by irrigation works, which is an essential aspect of the development of irrigated agriculture.

In fact, development of irrigated agriculture in the country poses a variety of problems of unprecedented magnitude. We have in India extensive irrigation systems. Our irrigated acreage is increasing year after year. We have reached a stage where a dispassionate analysis of our past performance and our future plans is urgently called for.

Irrigation, though intimately linked with the private interests of the cultivators, is the biggest public sector undertaking. Considering the investments made during the Plans and in the past, irrigated agriculture is India's biggest industry. Its efficiency in its different aspects is, therefore, a matter of national concern.

It may, therefore, seem expedient to reorient our thinking in respect of irrigated agriculture so as to impart to it an industrial outlook. After all, irrigated acreage from State irrigation works is only a small fraction of the area under the plough in the country. A high-level agro-irrigational probe into the problem of getting the best from our irrigated agriculture will go a long way to improving irrigational efficiency, both operational and financial.

Yojana Bhavan Diary.

THE U.S. Senate delegation to India led by Mr Wayne Morse called on Mr Asoka Mehta, the Deputy Chairman, on December 7.

Lady Jackson (Barbara Ward) met the Deputy Chairman and Members of the Planning Commission on December 13.

Among others who met Mr Asoka Mehta were Dr Haydon William, President, Asia Foundation, on December 7, Mr James Reston of the New York Times on December 13, and Dr B.K. Thompson, Vice-President, Rockefeller Foundation, on December 20.

On December 23, Mr Russell Spurr, representative of the Granada International Television of U.K., recorded a 10-minute interview with Mr. Asoka Mehta on India's food problem which will be included in the programme on the World Food Situation to be televised in January.

The Social Science Research Committee has issued a questionnaire to various universities, institutions and associations of research and research bureaux and organisations of the Central and State Governments.

FOOD IS A MANAGEMENT PROBLEM

Imports *Can* Be Cut

GORAKHNATH SINHA

IN a deficit food economy, the three major aspects are production, price, and the husbanding of food resources through administration right from the homes to the level of the Government. Only the last aspect will be examined in this brief note. However, a glance at the politics of food imports is necessary in order to appreciate the urgency of resource economy.

Normal trading transactions between buyers and sellers across national frontiers are based on simple economic considerations of reciprocal benefits, shared according to relative bargaining strength, out of the difference between the maximum which the buyer may pay and the minimum which the seller can afford to accept. This is exactly what happens in domestic trade or simple buyer-seller relationships. But the state, possessing over-all regulatory authority, may modify this simple model in economic or non-economic interests.

Another band of the spectrum of international tansfer of goods may be motivated by philanthropy. An extreme instance is provided when, in response to an appeal from the German mothers during the First World War, a howling crowd of British women forced Lloyd George to send a gift of a shipload of feeding bottle rubber nipples for the starving German babies. And this took place at the height of the blockade and the climax of the feeling of mutual hate. At the other extreme are the instances when India had to pay heavily for the import of Argentine maize owing to bargaining weakness.

Thus transfer of goods may range from humanitarian gifts through mutually beneficial deals to economic squeeze by the stronger partner or to the application of the regulatory authority of the State as a political screw.

As regards U.S. food exports to India, normally the trade helps us and also helps the farm price support policy of the U.S.A. at home. The application of the screw to food export, experienced recently, is not something new. Readers might recall how, as early as in December 1950, negotiations for the food loan of two million tons were sought to be used as a lever to persuade India to change her policy towards the newly emancipated China.*

The problem of food today involves considerations not only of the basic, biological need of subsistence and of ordered economic growth, but also of initiative in international relations. The economic considerations are known to all. The main impact of money income generated by industrial, commercial and expanding administrative activities is to increase the lowest incomes and expand the demand for food. In addition to the population pressure on food, there is therefore an income pressure also. If this is not satisfied, inflation might occur and industrial peace disturbed.

On the political side, the true test of national freedom is the capacity of a free member of the family of nations to enter into any agreement in its own interests or make any concessions in the broader interests of regional or international life without duress. This position we are not going to attain so long as we have to depend so heavily on the imports of food-grains. Of course no nation can be completely autarkic, but the demand for food is of such a pressing nature that the needy buyer can have no choice.

Adequacy and Price in Food Management

The subject of food resources management has two major aspects. One is that of the adequacy of the supply either according to needs criteria or according to the demand backed by purchasing power. The price aspect is linked with the adequacy and the demand factors. The interdependence is not exclusive, and the demand and the supply variables as well as the price function are subject to a number of other controlling factors besides mutually determining one another. It is this complexity which makes the market economy so difficult to analyse and accounts for the difficulties of food administration.

In times of emergency it is the adequacy aspect which is more important—since, when survival is at stake, price can be regimented. Such a situation is before us today, and it is necessary that our attitude and behaviour are shaped according to this confrontation.

Most of the facts and conclusions referred to in the succeeding paragraphs are drawn from the Report of the Food Survey Operations of all the Bihar districts in 1945-46 and are contained in the Report which was presented to Government.

On the whole the performance of our agriculture

*President Johnson orderd on December 10, 1965, the immediate release of 1.5 million tons of wheat for shipment 'to help meet the immediate food crisis in India'. A loan of 50 million dollars has also been offered for buying fertilisers from the U.S.A. for complementing the Indian effort to increase agricultural production. Mr C. Subramaniam, Union Minister of Food and Agriculture, met President Johnson recently and massive food supplies are to be rushed to India—Editor.

in the production of food-grains since 1951 has been fairly satisfactory. While population increased from 361 million in 1951 to 439 million in 1961, by 21.6 per cent in a decade, the index number of food-grains production given by the Central Statistical Organisation shows a rise of 35.6 per cent in 1960-61 and 37.5 per cent in 1961-62 with production of 1949-50 as the base. In absolute figures production was about 80 million tons in 1963-64 and the estimate for 1964-65 was much higher.

Thus the increase in production of food-grains has been at a higher rate than the phenomenal increase in population. Evidently, the price rise has been mainly due to the increase in the income generated by industry, commerce and public administration and to other factors not explored fully as yet.

During the last eighteen years the imports have ranged from less than one million tons in some years to 4.7 million tons in 1962-63. If we arrange the annual production and import figures side by side, we come to the conclusion that the imports may have been determined by many considerations, which are not clear, besides the forecasts of production. The stock and flow position in the market and the internal price trends may be some of the other considerations.

Imports were also decided upon in certain years for the purpose of building up buffer stocks which, however, has not been achieved to any appreciable extent. The stocks held by Government have functioned more like the till money of the banks to even out inflow and outflow in routine market operations than as real reserve against major or unforeseen fluctuations in production and market reservior. The weakness of our food economy with regard to the sufficiency of the stock started between 1944 and 1946 when the supplies held by trade and by the producers were depleted. Stocks are like fat in the human body—a protective pad without which the system is likely to be affected by every slight change in the temperature.

Standards of Consumption

A statement of the food consumption standards of the leading countries at all levels of economic growth given by the U.N. Food and Agriculture Organisation shows that our annual per capita consumption of cereals has increased from 118 kilograms in 1949-50 to 139 kg in 1961-62. A reference, which will be elaborated later on, may also be made to the fact that the per head consumption of potatoes rose during the period from 9 kg to only 11 kg (as compared to 71 kg in Japan, 81 kg in the U.K., 134 in Italy and 65 kg in the U.S.A.).

The accepted standard of food-grains requirements per consumption unit is 14 ounces of cereals and 3 ounces of pulses for a person weighing 120 pounds. If the supply and habits allow an adequate intake of roots and vegetables, even 12 ounces or less of grains per head per day would meet the nutritional requirements. But when a person eats, it is bulk and not only nutritional levels that give a sense of satisfaction. The working-class people in the West make up the bulk with potatoes and vegetables.

In a poor country and for the lowest income group in every country, the effect of an increase in income is to increase the demand for cereals and starchy roots. In the next higher level of food pattern, more of cereals replace roots and the next higher middle income group tends to reduce the consumption of cereals and takes more of meat, fish and dairy products.

In this connection the war-time experience of Britain is worth noting. It was reported that as a result of rationing, the health of the children of both the richer and the poorer classes showed clear improvement. It has been noted by Mrs Joan Robinson that by sheer efficiency of administration, China managed to keep the population well-fed during the near-famine year following the failure of the Great Leap Forward.

Production and grain imports do not make up the whole supply situation. The food survey of 1945-46 in Bihar showed some unaccounted resources and gave valuable data on the extent to which there were substitutions of the accounted supply of food-grains.

Study of Food Habits

Since food will continue to be a problem, it is desirable that a detailed study of the food patterns and habits of different income categories in different localities and even in different seasons in the rural areas is taken up. It will help to make the food administration more efficient. There is nothing new in this suggestion as the British district administrators had always these data on their files dealing with standing precautions against famines and scarcity. To give one example, they reported how the severity of the Tirhut famine of 1872-73 was softened by a good crop of mango.

It was found by the Bihar Survey of 1945-46 that sweet potato formed a regular substitute for food-grains for 5 to 10 per cent of the rural population. In bulk value, four seers of this root were considered to be equivalent to one seer of cereals for consumption and wage payment. The production of sweet potato in that year was equivalent to over 90 lakh maunds of food-grains. In post-war Japan, sweet potato proved to be of great value until agriculture was reorganised under the land reforms of Gen. MacArthur.

It was also reported that toddy was regularly treated as substitute for grain in summer months—five seers of toddy being equated to one seer of food-grains. The toddy output of the year was calculated on the basis of the number of date and palm trees tapped, as reported by the Excise Department. This gave a figure of toddy yield equivalent to 11 lakh maunds of cereals. It was observed that toddy had a high nutritional value, apart from its bulk value. The Report of the British Parliamentary Committee on Nutrition in the Colonies had reported to the League of Nations a decade earlier that governments in the tropical countries should take steps, for nutritional reasons, that such fermented or ennobled food in the poor tropical countries continue to form part of the dietary of the people.

During one of our recurring "Eat More Vegetables" campaigns a young housewife humourously remarked that when she bought more of potato and vegetables the children consumed more of cereals instead of economising on them. This observation has a valuab

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What Kind of Research Does Agriculture Need?

The Real Test Is Increased Production

K. A. P. STEVENSON

'HISTORY celebrates the battlefields whereon we meet our death, but scorns to speak of the ploughed fields whereby we live; it knows the names of the kings' courtesans, but cannot tell us the origin of wheat. This is the way of human folly.'

These words by Henry Fabre aptly illustrate the apathy of man through the ages to the development of agricultural science and research. Although agriculture is believed to be eight to ten thousand years old, starting somewhere in the area between the valley of the Nile and the Indus valley, it is only recently that it has been studied in any systematic manner.

The twentieth century will long be remembered as the age of the automobile, the aeroplane, the television and the development of nuclear energy; but, in terms of its contribution to the welfare of mankind, its most striking achievement is really the improvements brought about in agriculture. Although some of the important scientific discoveries, on which modern agriculture is based, are products of the eighteenth and nineteenth centuries, the real break-through in terms of increased productivity from land belongs to this century.

In a recent publication on agricultural research, Salmon and Hanson have shown that large farm surpluses, the difference between what a farmer produces and what he uses for himself and his family, are of comparatively recent origin. It is these surpluses that have enabled millions of men and women, who would otherwise have been forced to work on the land, to devote their attention to other pursuits and enhance the well-being of mankind. It is only about a hundred years ago that 90 per cent of the world's population was engaged on the land whereas to-day, in most advanced countries, a single farmer can produce what twenty or more persons produced previously. At the same time, it is equally true that, in underdeveloped countries, increases in productivity have been low, leading one to the obvious conclusion that the key to all-round development lies in greater attention to agricultural research and its application in the field.

Heed The Farmer's Cry

There is a fundamental difference between agricultural research and research in other fields; whereas, in the latter, it is practicable to take the results of research done in any particular country and apply them in other countries, this is seldom possible in respect of agriculture. Farming conditions differ considerably from country to country and even between different regions within a country. Differences in climate, soils, temperature, intensity and duration of sunlight, incidence of disease, and so many other factors play a vital role in determining productivity of land. Research has to be directed to the particular conditions in which crops are expected to grow. At best, certain principles can be borrowed, but never solutions which have always to be tested against local agronomic conditions.

Another feature of agricultural research is that it embraces a variety of scientific disciplines—botany, chemistry, physics, biology and a host of others. Apart from work in a particular branch of science, it is often necessary to undertake 'across the board' research where scientists in different fields contribute to a co-ordinated research programme. Before the benefits of science can be brought to the door of the farmer, the practices recommended have indeed to pass through the doors of several laboratories and research stations where they are tested, adapted and finally published in terms which can be easily understood by the farmer.

The intensification of agriculture is the pivot on which our economy rests. We are, at present, obliged to import large quantities of food grains in order to feed our people. This cannot be a permanent feature of our economy and it is imperative therefore that steps should be taken to raise yields from land as soon as possible. This implies more and more research in all the agricultural sciences. The Fourth Five-Year Plan must consequently ensure that adequate funds are available for this purpose.

Not only will basic research be needed but there is an even greater need for applied research. The old apathy to new methods and techniques is disappearing and farmers today are crying out for improved seeds and better practices which will give

them a higher return. Primarily, therefore, research must be based on meeting the needs of our farmers."

Develop New Strains

Agricultural research in India has tended in the past to be too pedantic—aimed at the publication of a paper in an academic journal rather than solving the problems of the farmer. Field problems were often unknown to scientists working in 'ivory towers'. This led to a wide gulf between the farmer and the research worker and created a lack of trust which has made it difficult to convince the farmer that agricultural research is for *his* benefit. The new policy should be to inspire confidence in the scientific approach by demonstrating to the farmer that there is no dichotomy between research and practical farming.

The current emergency has set in sharp focus the need for immediate steps to increase food production. The slogan before the country is 'Farms to Strengthen Arms'. It may seem incongruous that research should occupy the pride of place in a situation which calls for dynamism and immediate action. This is really not the case. We have, through a series of measures in the past, done almost all that we can to increase production by extending the area under agriculture. There is very little new land that can be brought under the plough without making inroads on our already depleted forest reserves. It is incumbent upon us, therefore, to increase production by intensive methods enabling the areas already under cultivation to yield more. This means not only a more intensive use of inputs such as fertilisers, pesticides, improved seeds. etc. but also an optimum use of these scarce inputs. This places the onus on research as the real means for increasing agricultural production.

One of the main tasks before us is to develop new strains which will produce larger yields than before. Work to this effect is already in hand and high-yielding strains of Mexican wheat and Phillipine and Taiwan paddy are already being introduced in various parts of the country. Apart from multiplying these strains so that they may cover a larger area, it is necessary to continue research on plant breeding to produce even better strains. It is interesting to know that one-fourth of the yield increase reached during the past eighty years in West European countries was brought about simply by improved plant breeding methods. In the United States of America, the introduction of hybrid maize and hybrid sorghum has resulted in spectacular increases in yield. We also need to intensify those aspects of our agricultural production programmes, in their wider sense, which are quick-yielding in nature. This includes more intensive work in subsidiary foods, such as poultry, fish, vegetables etc.

Research must show the way to rapid increases if we are to overcome our deficiencies in food production in the shortest possible time. We have set up extension agencies in Community Development blocks, in Intensive Areas and in Package Programme districts; but unless we feed them with the latest techniques, they will not be able to function effectively. It has been said that "without adequate research, extension would be like an empty pipe-line, costly alike to the people who paid for it and to the Government that built it". I will conclude with a quotation from Jonathan Swift—

> ".....whoever could make two ears of corn, or two blades of grass, to grow where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of orators put together."

Mr Stevenson, Joint Secretary to the Planning Commission and former Vice-Chancellor of the U. P. Agriculture University, broadcast this over All India Radio.

HYDERABAD RESEARCH LABORATORY

(*Continued from Page 4*)

"Are all these processes given free to industrialists?" I asked Dr Sidhu.

"No.Only small processes are given free," he replied. "For most of the processes we get consultation fees, royalties and project fees. Last year our income was Rs 15 lakh. I expect it to exceed Rs 20 lakh this year. Our recurring expenditure for the Laboratory and pilot plants is only Rs 45 lakh, you know. It includes the cost of pilot plants also. We charge for the process roughly five per cent of the capital required for commercial production. If the engineering is also to be done by us as a turn-key job, we charge from 10 to 20 per cent.

"In starting an industry the most important thing is technical know-how. The private industrialists will have to buy it from abroad or will have to engage a laboratory in the country which will begin from the beginning with the knowledge available in books. That is where the pilot plant comes in.

"The Hindustan Organic Chemicals, for instance, wanted to manufacture a product. Let us call it X. A foreign company quoted Rs 26 lakh, out of which the foreign exchange component was Rs 11.2 lakh. In our tender the foreign exchange component is only Rs 1.2 lakh. An Indian company will supply the machinery and we will give the know-how. Now you see the advantage."

"Have you done any work in the field of innovation?" I asked.

"Yes, yes. A few years ago I synthesised an organic drug. That drug later appeared in the market in U.S.A., U.K., France, Germany and Japan under different trade names. It is a sleep producing drug. We have now synthesised two products which are among hypnotics and analgesics.

"Then our Biochemistry Section is working on some fundamental problems. They are trying to find out the mechanism of fertilisation in mammals. That is the rational approach to contraception, you know. If they succeed, probably pills and physical methods can be given up in contraception.

"The basic approach of this Laboratory" Dr. Sidhu concluded, "is to give the intellectual opportunity that the research worker needs. He is free to pursue the theme of his choice. We encourage a feeling of personal involvement in research and we help him to deliver the goods of his choice."

CO-OPERATIVE BANKS MUST BE MORE BUSINESSLIKE

OVERDUES ARE TOO HIGH

G. S. KAMAT

Is Reserve Bank Helping Them Too Much ?

A striking aspect of development of the co-operative movement in India during the last decade has been the rising trend of co-operative credit, particularly in the rural sector. Co-operative banking has been rapidly expanded and diversified in recent years. These banks have now emerged as a significant and distinct third force in the developing banking sector of this country.

The working capital of the 21 State co-operative banks went up in 1962-63 from Rs 256.09 crore to Rs 281.51 crore. During the year their borrowings from the Reserve Bank of India amounted to Rs 138.87 crore and they have advanced Rs. 294.82 crore.

• In 1962-63 there were 386 district co-operative banks with a working capital of Rs 400.56 crore. They advanced Rs 440.56 crore (Rs 417.31 crore short-term and Rs 23.25 crore medium-term loans) during the year.

Urban co-operative banks have also started giving a good account of themselves after a certain period of stagnation. According to the Reserve Bank, these banks have attracted deposits of Rs 66 crore and built up capital reserves of Rs 21 crore by June 1962. The fact that nearly 67 per cent of these deposits were received from non-members does credit to these small organisations.

The present progress recorded by the co-operative banks was possible, to a great extent, because of sustained official support and incentives. The Reserve Bank of India makes funds available to co-operative banks at concessional rates. In 1963-64 the Bank advanced Rs 297.07 crore as short-term loans for seasonal agricultural operations, production and marketing of handloom goods, working capital requirements of co-operative sugar factories and similar purposes. Medium-term loans advanced for agricultural purposes and for financing farmers to buy shares in co-operative sugar factories amounted to Rs 4.48 crore in the year. Thus more than Rs 301 crore were given by the Reserve Bank even though more than Rs. 134 crore were outstanding with the co-operative banks.

Integrated Rural Credit

In addition to these, the Reserve Bank also invested more than Rs 408 crore in the debentures of land mortgage banks and lent Rs 331 crore to the State Governments for contribution to the share capital of co-operative credit societies.

The Reserve Bank has been anxious to institutionalise rural credit because the commercial banks are found reluctant to go into the villages. Agriculture, which is the mainstay of our villages, contributes about 50 per cent of our national income. The credit needs of the farming community, therefore, cannot be neglected.

The Reserve Bank's approach has been to tackle the problem of rural credit on a comprehensive scale and as an integrated whole. Side by side with co-operative banking, other allied sectors like marketing and processing also were to be developed on sound lines. This approach has a scientific basis, and had the recommendations of the Rural Credit Survey Committee been fully implemented, one feels the conditions would perhaps have appeared better in the co-operative sector today.

As to the role of the Reserve Bank charged with the responsibility of monetising the agricultural sector, it has taken up the task almost in a crusading spirit to foster orderly growth of the co-operative movement. We find many foreign experts on central banking paying compliments to the Reserve Bank for its performance in fostering rural co-operation. It is considered unparalled in the central banking history.

Of late, there has been a demand for a review of the Reserve Bank's credit policy in regard to the co-operative sector. It is feared that the number of societies and the size of their operations and resources have increased substantially only in a few States, namely Maharashtra, Madras, Gujarat, Andhra Pradesh and Punjab. Elsewhere the record is dismal. Heavy reliance on Reserve Bank of India funds and Government agencies, slow accretion of deposits and increasing overdues have been the common features of most of these societies.

As a result of this excessive reliance on the official agencies by the co-operative banks that are working at different levels, people have started questioning the need for a three-tier structure in the co-operative credit sector, which adds to the cost of credit for the ultimate borrower. Where the movement has developed on sound lines, the three-tier structure is definitely playing an important role. But in areas where some of the tiers merely work as intermediaries, the objection would appear justifiable. The co-operative banks working at different levels, therefore, should function as the balancing centre for their respective areas to mobilise and utilise resources within the movement.

The execution of the co-operative credit policies reveals the presence of extraneous forces which have acquired vested interests in its growth. The authorities and the co-operative banks must rid themselves of these

baneful influences. It is, no doubt, a difficult task, because it is to be performed in areas where concepts of banking, particularly co-operative banking, are not yet clear. At times they are misinterpreted.

The problem of overdues is found at all levels and is causing concern to all. It is estimated that the overdues at the primary and central banks' level are "very nearly equal to their total share capital" and these are ultimately passed on to the higher financing agencies. "The position in some of the States is fairly satisfactory but not so in many others. In three or four States, the position is really bad and is showing deterioration in the last two or three years." (See article on "Integrated Scheme of Rural Credit—An Assessment" by Mr. M.R. Bhide, Deputy Governor of Reserve Bank of India, in *Khadi Gramodyog*, October 1964.) It is obviously due to the fact that no efforts have been made to link credit in a businesslike manner to production, marketing, processing and deposits.

Inadequate Growth Deposits

The available marketable surplus must show signs of increase and must find its way out through the co-operative sector. There is no such sign. So it can be fairly concluded that a considerable part of co-operative credit is being utilised for purposes other than production, marketing, etc. Misutilisation of funds is admitted by all, including the leading co-operators. Of course, this problem is not limited to the cooperative sector.

The major part of co-operative credit is going to the relatively rich agriculturists. Credit advanced to them may be finding its way into the commercial sector.

Co-operative banks are expected to encourage thrift and savings. But their performance in this field has not been adequate. The rate of growth in deposits during the past few years has been sluggish. It is true that co-operative banks have to face evergrowing competition from commercial banks and similar agencies, official and non-officials, in this respect. All the same, it is well worth studying whether the Reserve Bank's liberal credit policy towards the co-operative banks has made the latter complacent and negligent to the all-important task of building up owned funds and deposits. These are really the cornerstones of any sound business.

Co-operative Savings

The Reserve Bank of India and the Ministry of Community Development, Co-operation and Panchayati Raj have already issued circulars to the State Governments stressing the need for increasing deposits and savings at various levels of the co-operative credit structure. The Ministry desires that local bodies like municipalities, local boards and school boards should be persuaded to give preference to co-operatives over commercial banks and deposit their surplus funds with A and B class societies on certain conditions.

Although such a gesture would be most welcome, it will mean merely a transfer of deposits from one credit sector to the other. There will still be a great need to generate and attract genuine savings from within the co-operative sector itself.

The latest move of the Central Government and the Reserve Bank of India to extend some of the important provisions of the Banking Companies Act (1949) to co-operative banks and similar institutions has, therefore, to be understood in this background. The Banking Laws (Application to Co-operative Banks) Bill, 1964, introduced in the Lok Sabha in December 1964, intends to bring co-operative banks "under a sense of discipline" so that they conform to the same aims and policies that have been set before the banking sector as a whole.

The new Bill will bring under the control of the Reserve Bank the apex co-operative banks and those declared equivalent, the district central co-operative banks and those declared equivalent, and the primary non-agricultural credit institutions with a paid-up capital and reserves of not less than Rs one lakh. These have been defined as co-operative banks for the purposes of the Act. The following table would give an idea of the number of co-operative banks which would be covered under the new Bill:

(As on 30th June 1963)

	No. of Banks	*Deposits (Rs crore)*	*Loans Outstanding (Rs crore)*
1. State Co-operative Banks	21	97.31	214.09
2. District Co-operative Banks	386	145.64	292.13
3. Non-agricultural credit co-operative institutions with paid-up share capital and reserves of Rs one lakh and above	988	102.52	114.80

(Source : *Statistical Statements relating to the Co-operative Movement in India 62-63*: Reserve Bank of India)

Some more institutions may be declared as equivalent to either the State co-operative banks or the District central co-operative banks for purposes of control under the Bill.

The measure has received the broad support of co-operative banks. The Bill, when passed into an act, will no doubt improve the status of co-operative banks and will enable them, eventually, to tap the necessary resources on more favourable terms.

In due course the deposit insurance cover will be available to the depositors of the co-operative banks. Correspondingly, it will help the co-operative banks to function in a more business-like manner. The Reserve Bank will have direct control over these banks and it can see that the process of reorganisation at all levels of the co-operative credit structure is completed as early as possible. This should lead to an integrated development of the co-operative sector.

S. Shankar Menon

Urbs Minimus

OSMANABAD town is the smallest of all district headquarters in Maharashtra. This was a well-kept secret until I came to live here. As I drove in, a board in the distance announced prominently: Height 2100 ft. Ha, I exulted, take all your Bangalores and Poonas. On getting closer to the board, a footnote was found tucked away like the most important clause in a contract. My heart sank gently into my boots, which I now wished someone else was wearing. Population, the board apologetically said, is 18,123. Now, I said brightly, it is 18,124.

I had heard that history breathes through every mute stone in Osmanabad. Meaddowes Taylor, who hanged some Thugs, once lived and did much of his hanging here. Dharashiv, of which Ferishta talked about, was none other than this place. More recently, Kazim Rizvi who did his fell stuff at Hyderabad, made a modest beginning in that direction in this district.

The mute stones, on closer inspection, turned out to be wholly inglorious and about the only thing that breathes is the huge *nala* splitting the town and it isn't quite attar of roses fragrant in the gentle dusk. It is from this scenic spot that nature calls the local population so persuasively every morning. Like one, they sit to obey.

About the only livable house in town is the Collector's built by Meaddowes Taylor. This I was to share with the present incumbent until I could find something remotely suitable, and on the spot I swore to pray for the souls of those Thugs who brought the Englishmen here. The town is one tumbling mass of mud huts threatening to do just that, packed into an area of half a mile by half a mile. Directions (when asked for in the early days) are given to take you on to *the* tarred road. A few tiny shops dispense enormous quantities of cloth and slippers, but for everything else starting from orange squash and butter, one has to go forty-two miles away to Sholapur, which is the life lung of this atrophied body.

Gulab jamuns are what the town is famous for. Old inhabitants remember with pride how Mr Nehru "relished them" when he came here after the Police Action. The market in this delicacy has been cornered by a *mithaiwala* from Mussoorie who has settled here. What made him leave the heights above Dehra Dun for Osmanabad is not known. In aesthetic revolt against the vision of fat men in checked suits going down to Kempty Falls on tiny ponies, accompanied by equally amiably proportioned women in glittering silks ? Surely they were his best customers ? The *jamuns* are really delicious. They are very pulpy and incredibly enormous, as though grown by Titans along the boulevards of some Brobdignagian New Delhi.

A Wayward Club

The Club, though, is more pleasantly wayward than other district clubs. It is interesting to find across the tennis net a tiny, charming old gentleman, barefoot, in starched *kurta* and spotless *dhoti*. It is not so good when he slices the ball so hard that it lips under your groping racket. The billiards table is splendidly rural. It has huge patches on the cloth, possibly on account of some of the villagers who passed outside finding the Club untenanted and dropping in to experiment. A closer inspection reveals, with a sigh, that no seeds have been actually sown in the furrows.

Since this district was part of the old Hyderabad State, most people here have the traditional, leisurely Nawabi charm. The hurry of youth 'To get things done' is in clear dissonance. It is simply not done to cycle furiously to work (trying to get there at ten o'clock on the dot and even though you can walk since every place is close to each other) and in the process to jolt over the pot-holes on the only road, nearly letting your teeth bite off your tongue every time. Breakfast is copious and late and unhurried. At office you first settle down to tea and enquiries about a colleague's new baby or his son's recent operation before settling down to other things. And more work, one discovers eventually, is got through when one is more relaxed in this way.

Hard Look, Hidden Giggle

Letters from Urbs Primus are strangely reassuring. A friend wrote some months ago to say that Bombay was 'At the present, quite unreal. There is the Pope holding High Mass at The Oval, Swami Chinmayananda is talking on the Gita at the Cross Maidan, Louis Armstrong with his jazz band is at Birla Hall and Father Prokosch leads 1300 girls at Indian dances at the Stadium. Not a dull moment in fact. People in Osmanabad must be leading much quieter and perhaps, less complicated lives'.

Quieter yes, but less complicated, no. Only the other day during a walk in the fields, intoxicated by the fresh green loveliness of the countryside around Osmanabad, I was warming up splendidly through the tremulo bits of the Elizabethan song about the lover and his lass ('and through the green cornfields they did pass'). I had triumphantly got to the 'hey nonni no', when a farmer came out from behind a *jowar* field. He looked hard for a moment and said something to the woman dutifully following him a few steps behind, who promptly giggled and hid her face behind her *sari*.



Cobs of new maize hybrids produced at Jounti

WHOLE VILLAGE GROWS QUALITY SEED

Example of Jounti

M. S. SWAMINATHAN

Head of the Division of Botany, Indian Agricultural Research Institute

THE return obtained from investments in fertiliser and irrigation depends upon the variety of crop cultivated. During the last few years, varieties of rice and wheat as well as hybrids of maize, *jowar*, *bajra* and several fodder grasses with a very high yield potential have become available. Each of these varieties or hybrids has its own specific agronomic requirements for it to reveal its potentialities.

For example, a dwarf variety of wheat will not come out of the soil if sown as deep as a tall strain. Wheat sowings are usually done in our fields with residual moisture. Therefore the seeds are placed four to five inches below the surface so that they can remain in the moist zone. If a farmer wishes to take to the cultivation of dwarf wheats, he has to change this practice and irrigate his field before sowing so that the seeds can be placed within the top two inches of the soil. Similarly to get the maximum yields from a dwarf wheat variety, it is essential that one or two irrigations are given during the month of March when the grains undergo maturity. This is a time when there is usually a rapid rise in temperature and also the incidence of hot dry winds. Normally our farmers do not irrigate the wheat crop at that time although the crop needs water badly then, because of the possibility of severe lodging. A dwarf variety, however, will not lodge under such conditions and therefore an irrigation can be safely given. Thus, the dwarf character enables us to manipulate the agronomic and cultural practices in such a way that yields normally not possible in the tall strains can be obtained. It is not difficult to get over six tonnes per hectare with some of the dwarf wheats, as has been found in the fields of both experimental stations and progressive farmers during the past two years.

In order to achieve a rapid multiplication of the seeds of some of the high yielding wheat varjeties, the village of Jounti in the Delhi Union Territory was chosen by the Indian Agricultural Research Institute for being developed into a Seed Village. The idea behind this project was to induce all the farmers in one village to take to seed production as a skilled profession and to show that high quality seeds can be produced in conjunction with high yields. This would imply that the speed of multiplication could become greatly accelerated. *(See Yojana April 25, 1965)*

The programme was initiated in the *rabi* season of 1964. In order to inculcate the idea of high yields, a "Forty Maund Wheat Club" was organised. Although the farmers of the village, who were then used to obtaining yields ranging from 15 to 25 maunds per acre, were rather sceptical in the beginning, they joined the project enthusiastically. No subsidies of any kind were given. Sixty acres were sown during 1964 with high quality seeds and over 1600 maunds of pure seed were produced. Two farmers obtained yields of the order of 48 maunds per acre while many others harvested between 20 and 35 maunds. The reason for everyone not realising the 40-maund target was the poor plant population in many of the fields.



Entrance to the Jawahar Jounti Seed Co-operative Society

PROGRESS OF 40-MAUND CLUB

But the results obtained generated enough enthusiasm among the villagers to induce them to make efforts during the present *rabi* season to achieve yields of the order of 40-50 maunds per acre and also to saturate the entire wheat area in the village (about 900 acres) with one or two high-yielding, dwarf varieties of wheat. One of the farmers, Mr Bhup Singh, who harvested 40 maunds per acre of wheat in April 1965, also reaped 45 maunds of *bajra* per acre in the same field in October last.

In order to produce and market high quality seeds, the farmers of Jounti have established a seed co-operative named Jawahar Jounti Seed Co-operative as homage to the memory of Mr Nehru who gave India the slogan "Everything can wait but agriculture cannot". The members of the co-operative will aim at producing seeds of very high purity and germinability. The seeds will be graded, treated with fungicides, and marketed in alkathene-lined gunny bags. The farmers of Jounti will produce seeds of hybrid *bajra*, for which there is a great demand in the months February to May, for sugarcane fields. Thus, after harvesting sugarcane, they will help to produce considerable quantities of hybrid *bajra* seeds.

The Jawahar Jounti Seed Co-operative will be able to meet the entire needs of the Delhi Territory for wheat seeds from 1966. Considering the fact that the seed village project was initiated by the staff and students of the Division of Botany, Indian Agricultural Research Institute, only on November 14, 1964, the moral for solving our seed problem is clear.

Some of the favourable features of such a project are :

1. The purity of the variety can be more easily maintained when the entire village grows one or two varieties only.
2. There is a contagious effect through which better farmers influence greatly the less progressive ones.
3. Farmers consider their work a highly skilled and important one.
4. All the work is done by farmers themselves and no cost is involved to Government, except that on occasional visits by some technical staff to the village.

QUOTATION BOX

International finance is in danger of becoming a macabre version of the game of musical parcels—the object being not to be caught with the parcel when the music stopped.
—Mr Harold Wilson

It is more difficult to fight native tyranny than foreign tyranny.
—Acharya Kripalani

He may have a point when he suggests that the Hindus will not only refuse to be industrialised but end by Hinduising industrialism. Immediately visions arise of hydraulic presses going for a bath in Ganges.
—From a review in "The Statesman" of Nirad C. Chaudhuri's "The Continent of Circe"

"The bulk of (public) opinion remains either apathetic or hostile to the government and it is only the police and magistracy which stand in the way of complete breakdown of law and order"
—A Home Ministry note on student strikes reported in "The Hindu"

SUBRAMANIAM'S PL 480 YATRA BEGINS ON 17TH
—Heading in "The Statesman"

Mrs Gandhi felt that the rules governing promotion of government servants came in the way of putting the right people in the right places.
—Report in "The Hindustan Times"

This kind of newspaper adulation for leaders has persisted even after Mr Nehru's death. Perhaps it has increased. There is scarcely an Indian delegation travelling abroad, even if it be a routine purchase mission headed by a junior minister, which has not blazed a trail of international glory on the pages of Indian newspapers.
—Report in "The Hindustan Times"



Necessary evil?

Yes—and understandably. An FAO Survey reports one-third of India's food crops go waste.

No one likes to queue up for anything. Least of all for food. And yet when food is not plentiful, restricted but equitable distribution is the only answer. Worthy of everybody's support.

Basically the problem is that the nation does not produce enough food. Worse still, as much as a *third* of what is produced rots away before it can be consumed.

The permanent solution is to grow more food. And growing more food has been given top priority in the Fourth Plan, by the end of which a 50% increase in food production is envisaged.

But more food produced may mean more food wasted. Unless we lower the rate of spoilage.

One way to prevent spoilage is to *process* and *preserve* more food and more varieties of food. A recent report issued by the Food and Agriculture Organisation of the United Nations says, "Practically all the spoilage of food that now occurs...could be eliminated by known methods of preservation."

That's why the consumer packaging industry must grow fast.

We at Metal Box believe that this growth *must* be made to happen. And to this end all our know-how in packaging, all our research and development facilities and our access to the mainstream of international packaging technology are at the service of the packers.

At Metal Box we can't grow more food. But we certainly can help save more of it. And that, you will agree, is almost as important.

MB

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IMTHB 2654A

Why Come Back?

AN idea of the 'Q' for the P form is provided by the fact that there are 4,500 students from India in Britain at present. They form the second largest group of foreign students in that country—the first being Nigerians.

Some 1,800 more Indians are supposed to be in the United States. And some surveys show that contrary to common belief most of them return to India. But the 'brain drain' theorists' complaint is that the best of them don't come back.

We recently heard a refreshing contrast to this wail. An eminent sociologist was saying: "Why do we, every time something happens to the country, say to these bright young scientists 'Come home ye, and suffer'? Can't they continue to do their good work? Some of them might indeed be contributing something new to their subject—which is a better way of bringing credit to the country."

A Durgapur Idea

Mr Dilip Kumar Mukherjee, a young technician who has returned recently from Australia after training, has spared no time in applying his skill to fruitful use.

Mr Mukherjee is Head Roller in the Merchant Mill of the Durgapur Steel Works. *The Durgapur Steel Tidings* says that his work has made the mill trouble-free and has increased its production.

In the rolling of rounds, all ovals are turned by 90° before entry into the next pass. In the 'repeaters' this is achieved by a series of twist plugs which progressively turn the ovals. The degree of twist imparted by the twist plugs is a ratio of the total twist required, viz., 90°. Mr Mukherjee designed the twist plugs to impart almost the full twist.

This modification reduced the risk of cobbles in repeaters to almost nil. The elimination of cobbles obviously resulted in more rolling time with increased production and a higher yield percentage.

This new design was responsible for making all the four repeaters work in the rolling of 28 and 32 mm rounds which were previously rolled partly by repeating and partly by operating the Skew-Y tables.

Tell Us

THE evil that students do lives after them. It is written about in the newspapers and elders make appropriate 'tut, tut' noises and shake their heads. The good goes unreported and uncommended.

At a meeting of the Committee on Planning Forum numerous instances of the good work done by students during the recent emergency were narrated. Students received jawans at railway stations, served them refreshment, did odd jobs in hospitals until relieved by the regular nurses and took the lead in civil defence.

In one hospital a doctor had given strict orders that the student doorkeeper should let in only one visitor at a time so that the wounded jawans were saved fatigue. He followed the instructions strictly until the elderly parents of a jawan arrived. They pleaded with him not to turn one of them back. The student relented and let them both in. The doctor who happened to arrive at the moment admonished him. Hadn't he told him to let only one in? The student replied. "Yes, Sir, you did, but tell me which one?"

Students of another college saw to it that everyone in the college above 18 donated blood. In fact, so enthusiastic were the students that many seventeen year-olds swore they were eighteen so as to be of help.

An article in this issue describes how the staff members and students of a women's college in Madras State organised themselves to meet the challenge of the emergency.

There must be other colleges that have done something similar. There must be dozens of stories of organised and individual student effort to serve the country.



IGNORAMAN

Wants to Know

By now
are we self-reliant
in speech ?

Here is an invitation: Send reports of them to *Yojana* so that *Yojana* can tell the country.

Meat Muscularity

MR NIRAD CHAUDHURI has again come out with an attack on vegetarianism. This habit, he thinks, is responsible for everything wrong with India—military weakness, anaemia of the spirit and moral hypocrisy. He attributes the muscularity of his own writing to the fact that he is a non-vegetarian.

We now know why rhinos don't write well.

Miss Secretary

AN official, introducing an acquaintance to a woman civil servant, said: "This is so and so, and Miss—is our Under Secretary."

The visitor mumbled: "I knew only of lady secretaries. They also rise to be under secretaries?"

Collector's Item

A visitor from Bombay to Delhi: "On your roads and footpaths I think the pedestrians should go about with an 'L' board."

Books

MEMBER-CONTROLLED CO-OPERATION

Co-operative Law in India—A disquisition. Indian Co-operative Union, New Delhi. 124 Pages. Rs 6.

R.K. Parashar

THE book under review is a combined edition of three monographs relating to Co-operative Law, brought out during 1959-60 by the Indian Co-operative Union. The monographs are: (i) A Review of the Report of the Committee on Co-operative Law, (ii) Plea for a Perspecpective, and (iii) Proposed New Features. The monographs are independent of, and yet complementary to, each other. Their publication under a single jacket brings in focus at one place the different aspects of the Co-operative Law in India.

Reviewing the report of the Committee on Co-operative Law it notes that the Committee has "missed the entire significance of India's independence and the adoption of a democratic Constitution which has paved the way for developing co-operatives with a view to strengthening the pace of democracy by development of individual initiative and sense of responsibility". Far from simplifying the Co-operative Law and modifying it so as to enable the co-operatives to play an increasing role in the development of the country, the Committee has ended up by setting up the Registrar's rule. The book concludes that the co-operative movement in India has failed in (i) the extent of understanding and practice of democracy and self-government introduced among the members, (ii) the establishment of equality and social status among the members, and (iii) providing economic and social opportunities to the weaker sections of the people.

The book, therefore, pleads for the rejection of the Committee's report. It suggests the setting up of a new and fully representative body for giving to the country a new Co-operative Law embodying the principles of co-operation as well as providing safeguards against non-statutory interferences by the authorities. It wants the Registrars to have qualifications and experience commensurate with their duties and responsibilities. It recommends the division of the existing societies on the basis of their working efficiency and character. According to it the State's participation in the field of co-operation is to be viewed as a temporary and transitional measure. The long-term objective has to be "to minimise burdens of the State and maximise the capacity and the contribution of the people". Finally, the members, rather than the Registrar, should control the co-operative institutions.

The book further dwells on the difference between the role of a co-operative society and a business organisation, and expounds the educational and social content of the former. It urges Government to declare the co-operatives as 'social' bodies in contradistinction with 'private' and 'public' bodies, because "they are the instruments of social and economic democracy as Parliament and State legislatures are instruments of political democracy".

The book also recommends the setting up of an autonomous Co-operative Grants Commission for the purposes of State aid to co-operative, educational and promotional bodies. Union Government should foot the bill for promotional and educational work even though co-operation is a State subject.

With a view to ensuring proper management, audit and functioning, the book suggests measures for the internal regulation of co-operatives. The co-operatives should combine themselves into unions and take over many of the functions at present performed by the Registrars.

To sum up, while pronouncing the co-operative movement to have failed in the country, the book has examined the causes of its drawbacks and failures during the last 50 years and has suggested the lines along which it should be developed in future. It advocates that the existing co-operative legislation in the country should be simplified and democratised and pleads for bringing about an orderly transition from an officially-dominated to a member-controlled and self-regulated movement.

One of the most important recommendations of the book, that the co-operatives be member-controlled instead of being Registrar-regulated, runs contrary to the view expressed by the All-India Rural Credit Survey which advocates State partnership and State participation in the management of co-operative societies. The book claims to have based its view on the general trend of opinions received by the Indian Co-operative Union from a coterie of people and institutions such as co-operative unions and societies, economists, co-operators, members of the Central and State legislatures, and Co-operation Ministers. The two views are fundamentally divergent from each other. In the circumstances, more research and study are required to be done before deciding in favour of the one or the other. *Prima facie* the view of the book does not seem to be based on adequate field observations. Some of the recent field studies (for example the one by the Indian Co-operative Union in Alipur Block, reviewed by this reviewer in *Yojana* of July 4, 1965) do not support it.

The book has served a useful purpose by bringing under one cover the entire gamut of contemporary controversy and historical record concerning co-operative legislation in India and a brief review of it abroad. However, it would have been a more smooth reading had only a little effort been made to properly dovetail the different monographs.

Landscape of Elementary Education

The Indian Year Book of Education: Element ry Education, the National Council of Educational Research and Training, New Delhi. Pages xix+752.

T.N. Dhar

THE Year Book is the second in the series the National Council of Educational Research and Training contemplates on the Indian educational setting and its varied problems. It is a comprehensive treatise on elementary education, tracing its historical growth, discussing problems of expansion as also of qualitative improvement, describing the arrangements for the administration and supervision of elementary schools and their financing, and projecting the future development of elementary education. Each of the five sections of the Year Book deals with a specific aspect of elementary education. It is a compilation, as a Year Book has to be, of chapters written by various authors, for it might not always be possible for an individual either to have the competence or the patience and energy to write a book of this size.

The general impression that one gets after reading the book is that the approach is descriptive rather than critical. At places one comes across generalised statements which would require a deeper scrutiny and a more detailed statistical analysis. For instance, in chapter 14 it has been stated that expansion of educational facilities has kept the salaries of teachers low. It is true that improvement of salaries involves the State Government in large commitments. Nevertheless improvement of salaries of teachers depends to a great extent on the importance that the Governments attach to he need for attracting better qualified personnel to the teaching profession and the resources that a Government decides to allocate to education. Examples are not wanting of the States where improvement of salaries was undertaken almost simultaneously with accelerating the rate of growth of educational facilities.

Similarly in chapter 15 a general statement has been made that basic education has failed to gain ground because of the realisation on the part of a certain section of the people -the rural population generally – that success in life lies through literary type of education rather than through basic education. It seems that the success or otherwise of basic education apart from the support that it receives from Government is conditioned by deep-rooted sociological attitudes. In a society where manual work is not generally prized but is on the other hand looked down upon as not worthy of the so called elite, it would take a long time to popularise a system of education, the main plank of which is socially useful productive work.

Three chapters which could have been made more useful with better statistical analysis are those pertaining to the role of the Union and State Governments and of local bodies and voluntary agencies (Chapter 21), democratic decentralisation (Chapter 22) and financing of elementary education (Chapter 23). It would have been useful if in Chapter 21 the governmental effort, especially that of the Union Government, in the development of elementary education had been examined in more concrete terms indicating, for instance, the extent to which the Union Government has actually helped, through financial assistance and technical guidance, the balanced growth of education in various States. Similarly, in the chapter on financing of education, in addition to giving figures of educational expenditure, it would have been useful to indicate statistically the extent of educational imbalance in educational facilities between the States and within the States and the efforts that the States themselves as well as the Union Government have made in reducing these imbalances. A discussion of the ability of the States to finance elementary education programmes in relation to the actual efforts they are making would have been enlightening. In this chapter the change in the policy of financial assistance from the Centre to the States, for development programmes from the First to the Third Plan, has been traced. How far this change of pattern and procedures has helped the even growth of education in the States -the ultimate objective of all educational planning -has not been critically discussed.

In the chapter on democratic decentralisation, an attempt has been made to describe the various patterns that have come into being in the various States. The usefulness of this chapter would have been greatly enhanced if a critical appraisal of the impact that recent legislation in the States, where administration and control of elementary education has been transferred to institutions elected by the local people, had also been made. In some States, such as Andhra Pradesh and Rajasthan, assessment of this impact has been made, not only by committees appointed by the Government or the legislature but also by some voluntary associations, such as the Association of Voluntary Agencies for Rural Development. Critical appraisal is important as transfer of education to local bodies has long been under debate in the educational circles.

The last section, which is also the last chapter of the book, is a highly valuable attempt at projecting the development of elementary education beyond the present, the basic purpose of the perspective plan worked out in this chapter being "the provision of free and compulsory elementary education of a high standard to every child in the age group 6-11". Not only have the various issues involved in the development, on sound footing, of elementary education been discussed, but the cost of the programme has also been worked out in great detail. Written by a person of the standing of Mr J.P. Naik, the chapter raises various issues and suggests approaches that merit serious consideration at the hands of specially those charged with planning of educational programmes. It would be worthwhile if attempts on these lines are made in the States who are primarily responsible for planning and execution of educational plans.

The problems of elementary education require to be discussed in the wider perspective of the relationship of elementary education to efficient functioning of democratic institutions and the socio-economic development of the country. As for a large number of children the completion of elementary stage of education would be, for long, the end of formal education, the working of elementary schools has to be closely integrated to the programmes of economic development, for the present pupils in elementary schools would be the persons through whom any effective improvement can be made in the countryside.

The book has consolidated statistical tables running into more than 100 pages. They trace the growth of elementary education in terms of number of schools and of pupils and teachers, expenditure on elementary schools, and other indices over a period of half a century, viz. from 1911 to 1961. Some of the tables throw up data which are not well known. For instance, the tables which indicate that in classes I-V children below 6 or above 11 constituted nearly 22 per cent of the enrolment while in classes VI-VIII, 45 per cent of the children were either below or above the normally accepted age group for these classes. Similarly, the tables about the average salary drawn by a teacher in a primary and a middle school are revealing.

Elementary education has, by and large, remained a neglected sector. Even the professional educators are not generally acquainted with the problems of elementary education which, in fact, has to be the base for building a sound educational structure. This book should be helpful in focusing the attention of the people in general and of educational workers in particular on the various problems facing elementary education in the country. It would perhaps be useful for the purpose of awakening the interest of the people if a shorter edition was brought out.

PLAN SPECIAL

Mathrubhumi Five Year Plan Number 1955. 130 Pages. Price Re 1.

Special Plan issues have been a regular feature of the activities of the Mathrubhumi Printing and Publishing Co., Kozhikode, and the numbers have been very popular.

The present issue for 1965, however, is a loose collection of articles on planning in general and on certain aspects of Kerala's economy by well-known public men and experts. The issue would have been more valuable and readable with better arrangement of the material.

K. Madhava Das

A Women's College Takes Lead In Emergency Work

14 GROUPS TAKE UP NUMEROUS PROGRAMMES

WHAT work the teachers and students of a college can do in this emergency is highlighted by this report received from the Sri Avinashilingam Home Science College, Coimbatore.

The immediate response of the College to the aggression by Pakistan was a decision by the staff members to give one day's salary every month for national defence. Rs 4,250 were sent to the Chief Minister of Madras on September 26. For planning activities on a sustained basis, the Principal of the College, Dr Rajammal Devadas, organised discussion among the College Council, Counsellors and students. The 42 counselling groups of the College, each consisting of a staff member and 19-20 students from the different classes, discussed what could be done in the College and in the homes to help national effort. On the basis of the suggestions, the College launched a programme of national defence touching spiritual, material and human aspects.

During the daily morning assembly in the College, special prayers and *bhajans* are now conducted. Readings of selected passages invoking divine blessings for our victory in war, wisdom for the leaders, courage for jawans and world peace have been a regular feature since September 12.

As for the material work, 14 committees were formed, each with a specific objective and programme. Every student and member of the staff in the College has been assigned to a committee of her preference.

To carry out the work of the committees, the students and staff have cut short the daily lunch interval by 15 minutes; they also stay for 15 minutes longer after the classes in the afternoon, securing thus a total of half an hour per day. Every evening between 4.30 and 5.00, the students and staff work in one committee or the other.

The work done by the 14 committees between September 12 and October 20 is outlined below :

1. *Committee for News and Publicity :* Objectives : (a) Put up day-to-day news on the national situation; (b) Keep all members well informed about the Indian stand on Kashmir; (c) Prevent gossip and rumour; and (d) Display exhibits on the role of students in national defence.

Members : Four from the staff and 44 students.

Work done : Besides mounting clippings from daily newspapers regarding the situation, an exhibition—Students Meet the Challenge—was put up on October 20. Three thousand students from all the secondary schools and colleges in the city and 2,000 parents visited the exhibition.

2. *Committee for Knitting and Making Garments :* Objectives : (a) Buy wool and knit it for Jawans; (b) Buy woollen garments for Jawans; (c) Stitch garments for refugees.

Members : Four from the staff and 40 students.

Work done: Cloth for Rs 40 was purchased and 12 garments stitched.

3. *Committee for Civil Defence :* Objectives : (a) Impart training on the lines of the Home Guards training to members; (b) Learn the measures to be adopted by civilian population in times of war.

Members : Four staff members and 108 senior students.

Work done : The District Superintendent of Police and the officer-in-charge of Home Guards conduct classes on civil defence for an hour on alternate days.

4. *Committee for Training in First-Aid and Home Nursing :* Objectives : Conduct classes in first-aid and home nursing through the voluntary help of the doctors approved by the Red Cross.

Work done : Three classes for one and a half hours are held on alternate days, 427 students have offered to undergo this training. (B.Sc. Home Science classes have this training as part of their syllabus and 250 students, out of the total 760, have already taken the Red Cross Certificate examination.) Training classes were started for 300 students in four batches. They appeared for the Red Cross examination in November, and 130 more in December. The rest are completing the training this month.

5. *Committee for Conservation of Resources:* Objectives : (a) Promote voluntary cuts in the consumption of electricity, water, food, chemicals and other contingencies to the minimum requirements; (b) Inculcate time-saving habits among members.

Members : Four staff members and 33 students.

Work done : The members have been testing taps for leakage and setting them right. They regulate the duration of use of water and electricity on the campus. They supervise the dining hall for avoiding waste of food, and devise likeable recipes from left-over foods. Placards to this effect have been displayed.

Write to us what your College has done. We'll be glad to publish it.

6. *Committee for Dramatics :* Objective : To raise funds through organising dramas and other forms of entertainment.

Members : Two staff members and 35 students.

Work Done : The resident members of staff gave an entertainment programme on October 20 and collected Rs 252.50 for the National Defence Fund.

7. *Canteen Committee :* Objective : To raise funds through preparing and selling food articles in the college canteen.

Members : Five from the staff and 147 students.

Work done : Special canteens were organised on September 23, 27 and 29. A profit of Rs 94.50 was given to the National Defence Fund.

8. *Sales Committee :* Objective : To organise sales.

Members : Ten staff members and 77 students.

Work Done : Every student contributed one rupee and a sale was organised on October 20 consisting of textiles, stationery, art objects, and other miscellaneous items. Rs 1,000 were collected.

9. *Committee for Technical Training :* Objective : To organise and run classes for those who would like to train themselves in cycling, typewriting and electrical fitting.

Members : Eight staff members and 26 senior students.

Work done : Five students and six staff members are learning cycling, and eleven students and two staff members are learning minor electric repairs.

10. *Committee for Collection of Cash :* Members : One staff member and 18 student representatives.

Work done : Hundis have been placed in each class. Rs 35.97 were collected in the first six weeks.

11. *Committee for Blood Donation :* Members : Two staff members and 188 students.

Work done : 188 students and 43 staff members have offered to give blood. Their names have been sent to the District Medical Officer.

12. *Committee for Village Volunteer Force :* Objectives : (a) Carry out mass education through both individual and group contacts; (b) Promote local defence; (c) Stimulate increase in food production in villages; (d) Organise classes for village women in first aid, drill, arms training, and watch and ward duties.

Members : Four staff members, 96 students and eight Mukhya Sevikas on the campus.

Work done : 222 persons in the five villages of Kalappanaickenpalayam, Koundanpalayam, Vadamathurai, Narasimhanaickenpalayam and Edayarpalayam were approached, and 12 meetings held. Some 175 persons were enrolled in the Village Volunteer Force. Rs 101.75 were collected for the National Defence Fund. Kitchen gardens were started in 56 houses.

13. *Gardening Committee :* Objective : Allot to each counselling group a plot of land, at least 10 square metres in area, to grow vegetables.

Members : 40 staff members and all students.

Work done : Vegetable seeds have been sown on a plot of about 240 square metres. Eighteen guava and *papaya* saplings have been planted.

14. *Committee for Miscellaneous Collections :* Objectives : (a) Collect gift packets for Jawans; (b) Collect all scrap paper, old bottles and unwanted articles and donate the amount realised from their sale to the National Defence Fund; (c) Collect magazines and books for Jawans.

Members : One staff member and 13 students.

Work done : Fifty-seven gift packets, each costing Rs 10 to 11, were given on September 30 as Divali gifts for jawans. The packets contained articles such as towels, torches, playing cards, ball-point pens and soaps.

Collection of Usable Clothes: 23 frocks, 66 blouses, 19 petticoats, 19 sarees, 29 shirts, 18 full pants, 5 half-pants, 3 coats, 8 undergarments and 12 other clothes were handed over to the Collector for the needy.

NATIONAL PLAN WEEK

THE National Plan Week was celebrated by the Planning Forums of the various colleges all over the country. Short reports from two colleges below will give an idea of the celebrations in other colleges :

CHIKKAIAH NAICKER MAHAJANA COLLEGE, ERODE: The celebrations started on November 13 which was observed as Children's Day. The Principal of the College inaugurated kitchen-gardening by planting 200 seedlings in the college hostel. Children from twelve primary schools of the Erode Panchayat Union took part in fancy dress competition and sports. There was a film show in which two documentaries were shown.

The Week was inaugurated by Mr S. Srinivasan, Probationary Officer, State Bank of India, Erode. A symposium was held on November 16.

Other highlights of the Week celebrations were : recitation of poems by students, a talk on small savings, a demonstration parade and drill by NCC cadets, an essay competition and an elocution contest.

T.N.B. COLLEGE, BHAGALPUR: During the Week an inter-collegiate debate, an essay competition and a symposium on plan subjects were organised. The National Plan Day was observed on November 20, under the presidentship of Dr S.P. Sinha, Principal of the College. Prizes and certificates were awarded to winners in the essay and debating competitions. The team of the Marwari College, Bhagalpur, was declared to be the best team, while Miss Mira Singh and Mr. M.M. Promod were judged to be the best speakers on the two opposing sides. Certificates were also awarded to thirteen students for taking part in the activities of the Planning Forum.

The chief guest of the evening was Mr. Anand Mohan Sahay, former Indian Ambassador to Thailand.



PLANNING NOTES

Our Transport Needs for Next Ten Years

Report of the Study Group

A REVIEW of transport planning in the three Plans showed that there was room for improvement. The Planning Commission, therefore, instituted technical and economic studies of the transport capacities and requirements to bring about improved planning of transport. A Joint Technical Group was set up. A note on the progress of studies by the Group has recently been published by the Planning Commission.

The studies of this Group fall into four categories, namely, (1) Commodity transport studies, (2) Regional transport surveys, (3) Industrial locations in relation to transport, and (4) Comparative costs of development of different modes of transport. Such studies will assist in preparing the transport plan in detail for the Fourth Plan period (1966-71) and in outline for the Fifth Plan period (1971-76).

In order to assess future transport requirements, the Joint Technical Group has undertaken the study of the present and future pattern of movements of fifteen commodities—coal, products of steel plants, cement, iron ore, limestone, petroleum oil products, manganese, fertilisers, salt, foodgrains, sugar, raw jute, raw cotton, tea and timber and timber products.

Five principal commodities—iron ore, limestone, cement, petroleum products and coal—were taken at first to find out transport requirement of these commodities by the end of the Fourth Plan. The studies of iron ore, limestone and cement have been completed and the Group is in a position to give a precise picture of the transport requirements in respect of these three commodities. Regarding petroleum products and coal, the study will take some time more. The Group has also initiated the study of five more commodities—products of steel plants, fertilisers, salt, raw jute and tea.

The Group's approach has been to show the volume of production of a commodity by 1970-71 (in the first instance) and the various modes of transport required by that commodity as also their share of the commodity for transportation. The following paragraphs give a summary of the Group's conclusions in respect of iron ore, limestone, cement, petroleum products and coal.

Main Commodities

Iron Ore : In 1970-71 the originating iron ore movement to the steel plants is estimated to be 23.6 million tonnes and to ports for exporting 21.6 million tonnes. The movement of iron ore to steel plants will be by railways while that to the ports for export will be thus: 13 million tonnes by railways, 2.3 million tonnes by road transport and 6.3 million tonnes by inland water transport.

Limestone : The requirement of limestone for cement, iron and steel and other industries by 1970-71 is estimated to be 38 million tonnes. The share of traffic by railways will be 13.6 million tonnes, by road 8.4 million tonnes and by other modes of transport (ropeways and private railways owned by individual cement factories) 13.8 million tonnes. This break-up excludes the movement of 2.2 million tonnes because details of modes of transport are not available.

Cement : The production of cement is placed at 21.3 million tonnes in 1970-71. Railways will carry 15.4 million tonnes, road transport 5 million tonnes and steamers 0.9 million tonnes.

Petroleum Products : It is expected that the refinery capacity in 1970-71 will be 24.3 million tonnes. The movement will be: 10.4 million tonnes by railways, 1.5 million tonnes by road, 2.6 million tonnes by pipeline, and 0.8 million tonnes by coastal shipping (total 15.3 million tonnes). Transport requirements of naphtha, sales at refinery locations, consumption at the refineries and refinery losses—these have been excluded from the figures mentioned above.

Coal : The Department of Mines expects that the movement of coal in 1970-71 will be 110.2 million tonnes by railways and 40.7 million tonnes by other means (excluding 1.5 million tonnes by coastal shipping).

Thus in 1970-71, the load of the five principal commodities will be about 270 million tonnes out of which railways will transport 186 million tonnes and the balance by other modes of transport.

A fuller picture will emerge when information on other commodities under study is available.

Regional Surveys

The commodity transport studies are conceived on a broad canvas and generally cover primary movements throughout the country. These are expected to give a long-term perspective of movement of commodities and assist mainly the planning of transport at the national level.

The regional transport studies are more detailed and designed to reveal secondary and tertiary movement with which the State transport plans are vitally concerned.

Keeping in view geographical contiguity, economic homogeneity, continuity of traffic flows and convenience in the collection of data, the country has been divided into eleven regions. These surveys are being carried out in two phases.

In the first phase covering the period 1955-56 to 1965-66, transport facilities available in a region and their utilisation are being assessed.

The second phase will determine the growth of economy in detail for the Fourth Plan and in outline for the Fifth Plan in the region and the future network of transport system there. These two phases are not separate studies but are a continuous process.

Survey units have been set up in different regions. To give guidance to the survey units, an advisory committee has also been set up in each region. The Central Ministries of Railways and Transport, the Planning Commission and the State Governments are providing requisite resources to the survey units.

A short account of the surveys in different regions is given below:

The National Council of Applied Economic Research (NCAER) made a beginning in the Madras region with the Tiruchi and Madurai divisions and the Coimbatore district. Final report has been presented to the Planning Commission. The report attempts to estimate the volume of traffic in the region in the years 1970-71 and 1975-76 and the deficiency in capacity which will be felt at the end of each five-year period. It also brings out in what measure and where the capacity is to be augmented and what investment will be necessary.

The NCAER has agreed to extend the study to the remaining territory in the Madras State and to the states of Mysore and Kerala. The field work in these regions has started.

The eastern region comprising the States of West Bengal, Bihar and Orissa and a few adjoining districts of Madhya Pradesh and Andhra Pradesh is under study by the Joint Technical Group itself. A survey unit was set up at Calcutta in May 1964. The World Bank has provided technical assistance in the form of five experts who arrived in India on July 26, 1965.

Considerable progress has been made in the collection of data.

Survey units are working in Andhra Pradesh, Maharashtra, Madhya Pradesh, Gujarat, Rajasthan, Uttar Pradesh and the Punjab. In the Punjab, Himachal Pradesh and Delhi regions the survey is being carried out by the Punjab University in co-ordination with the Northern Railway, the Governments of Punjab and Himachal Pradesh and the Delhi Administration, In other States, State Governments have set up their survey units.

The transport survey of the North-east region, comprising the State of Assam and the adjoining regions of NEFA, Nagaland, Manipur and Tripura is likely to be taken up shortly. As for Jammu and Kashmir, while a survey unit has been set up, not much headway has been made owing to the present political conditions.

As industrial locations largely determine the transport requirements in a region, it becomes necessary to study the location of important industries.

A preliminary paper was prepared in June 1965 in which the question of industrial location and transport pattern of the regional economy, with special reference to the eastern region, was critically examined. The Joint Technical Group hopes to carry out further detailed studies in the near future.

Sometimes a choice has to be made between two or more modes of transport. For instance, in the case of power plants located in the coal fields, it is to be seen whether the coal requirements of the plants could be better supplied by railways or road transport or ropeway or pipeline. An answer to such questions entails cost studies. The Joint Technical Group will start this study shortly.

After completing the first phase early in 1966, the second phase may have to be split up into two stages: (i) up to the end of the Fourth Plan (1970-71) and (ii) for the subsequent period up to 1975-76.

The results of the commodity transport studies will be examined to bring out the transport implications in each region in such a manner that the same can be dovetailed into regional transport studies.

FOOD—A Management Problem

(Continued from Page 8)

lesson for food economists and administrators. The fact is that while sweet potato is a basic food material in India, potato and vegetables as also meat and fish, are mere condiments in the Indian food habits. And because of the high prices, they are a food of the rich and not of the poor in India.

Potato is not just starch but a protective food. It is a catch-crop in the Rabi season and can also be raised in the rainy season in the uplands with good drainage. A normal out-turn of 150 maunds of potato per acre can be attained easily.

The main impediments to the production of potato and vegetables are either social prejudice against manual work by the land-owning communities or the nature of village settlements in most parts of India where there are no homestead plots (except in Bengal and Kerala). Farming habits and practices also account for it. It may be recalled that the rural areas of Chhota Nagpur were made familiar with the cultivation of potato, banana and certain vegetables by missionaries and even more through the primary school plots on the initiative of Mr Dippie, the Inspector of Schools, in the 'thirties.

The subject of increasing food supply by intensifying fish culture and farm livestock deserves separate treatment. The food survey reports from different districts showed that a considerable saving in the consumption of foodgrains results in certain months, and specially after the rains, on account of the harvesting of marooned and mud fish. Large quantities are consumed as well as sun-dried and stored by poor people. No figures of harvests are available and we get only the figures of fish exports to Bengal which are not relevant here.

A considerable amount of economy in the consumption of food-grains is achieved by the use of skimmed sour milk among the lower middle farming families. But no measurement was attempted at that time. A rough estimate, however, is possible.

In view of these facts it is difficult to justify recurring imports except in certain critical years.

Courtesy: The Indian Nation, Patna.

SELECTED INDEX FOR VOLUME IX OF YOJANA

With this issue Yojana completes its ninth year of publication. As in previous years, a select index of material published during the year is printed in this issue. Some of our regular features like 'You Ask Us', 'As The Plan Moves' have not been included. The books reviewed during the period have, however, been taken.

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Hamara Hindustan

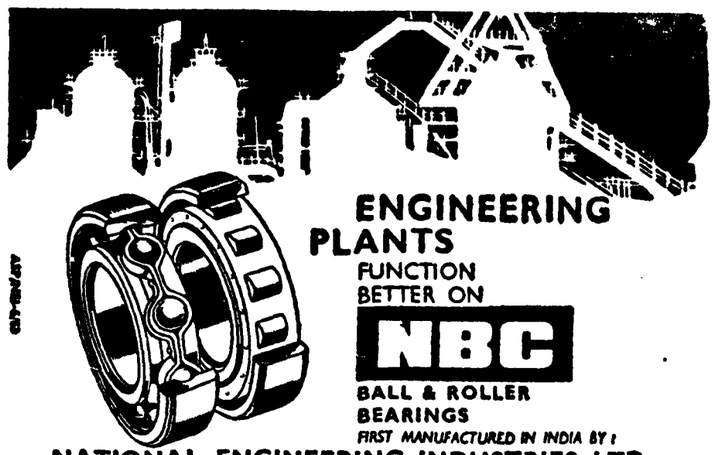
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Chief Dealers for Bearing & Steel Balls for U.P., M.P., Rajasthan, Punjab, Delhi, H.P., and Jammu & Kashmir :
VISHWA TRADING COMPANY R.O. 18/4, Asaf Ali Road, New Delhi.

BOKARO PROJECT Report is Ready

A detailed project report for the proposed Bokaro Steel Works has been submitted to the Government of India. It has been prepared by Soviet technicians in cooperation with Indian engineers. It provides for an annual capacity of 4 million tonnes and further expansion to 5.5 million tonnes. In the first stage, which may be completed by the end of the Fourth Plan, the output will be 1.7 million tonnes a year.

The cost of the works is estimated at Rs 770 crore, including equipment worth Rs 322 crore. The expansion will cost additional Rs 90 crore.

At the 4 million-stage, the cost of a tonne of ingot steel will work out at Rs 1925. It may come down to Rs 1500 after the expansion.

SPECIAL STEELS FOR DEFENCE

A priority programme for the production of alloy steels has been initiated to meet the defence needs.

The capacity of alloy and special steel plants, both in the public and private sectors, is being raised. Two projects in the public sector and 20 in the private sector have been licensed. Besides, three plants are to be expanded and three others to be newly set up.

The Durgapur Alloy and Special Steel Plant will be producing 60,000 tonnes of finished steel every year from 1967. The Bhadravati plant, which is undergoing conversion, will produce another 77,000 tonnes annually after 1968. The six private sector plants have a capacity of 34,000 tonnes together.

Fourteen plants for a capacity of 2,01,400 tonnes have been licensed.



LOANS FOR INDUSTRIES

The United States of America has given two loans totalling Rs 35 crore for industrial development in India. Of these, Rs 30 crore will be given to the Industrial Development Bank which advances loans for medium-sized industries and also refinances loans given by other banks for industrial development. The other loan of Rs 5 crore will go to the Industrial Credit and Investment Corporation which underwrites new stock issues, invests in shares and helps private enterprises in planning and executing industrial projects.

Both the loans will be given in rupees from the sale of U.S. agricultural commodities in India.

1st RAIL LINK WITH JAMMU

The Jammu and Kashmir State has been rail-linked with the rest of India with the opening to traffic of the 9-kilometre rail line between Madhopur (in Punjab) and Kathua (in Jammu and Kashmir). Goods traffic has begun; passenger traffic will take some time.

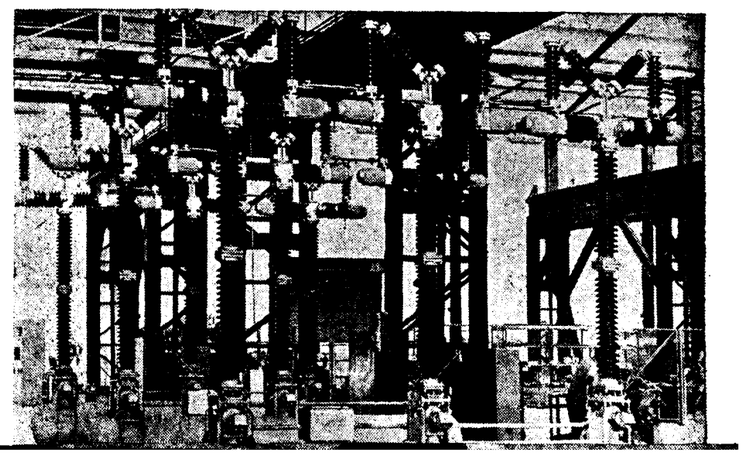
The rail line is an extension of the Pathankot-Madhopur section of the Northern Railway. It will be further extended to Jammu and later beyond to facilitate the industrial development of the area and to promote tourism by cutting down the time of journey in reaching the Kashmir Valley.

Built at a cost of Rs 2.37 crore, the rail line is laid through a difficult terrain of perennial rivers and foothills of the Himalayas.

FOUNDRY STATION AT GUINDY

The National Metallurgical Laboratory has set up a foundry station at Guindy near Madras. The station will serve the 800 foundries in the Southern regions, including 230 in Madras State. It is equipped with adequate facilities for testing foundry sands and bonding clays and analysis of both ferrous and non-ferrous metals and moulding sands.

NEW CIRCUIT BREAKER : **The first 220 Kv air blast circuit breaker manufactured by the Hindustan Brown Bovere Limited at their factory at Makarpura near Baroda. The annual output of this new unit will be about 150 EHT circuit breakers.**



Regd. No. D—876

A New Wheel For The Potter From Wardha



ALTHOUGH the art of shaping pottery on potter's wheel is ages old and improvements have been made in the wheel from time to time, one drawback persists in that these wheels wobble and do not rotate in one plane. Of course, a wheel, using ball bearing, is in use at present but its cost is high.

Now, a new wheel, both simple and cheap, has been designed at the Jamnalal Bajaj Central Research Institute for Village Industries, Wardha. This wheel consists of two cast iron parts. A simple ball is fixed at the base of the shaft which rotates in a barrel. The barrel acts as a guide. The arms are mounted on one iron part and carry the wheel which is made in the usual fashion with mud over bamboo supports. The other iron part can be fixed to a suitable base with bolts. The cost of this wheel is Rs 45 or so.

FOR OUR STEEL MILLS

Bhilwara Makes Insulating Bricks



THE credit of manufacturing insulating bricks in India for the first time goes to Bhilwara in Rajasthan. It was in 1958 that production of such bricks was started there as a private enterprise by the Bhupal Mining Works. At present, ten thousand insulating bricks are manufactured there every day.

The main consumers of these bricks are big steel projects like Bhilai, Durgapur and Rourkela as also other industries which need insulating material for their products.

Previously large quantities of diatomised bricks were imported from the Soviet Union for the industries. With the indigenous production of insulating bricks, India is saving foreign exchange worth Rs 80 lakh every year. The use of these bricks reduces the fuel consumption to a half.

The Bhupal Mining Works is not only producing insulating bricks but insulating ovens also. These ovens are of much use to 'halwais'—they cut down the fuel consumption by a half. From insulating ovens to insulating 'chulas' is not a far cry.

.....and Saves Foreign Exchange

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YOJANA

TENTH YEAR

50 PAISE

ANNUAL NUMBER REPUBLIC DAY 1966

17 JAN 1966 FINANCE DEPARTMENT



"O, Nanak, remain a small one, as small as grass; Other plants will wither away, but grass will remain ever green."

ABOUT YOJANA

Yojana seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion of problems of social and economic development.

It is issued every other Sunday in two separate editions, English and Hindi.

The Advisory Board of the journal consists of the Minister of Information and Broadcasting, Minister of Community Development and Co-operation, Minister for Agriculture, Mr T. N. Singh, Mr Shriman Narayan, Mr Akshaykumar Jain, the Secretary, Ministry of Information and Broadcasting, and the Secretary, Planning Commission.

Although published on behalf of the Planning Commission by the Ministry of Information and Broadcasting, *Yojana* is not restricted to expressing the official point of view.

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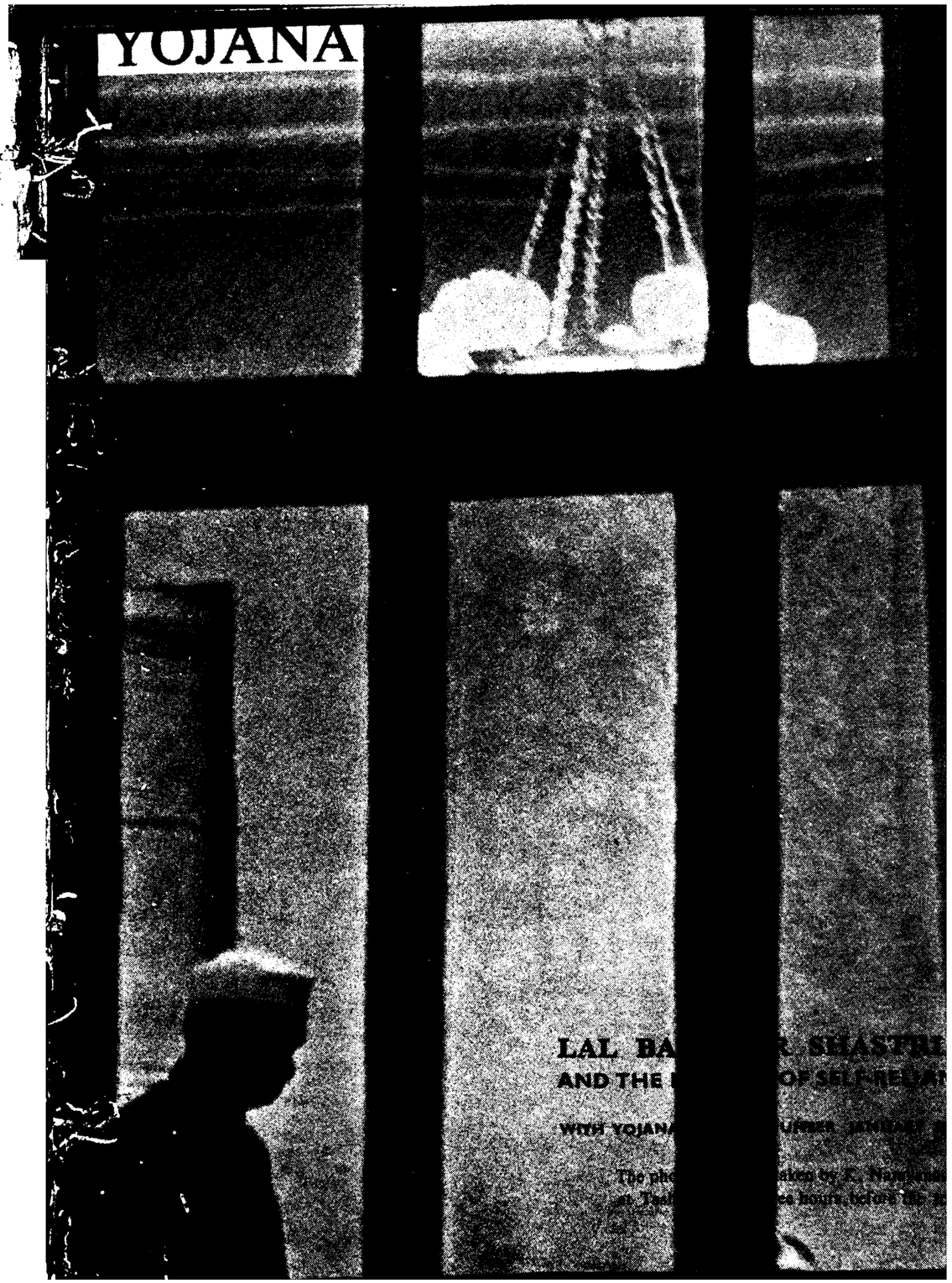
With this issue, YOJANA enters the tenth year of its publication.

The tragic news of the passing away of Prime Minister Lal Bahadur Shastri was received after printing of some pages of the issue had started. We have had to keep back a few articles to enable us to pay our tribute to the leader. The only consolation to us is that the main theme of the issue is one which was dear to his heart—Self-Reliance.

Please also turn to the inserted section at the centre.

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"How I Wish I Would Be Able to Lighten the Burden of Poverty!"

"THERE comes a time in the life of every nation when it stands at the cross-roads of history and must choose which way to go. But for us there need be no difficulty or hesitation, no looking to right or left. Our way is straight and clear—the building of a socialist democracy at home with freedom and prosperity for all, and the maintenance of world peace and friendship with all nations abroad. To that straight road and to these shining ideals we re-dedicate ourselves today...

"Political democracy and the way it has functioned in our country is surely a great achievement. Here again we owe an immeasurable debt to Jawaharlalji for his deep attachment to democracy as a form of Government and as a way of life. There is something in our older cultural heritage too. I have particularly in view that enduring strand in Indian life which can be best described as respect for human personality and the spirit of toleration. I have no doubt in my mind that it is by methods of persuasion and mutual accommodation, and by a constant search for areas of agreement as basis for action, that democracy can be worked. It is in this spirit that I shall devote myself to the duties and responsibilities of the office I have been called upon to fill.....

"Of all the problems facing us, none is more distressing than that of the dire poverty in which tens of millions of our countrymen continue to live. How I wish that I would be able to lighten the burden of poverty on our people. I cannot forget particularly the claims of the most backward sections like the Scheduled Castes and Scheduled Tribes, who had suffered neglect, and had to endure disabilities for many centuries. It would be my proud privilege to work for the establishment of a more just social order."

—From first broadcast to nation after assuming office, June 11, 1964.



"JAI JAWAN, JAI KISAN, JAI HIND"

"THE one lesson which we all must learn and whose implications we must all accept deep down in our hearts is that for the preservation of freedom we must have the necessary internal strength and that we must be as self-reliant as possible. We have to build up our economy in such a manner as to be self-sufficient in certain essential sectors.

"We live in fateful times. The dangers that threaten us have not yet passed. In this moment of crisis, when our jawans have shown the way, can our kisans lag behind? The jawan is giving his blood, he is staking his life for the country. I am asking the kisans to give their toil and their sweat. Let them also go out in their millions to the fields—that are waiting to be sown, and with enthusiasm, endeavour and enterprise make every effort possible to increase the production of food. Whatever may befall, let us so conduct ourselves that even by suffering and by sacrifice we succeed in making this country of ours self-sufficient, self-reliant, self-respecting and strong."

—Broadcast, October 10, 1965

"LET us determine to give practical shape to the keen desire of the people, so evident everywhere, to be self-reliant. Self-reliance does not mean that we have everything that we need. No country in the world is self-sufficient in all respects. Self-reliance is an attitude of mind. A poor man can be self-reliant, while a wealthy person may be dependent on others. Self-reliance means the capacity to make the utmost of what we have and the courage to do without what we do not and what we cannot have".

—Broadcast, October 19, 1965

India's Need—Socialism in Action

"India needs Socialism in action. What we do for our masses to make them self-sufficient in regard to their food, clothing, shelter, medical aid and employment is the important thing. The more we can do to bring these to the people, the nearer would we be to the goal of socialism. The wide gap between the poor and the rich has to be removed. The standard of living of the common man must be raised. It is in this context that the Bhubaneshwar resolution has to be viewed and suitable measures taken."

—On June, 2, 1964, the day he was elected leader of the Parliamentary Congress Party.

Detachment

"I learnt from him (Jawaharlal Nehru) and Gandhiji that one should not run after power or office, but work quietly and with detachment, without expecting reward. And I have learnt from my own experience that this greatly helps in one's political career and brings recognition or merit, provided one has the patience to wait and work with devotion and dedication."

—Lal Bahadur Shastri, quoted by his biographer, D.R. Mankekar



"I should like to say that it has been not only in the Government but in the Congress, my good fortune and privilege to have him as a comrade and colleague, and no man can wish for a better comrade and better colleague in any undertaking—a man of highest integrity, loyalty, devoted to ideals, a man of conscience and a man of hard work. We can expect no better. And it is because he is such a man of conscience that he has felt deeply whenever there is any failing in the work entrusted to his charge."

—Jawaharlal Nehru about Lal Bahadur Shastri.

One War Worth Fighting

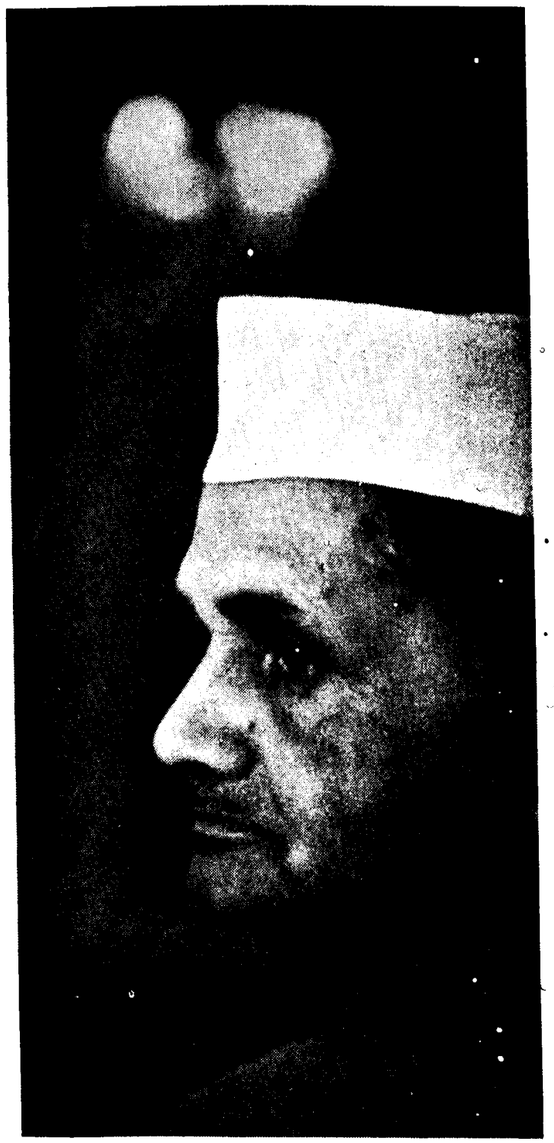
"AN armed conflict creates more problems than it solves. It is an impediment to understanding and agreement. On the other hand, in an atmosphere of peace, we can make real progress towards solving differences between us.....Instead of fighting each other, let us start fighting poverty, disease and ignorance. The problems, the hopes and the aspirations of the common people of both the countries are the same. They want not conflict and war, but peace and progress. They need not arms and ammunition, but clothing and shelter."

(Speech at Tashkent, January 4, 1966)

YOJANA BHAVAN HOMAGE

OFFICES in Yojana Bhavan were closed on January 11 and 12 as a mark of respect to the late Mr Lal Bahadur Shastri. A condolence meeting was held on January 13 at which Mr Asoka Mehta, Deputy Chairman of the Planning Commission, referred to the work of Mr Shastri as Chairman of the Planning Commission. The following resolution was adopted :

"The Members and staff of the Planning Commission assembled today to place on record their profound sorrow and anguish at the sad and sudden demise of the Chairman, Shri Lal Bahadur Shastri. They request the Deputy Chairman, Planning Commission, Shri Asoka Mehta, to convey their respectful sympathies to Shrimati Lalita Shastri and the bereaved family."



FAITH IN PEACE

"WE have sought peace and friendship with our neighbours. Our faith in the forces of peace was so genuine and so strong that we did not pay the requisite attention to building up adequately the defence forces of the country. It was only after the Chinese invasion on our northern borders in 1962 that we realised how essential it was for us to be prepared for defending our territorial integrity."

From letter to U.N. Secretary-General, September 14, 1965

For Greater Productivity

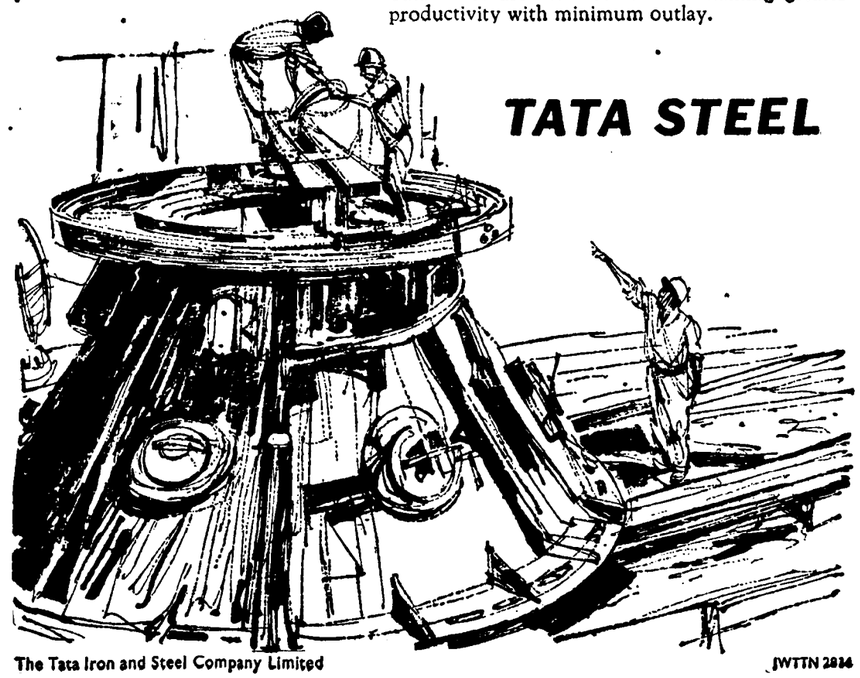
At Tata Steel, records are set only to be broken. Take a job like relining a blast furnace. A complicated programme, requiring minute planning, perfect co-ordination and stop-watch control of every phase of operation involving thousands of tonnes of refractory bricks, steelwork and castings, miles of electric cables and piping, and calling for the services of a team of engineers and skilled personnel.

In 1957, the relining job on a blast furnace took 99 days. In early 1963, the job was done in 74 days, a record that many felt would be difficult to beat. But within about six months, a blast furnace was relined in 64 days.

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YOJANA

Vol. X No. 1 Fortnightly Journal Published on behalf of the Planning Commission Magha 6, 1887

SHASTRIJI

by ASOKA MEHTA

IT is still difficult to believe that the quiet voice of reason will no longer be heard over the fury of debate, that Shastriji is no more. Twice in less than two years, we in the Planning Commission have lost our leader. Our loss this time is inconsolable for it is the most unexpected. It will take time to recover from the profound sense of shock and void from which we suffer at this moment.

For many of us this sense of void is all the more tragic because we were privileged to have a glimpse of Shastriji's greatness in the difficult days of early September last year. While our frontiers were ablaze and the destiny of the nation hung in a balance and uncertainties of all kinds confused our vision, with a supreme confidence rare even in the greatest among leaders, Shastriji quietly commended a Rs 21,000-crore Fourth Plan as the ultimate bulwark of our defence and development.

Self-reliance was the basic economic philosophy of Shastriji. He looked upon economic development and the priorities connected with it as essential pre-requisites for a state of self-reliant economic growth. From this point of view he was as much a believer in economic planning as the most ardent planners amongst us. But he conceived of economic planning and economic development in terms much more concrete and humane than many of us are apt to do.

It was this insatiable craving for concreteness that drove him to his deepest attachment, his concern for the common man and the rural people and to his conviction that only a resurgent agriculture held the key to general prosperity. He believed that with the oncoming facilities of power and irrigation farmers were poised to move forward and that they should not be denied the opportunity to go ahead. It is for this reason that he attached the greatest priority to agriculture in the Fourth Plan. His slogan, "Jai Kisan, Jai Jawan, Jai Hind," is still ringing in our ears.

Next to agriculture his greatest concern was for education, education not of a general type and of an ornamental nature which has appeal to the glamorous sections of the society, but education which makes self-reliance a reality: primary education for all and technical education for those who were to be the sinews of our agriculture and industry. He wanted education to be made abundantly available so that the most under-privileged citizen could become aware of his true rights and duties and come forward to claim those rights and perform those duties.

In all the mechanics of change he believed in the perfectibility of the human machine and was more concerned about the implementation of a good plan than the formulation of the best. It was from his intimate knowledge of the machinery of change that he came to regard the collector as the lynch-pin of economic development and gave so much importance to administrative reforms.

Shastriji was averse to nationalisation although he was in favour of a widening sphere of public enterprise. Essentially a man of peace he did not want anybody to be hurt unnecessarily. He thought there was enough room in this country for the existing private enterprise and an increasing volume of public enterprise.

Finally, he never allowed the rationality of the planning process to be influenced by political expedients. Economic planning for him was an exercise in reason devoted to the satisfaction of our essential needs and not the drawing board for political campaigns.

Those of us who worked under him in the Planning Commission know that it was a rare privilege to do so. He would provide the clearest possible guidance whenever such guidance was needed, and would have the most complete confidence in those who worked for him. It was delightful to listen to him giving expression to this profound grasp of the most intricate economic problems and indicate their solutions in the most homely manner. Eighteen months are but a short period in one's life: but they remain an unforgettable experience for those who were privileged to assist him in the Planning Commission. It was so because reason was his authority and effortless persuasion his command.

Training and Manpower Planning for Industry and Self-Reliance

JOB-ORIENTATION AT ALL LEVELS AND RIGHT MANNING POLICIES WILL HELP US TO MASTER THE ART OF ADAPTATION

S. R. SEN GUPTA

Director, Indian Institute of Technology, Kharagpur, and Member, the National Planning Council

IN the era of industrial development that we are entering, we would do well to look to the East as well as to the West, and take lessons from their experience. For better or worse, the little industrialisation that has already taken place in our country has been to a considerable extent influenced by the technologies and practices of Great Britain. Our educational system and in some ways even our approach to problems have been affected by 200 years of contact with Britain. It is not surprising that our frame of reference continues to be British.

Nevertheless, it would be unwise on our part if we do not take a close look at the achievements of other countries, say Japan, with a view to intelligent grafting of some of her methods into our system. Likewise, we have much to learn from the U.S.S.R.

One often asks how is it that when the wages of our workers including the skilled operatives are so low, the cost of almost any article or material produced by us can be higher than the world price of that commodity. Various reasons are adduced to explain this phenomenon, for example, the necessity of importing essential raw materials at great costs; the high cost of capital goods; the low productivity of our labour and so on. It is suggested that much of what ails us in this regard may be due to the lack of enterprise and inventiveness as well as of proper training and deployment of our labour.

A healthy sign that one sees these days is in the intelligent copying in the production of certain types of consumer goods. All of it is good, but there is no gainsaying that intelligent adaptation is hardly being attempted systematically yet. Because of import restrictions one hears groans and protests from all quarters that production would come to a stop, but seldom does one hear a bold reply to the challenge it has posed us. While it is true that some essential raw and processed materials and capital goods and even appliances and accessories may have to be imported, yet we can do without much of the present import if we go in for intelligent substitution and adaptation. Only through the proper manning of the industry at all levels and in each of its units can we generate the enthusiasm that will enable us to rise to the occasion and attain a measure of self-sufficiency and self-respect.

THIS article is concerned with certain facets of the question of manning the industry in the context of attaining self-reliance.

Industry needs all kinds of personnel, administrative, technical and clerical, besides skilled operatives for production and maintenance. It needs supporting employees such as crane operators, transport drivers, store and warehouse workers as well as labourers. We have not yet conducted any systematic occupational analysis of employment in our major industries. Studies have indeed been made of the manning of the Bhilai Steel Plant and the fertiliser industry and an excellent general report has been produced by the Labour and Employment Division of the Planning Commission entitled *Employment Trends, Tasks for the Fourth Plan—a State-wise Analysis, 1964*. But these studies do not enable one to make an intelligent guess regarding the manpower needs and the employment pattern in our developing and expanding industries. It seems that for realistic manpower planning and for the planning of the training of industrial workers at all levels, systematic studies should be carried out industry-wise, much the same way as is being done since 1963 by the Ministry of Labour in the United Kingdom.

Although the occupational structure will vary from industry to industry and even within the units of any one industry (and many important factors for example technological inventions and innovations beyond the control of the units or of the industry as a whole, affect the occupational structure), yet such studies will help one to get a broad picture of the employment pattern. They would also enable reasonable forecasts to be made of the trend and the employment structure for the next five to ten years, and to plan for the training of the workers. Countries which have a total planned economy are better placed in this regard than ours which has a mixed economy.

Needs of Sophisticated Industries

FROM the manpower studies carried out in Britain, we find that in the construction industry (erection and repair of buildings, construction and repair of roads and bridges, erection of steel and reinforced concrete structures, laying of sewer and gas mains, erecting overhead poles, and aerial masts, opencast coal mining, demolition works, etc.), 87 per cent of the work was undertaken by the contractors and 13 per cent by the public authorities, and that the total manpower employed in 1963 was a little over 1.7 million as against 24.5 million in all industries and services together and that the number of employees holding scientific and technological qualifications (civil, structural, mechanical engineers etc.) have been estimated to be about 0.6 per cent only, that is, about 10,000. The number of technicians employed would probably be about 40,000.

In the metal manufacturing and metal using industries in mid-1963, the size of the labour force was estimated to be 4.34 million. The following table gives the broad occupational analysis in these industries (May 1963).

Industry	*Adm. Tech. Clerical*	*Skilled Operatives*			*Other employees*	*Total*
		Production work	*Maintenance*	*Total*		
Metal manufacturing	118,440	73,870	45,360	119,230	320,350	558,020
Mechanical Engg.	373,460	415,270	39,350	454,620	430,120	1,258,200
Electrical Engg. (with Radio)	234,340	129,060	18,610	147,670	381,100	763,110
Motor Vehicle	90,050	113,550	13,890	127,440	219,960	437,450
Aircraft	102,680	89,540	5,530	95,070	62,290	260,040
Other metal goods	105,920	112,340	14,520	126,860	268,580	501,360
Ship building	17,160	—	—	63,900	34,010	115,070

Some of these industries may be said to be *technologically heavy*, meaning thereby that these industries employ a proportionately large number of technical workers as compared to the total number of workers. Typical technologically heavy industries are the aircraft industry, electronics industry, electrical industry and the machine tool industry. On the other hand, the ship building industry, the construction industry etc. cannot be said to be technologically heavy industries.

Let us examine a little more closely the employment structure in the British aircraft industry. The 102,680 people shown under the head "Administrative, Technical, Clerical" consists of :

Managers, superintendents, works foremen ...	12,870	
Research & design staff (excluding draughtsmen)	9,550	
Technical, experimental and developmental staff	21,240	43,660
Draughtsmen and tracers	——	10,640
Office staff not specified above, including works-office staff ...		48,380
Total:		102,680

Thus it will be seen that scientists, engineers, technologists and technicians as well as accountants and other administrative staff number about 43,660. The technical staff, i.e. scientists, engineers, technologists and/or technicians, may number well over 31,000 and will probably run close to 40,000. Of these, probably no fewer than 12,000 to 14,000 would be scientists, engineers, and technologists whereas the number of skilled operatives is over 95,000 and the supporting staff over 62,000. (The employment structure of the mechanical engineering industries as a whole would show a somewhat different pattern of employment.)

The occupational analysis of the 95,070 skilled operatives in the aircraft industry (given below) may not be without interest:

Skilled operatives (including persons being trained)	
1. *Production Workers*	
Toolmakers, toolroom fitters ...	5,020
Machine tool setters, setter operators (other than toolroom workers) ...	7,840
Turners ...	5,350
Other skilled machine tool operators ...	7,360
Other fitters, fitter assemblers and erectors ...	31,080
Platers (boiler and construction shopwork) ...	70
Plumbers, pipe fitters ...	150
Welders ...	1,000
Sheet metal workers (including panel beaters and coppersmiths) ...	4,190
Pattern makers (wood or metal)	570
Instrument makers and instrument mechanics ...	570
Coach or vehicle body builders (wood or metal) ...	230
Inspectors and markers-off ...	13,290
Moulders and coremakers (foundry) ...	130
Smiths, forgemen ...	30
Wood workers (machinists) ...	180
Wood workers (others) ...	1,490
Other skilled workers ...	8,220
General engineering apprentices not allocated elsewhere	2,770
2. *Maintenance Workers Plant and Machinery*	
Maintenance fitters and millwrights ...	2,240
Electricians ...	1,400
Other skilled workers ...	740
Building etc.	
Carpenters and joiners ...	690
Other skilled workers ...	460
	95,070

We should also be interested in the figures under "Other Employees" numbering 62,290. Of these, as many as 32,440 were machinists and other semi-skilled workers engaged in production or maintenance. Thus the British aircraft industries employ more than 95,000 skilled operatives and more than 32,000 semi-skilled workers.

For the purpose of this article, I have chosen the aircraft industry on many considerations. For one thing, it is an industry largely dependent on the Government in the matter of design and development as

also in regard to quantity and production. For another, it is becoming increasingly complex and sophisticated, involving manufacture and assembling aircraft, gliders, guided missiles or aero-engines and the manufacture of parts and accessories other than electrical and electronics equipment. Again, it offers no great scope for automation while it lays emphasis on research and development.

Thus we see that a modern sophisticated industry may have the following kinds of workers:

Scientists, engineers, technologists.....	5 to 6 per cent
Technicians.....	10 to 12 p.c.
Draughtsmen.....	4 to 5 p.c.
Skilled operatives.....	37 p.c.
Semi-skilled workers...	12 p.c.

In other words, the industry employs technically trained manpower to the extent of 60 to 70 per cent (or more) of the total number of workers. The general picture is much the same for all "technologically heavy" industries. The need for trained manpower is only a little less in other types of industries.

Systematic Practical Training

THROUGH the courtesy of an officer of the Ministry of Education, I have been able to read the very ably drawn up *Fourth Five year Plan for Technical Education* in which the importance of practical training of engineering graduates has been properly emphasised. Rightly, great concern has been expressed that we are relying too much on the polytechnics (diploma institutions) to produce for the industries that very important group of persons, namely the technicians. It is true that certain industries have been trying to solve the problem of getting technicians by taking in graduates in science and putting them through a two-year training programme.

The question of providing proper training of the technicians needs thorough consideration. "A technician in most cases carries out a function between qualified scientists, professional engineers, and other technologists on the one hand, and the skilled craftsmen and operatives on the other. He is one who can apply in a responsible manner proven techniques which are commonly understood by those who are expert in that branch of science, engineering, or other technology, or those techniques specially prescribed by qualified scientists, professional engineers, or other technologists...". His "work often calls for the exercise of a high degree of specialised skill, and ability to recognise the unusual or abnormal occurrence, whether in the laboratory, in the factory, in processing etc". "Technicians fill a new occupation or newly distinguished employment in or between production and administration. The increasing need for them arises from the use of more instrumentation and control equipment generally." "They are being needed at an increasingly faster rate than scientists and technologists" in the manufacturing industries.

We do not produce enough B.Sc.s for the manning of our schools, and if the industry is to systematically take away the B.Sc.s and train them to become technicians, the problem of finding science teachers for schools will become still more acute. A better and more rational approach would seem to be either to give diploma students a systematic training in plant practice on a sandwich system, or to ensure for them a two-year job-oriented practical training programme at the post-diploma stage, rather than place the diploma-holders directly in supervisory positions and let them muddle through somehow or other.

It is heartening that all sizeable industrial enterprises, especially in the public sector, have generally built up a comprehensive programme for the training of semi-skilled and skilled operatives. The Industrial Training Institutes under the Ministry of Labour impart craft training to young people of 16 years and above in co-operation with the industry and provide them an entry into industry as semi-skilled operatives with varying success. Some factories have training programmes of three to five years for the training of skilled operatives.

Junior Technical Schools Should Be Strengthened

INTERESTING experiments that have been made in systematic training of skilled operatives in specially designed training establishments, for example the Prototype Factory at Okhla, Delhi, and the Instrument-Makers Training Centre at Chandigarh are worth close study. At these places, school leavers (matriculates or higher secondary certificate holders) are put through a systematic three-year training programme which includes some production experience towards the end of the course. These young people should become good craftsmen competent to man our industries as skilled operatives.

In this context mention should be made of the interesting educational experiment which has been revived in recent years, namely, the diversion of pupils into Junior Technical Schools at the age of 14 after Class VIII. It is felt that it would be highly profitable to exploit the experiment to the full. At present for various reasons, the boys from these schools appear to be unable to get a start in the industries as apprentices, and more than half of them go into polytechnics, and in due course blossom out into diploma-holders. It was hoped by the framers of Junior Technical School Scheme that the pupils from these schools would be acceptable to the industries as apprentices. It is hard to see why they should not, as they are excellent material eminently capable of being trained up by industry to be highly skilled operatives.

It is felt that this experiment should be encouraged wholeheartedly and every effort made to increase the number of Junior Technical Schools. On completion of the school programme the bulk of the pupils should be apprenticed to the training establishments in our manufacturing industries, while only the exceptional ones should go to the polytechnics, and apprenticed through them to industry to become technicians.

There is yet another important consideration. We pay our craftsmen a mere pittance as wages and, unless we pay them better, the number of bright boys joining the industries at the level of craftsmen will continue to be few.

For self-reliance in the field of industry, we must have to arrange matters in such a way that all organs of production may take pride in identifying themselves with the production effort and ideas may come from above as well as from below. No industrial organisation can remain healthy for long or make progress unless there is a free flow of ideas as well as effort to make technological innovations at all levels.

—Speed up the Fertiliser Plants
—Encourage Machine-Making
—Stop Buying Cotton from Abroad
—Push Ahead with Petroleum Refining
—Put Stress on Sulphur Mining

IMPORT SUBSTITUTION *Some suggestions*

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IN spite of all our efforts in the past, the foreign exchange position of the country has not improved; on the contrary it appears to have deteriorated and perhaps will continue to do so unless proper and adequate measures are taken quickly and efficiently. One of the measures the Government of India has recently taken is the appointment of an Import Substitution Committee under the chairmanship of Prof. V.K.R.V. Rao. This Committee will undoubtedly study the problems thoroughly and urgently and make recommendations to the Government.

One of the main aims of planning and development in the country is substitution by indigenous products of what used to be imported, so that the nation may have more things to consume with the same or even less expenditure on imports. Obviously as we progress industrially the character of imports will change, and if planning and implementation of various development programmes are carried out intelligently, efficiently and with proper priority, our dependence on imported materials for the primary needs of the nation such as food, clothing, etc., will become negligible and we can also achieve near self-sufficiency quickly in such basic materials as iron and steel, nitrogenous fertilisers, non-ferrous metals, basic chemicals, machinery and components. We still have to go a long way even to achieve these modest objectives after 15 years of planning.

From a small quantity of import of food-grain immediately after Independence, currently we need to import 6 million tons of food-grains per year, approximately valued at Rs. 240 crore. On an average we import cotton worth Rs 60 crore a year to clothe the nation and we may have to continue to do so even beyond the Fourth Plan unless we are willing to take urgently some unpleasant but essential and appropriate measures to reduce our dependence on imported cotton. We now import iron and steel worth more than Rs 100 crore and we may have to continue this import throughout the Fourth Plan period. We spent more than Rs 300 crore for import of machinery and components last year, and by 1971 the import bill on this may become more than Rs 500 crore as indicated in the "Notes on the Perspective of Development—India, 1960-61 to 1975-76" by the Planning Commission. Besides these we are still dependent on imports in a big way for such materials as petroleum crude and finished products, non-ferrous metals, chemicals and allied products, sulphur, rock-phosphate, vegetable oil, etc.

We just cannot go on importing all such materials because we simply do not have the means to finance

all these imports. Something has to be done rather quickly. Two rules that may help us considerably in reducing our dependence on imported materials are :

(a) Substitute imports by austerity wherever possible and practicable, and

(b) implement most efficiently the various schemes under planning and development.

1. *Nitrogenous Fertilisers :* Self-sufficiency in agricultural produce has to be achieved urgently. One of the key factors for achieving this appears to be production and proper application of nitrogenous fertilisers. We have failed miserably in achieving our target of production and consumption of nitrogenous fertilisers during the Second and the Third Plan periods. As against an original target of production of 800,000 tons of nitrogen by the end of the Third Plan we expect to produce less than half the quantity, which was the target for the Second Plan. Currently we spend about Rs 30 crore per year for import of nitrogenous fertilisers. We take on an average about seven years to set up a nitrogenous fertiliser plant while it should really take less than half this time. If availability of foreign exchange is one of the main delaying factors, then foreign exchange for these plants may be made available from the country's free foreign exchange. Our export earning is now more than Rs 800 crore per year and I do not know how this exchange is utilised, but I certainly think that nitrogenous fertiliser plants must have a prior claim on this next only to defence, food, and discharge of international debt obligations.

A crash programme is therefore suggested for the production and consumption of at least 2 million tons of nitrogen if possible before the end of the Fourth Plan. And this time we should not fail to replace directly the increasing import of nitrogenous fertilisers and indirectly the imports of food-grains.

2. *Machinery and Components :* As mentioned above the current import bill for machinery and components is more than Rs 300 crore per year and is likely to go up by 1971 to more than Rs 500 crore. There is no reason why this should be so. If proper measures are taken now and efficiently and if due encouragement is given to the indigenous manufacture of machinery and components, we can produce considerably more machinery and components than what we are doing.

Recently the import duty on machinery and components has been increased and is now 45 per cent. This is a step in the right direction and it will considerably help in reducing the import bill on plant and equipment, without materially affecting the tempo of development.

Another factor that may considerably help in substituting imported plant and components is ordinarily to encourage and give preference to those schemes of expansion and of setting up new plants that require the least amount of foreign exchange per unit capacity added. In order to make this comparison for any industry such as cement, sugar, paper, caustic soda, etc., applications for substantial expansion and setting up new plant should be collected and considered together periodically —say two to six times a year—on a fixed period basis.

3. *Import of Cotton :* We import on an average cotton worth about Rs 60 crore for the manufacture of fine and superfine fabrics mostly for home consumption, generally by the well-to-do sections of society. In these days of acute foreign exchange crisis there appears to be no compelling reason why it is essential for us to continue this import which we have been doing for the last several years. It is suggested that gradually we reduce the import of cotton—say 20 per cent every year so that by the end of the Fourth Plan we import only negligible quantities of cotton or that quantity which is governed by trade agreements.

It is also suggested that the demand for fine and superfine cloth may be reduced, as planned, by fiscal measures such as increase in excise duty on fabrics and import duty on cotton.

Obviously in the meantime all steps should be taken, particularly by the consumers of cotton, to increase the production of indigenous cotton. This will certainly lead to some increase in fabric production. These perhaps would not be as good as those made from imported cotton, but they can certainly be used.

Viscose staple fibre is now being manufactured in the country from indigenous bamboo pulp, which means that the nation is getting some fabric now from bamboo forests. Very soon perhaps eucalyptus or hybrid eucalyptus wood will be available in addition to bamboo for making rayon grade pulp. Due consideration therefore should be given to the expansion of the rayon industry based on indigenous pulp to meet the increasing need of fabrics for the people.

4. *Import of Crude Oil and Refined Petroleum Products :* The annual import bill for crude oil and finished petroleum products rose from Rs 55 crore in 1955-56 to more than Rs 100 crore in 1963-64, and it is expected to go up still higher to about Rs 144 crore by 1970-71. (See page 172-173. Notes on Perspective of Development—India, 1960-61 to 1975-76). We simply cannot afford this increasing import bill and something has to be done. We may try to keep this import bill within our means as suggested below; these are measures which will not perhaps materially affect the development of the country or cause unbearable hardship to the nation:

(a) Achieve near self-sufficiency in petroleum refining as soon as practicable, since it is half as expensive to import crude than to import the equivalent finished products.

(b) Maximise the production of indigenous crude; foreign exchange in the form of crude oil is lying in our soil. We must take all necessary measures to step up the production of crude oil as quickly as possible.

(c) Restrict the consumption of motor spirit: The consumption of motor spirit will gradually go up as the number of gasoline-operated vehicles on the road will increase. We may assume that by and large the well-to-do section of society will consume the largest proportion of motor spirit. We might restrict the consumption of gasoline at 1.3 million tons per year by 1970-71, which appears reasonable under the given circumstances. The present consumption of

(*Continued on page 54*)



SELF-RELIANCE IN AERONAUTICS

National Laboratory Will Help Defence and Civil Aviation

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THE decisive role played by the Indian Air Force in stemming the latest aggression by Pakistan is too well known to be repeated. The heroic deeds of our pilots and the glorious performance of our aircraft, particularly the Gnat fighter planes, thrilled the entire nation. That the Gnats put up a splendid fight against the bigger Pakistani Sabre jets and proved to be more than a match to them is a matter of special significance to us, as this plane is manufactured in our country.

The positive policy of self-reliance in aircraft manufacture which the Government adopted soon after Independence is beginning to pay dividends now. It was in 1948 that the Government of India commissioned the Hindustan Aircraft Factory, Bangalore, to design and manufacture initially a trainer aircraft which is known as HT-2. Since then, the Factory had undertaken manufacture, under licence, of several types of aircraft and aero-engines designed abroad, and also aircraft designed by its own Design and Development Group. Besides the now famous Gnats, whose manufacture, under licence, began in 1957, the current manufacturing programme of the Factory includes AVRO-748, Alouette helicopters, light aircraft, basic jet trainer (Kiran) and the supersonic fighter HF-24 (Maruta). In 1964, the Government decided to enter the aircraft manufacturing business in a big way by setting up a new company, the Hindustan Aeronautics Limited, with which the Bangalore Factory was merged. The new undertaking has plans to manufacture MIG-21 fighters and their ancillary equipment with Soviet collaboration.

Our civil aviation has now grown to considerable proportions from small beginnings about 30 years ago. We have at present a large network of national and international air services, operated by latest types of aircraft, such as the Boeing, Caravelle, Viscount, etc. Much headway has been made in the design and manufacture of gliders and sail-planes. Attempts have been made to manufacture a few items of aeronautical instruments and equipment. However, in the field of civil aviation, there is still a great scope for further expansion, considering the ideal geographical position and vastness of the country. While steps have been taken to design and manufacture a few types of civil aircraft in the subsonic range, we are still dependent on foreign sources for the bulk of our requirements.

The age of the supersonic civil aircraft may begin in two to three years hence, and if we are not to lag behind in this new phase of development, it is essential that we must be in a position to design and manufacture transonic and even super-

Importance of Wind Tunnel Tests

sonic civil aircraft by creating the necessary facilities and experience immediately.

Scientific Backing

It is clear that the development of an indigenous aircraft industry requires strong scientific backing without which no headway can be made. It is universally recognised today that a substantial amount of basic and applied research as well as scientifically performed development work in the field of aerodynamics, structures and propulsion is a must for any developing country attempting to produce and operate its own designs of aircraft. In a highly competitive international field of aeronautics, it is not feasible to depend upon foreign research and development where the practical design and production problems of high-performance aircraft are concerned; indigenous know-how and design data must be created to sustain the industry on progressive and competitive level. Most advanced countries, even the small ones, have, therefore, set up laboratories for carrying out aeronautical research. The need for India to develop her own scientific potential in the aeronautical field and create the necessary research facilities is, therefore, of vital strategic and economic importance.

At present, we have to rely on foreign sources for certain kinds of wind tunnel tests, structural investigations, development of instrumentation and controls, etc. This involves a lot of expenditure in precious foreign exchange and delay. If we had the necessary facilities of our own, we should not only have had the tests carried out ourselves in time, but our scientists and engineers would have gained valuable experience. Aircraft manufacture is never a purely commercial proposition, on account of political, military and economic reasons, and the foreign manufacturers jealously guard the vital design data as classified information which is very difficult to obtain by countries like India, which are not parties to any international military alliances.

It is in this context that the role of aeronautical research in assisting in the design and development of aircraft and accelerating the process of self-reliance in our aircraft industry assumes great importance. Realising the urgent need for a national centre of aeronautical research, the Council of Scientific and Industrial Research established the National Aeronautical Laboratory (N.A.L.) at Bangalore in March 1960, with the immediate objective of setting up a 4′×4′ Trisonic Wind Tunnel, the biggest of its kind in India and one of the very few comparable research facilities built in recent years in aeronautically advanced nations of the West.

The necessity of a wind tunnel as an indispensable test equipment for design of aircraft was recognised even when the Wright Brothers were designing their machines. Most aircraft manufacturing organisations all over the world maintain large wind tunnels for the design and development work. Today, even the slightest improvement in the performance of an aircraft can mean a great saving in operational costs, and experience has shown that comprehensive wind tunnel tests pay for themselves in the long run.

The N.A.L. Wind Tunnel, designed for testing at transonic and supersonic speeds up to four times the speed of sound range, will be available for research and testing to the aircraft industry, the Indian Air Force, the Civil Aviation Department and other organisations in India concerned with the development of aeronautics. It will furnish important aerodynamic data of use to designers and operators of high speed aircraft.

Besides the large 4′ tunnel, the Laboratory will have a 1′×1′ tunnel and several other smaller tunnels for carrying out research in aerodynamics of a more fundamental character.

Apart from providing specialised facilities for basic and applied research in aerodynamics, the N.A.L. will also undertake scientific investigations in allied fields, such as industrial aerodynamics, structures and materials, propulsion, systems, engineering, etc. It will serve as the repository of scientific knowledge in aeronautics and disseminate the information to the research workers in the field. In general, the Laboratory will function as an integral part of the air power in India and will maintain close liaison with the aircraft industry, civil aviation and defence.

During the last five years, a substantial amount of preliminary work in planning and establishment of the Laboratory has been carried out.

All the basic facilities for operating the 4′ and the 1′ tunnels, such as buildings and services, compressed air supply systems, a modern model shop for fabricating wind tunnel models and automatic control and electronic computing aids, have been provided. The 1′ tunnel which was designed entirely by N.A.L. engineers was to be ready for operation by the end of 1965. The design and erection of the 4′ tunnel has been entrusted to a Canadian firm at a total cost of nearly 4.2 million dollars. This tunnel will be ready for use towards the end of 1966.

Structures and Materials

A Structures and Materials Division with necessary staff and facilities has been set up for undertaking scientific investigations on aircrafts structures and materials which will be useful for the design, construction and operation of aircraft. Facilities are also being provided for full-scale testing of aircraft structural components for fatigue strength and dynamic loading of aircraft.

From the economic point of view, there is a great scope for research in industrial aerodynamics in a developing country like India. Some of the problems proposed to be taken by N.A.L. are wind loads experienced by buildings and engineering structures, airflow resistance in mine shafts, pneumatic conveyance of materials, discharge of smoke from tunnels and chimneys, and utilisation of wind power as a cheap source of energy.

As part of its Fourth Five Year Plan, the Laboratory has drawn up several programmes of research which will be of direct value to the aircraft industry and defence, and which will assist the drive for import substitution in many vital areas. It is already in active contact with the various organisations concerned, with a view to utilising the research potential already created to the maximum advantage.

The science of aeronautics is very comprehensive in scope and holds the key to new technological development. The diverse disciplines required to support advanced aeronautical and space research result in advances in a wide field of science and technology. The N.A.L. will play its part in building the new India and achieving the goal of self-reliance.

We Must Be Self-Reliant in Alloy, Tool and Special Steel

They provide the teeth of machinery

D. P. CHATTERJEE

General Manager, Alloy Steels Plant, Durgapur

IN 1888, when high-manganese steel and a few other grades of alloy steels were introduced in small tonnage, the world steel production was only 10 million tonnes. Today it is approximately 350 million tonnes. This rise in manufacture and the steady increase in the application of steel in various industries have both been made possible by the rapid development of different types of alloy and special steels.

For the Fourth Five-Year Plan period in our country, a quantity of approximately 16 million ingot tonnes of plain carbon steel have been planned to be produced in the public and private sector units. Five per cent of these 16 million tonnes, or approximately 0.80 million tonnes, will be alloy and special steels. These 0.80 million tonnes of special steels will provide most of the tools with which 16 million tonnes of ordinary carbon steel will be worked up.

It is from special steels that the key elements of major equipment are made—for example the jaws of ore-crushing machine, the teeth of rock drilling bits, the essential components of internal combustion and jet engines on which modern automobile and aircraft industry so greatly depend, and other critical requirements for spacecraft and atomic energy generation units. Without the development and manufacture of alloy and special steels, it would not have been possible to produce any aircraft, heavy motor vehicles, spacecraft and the engineering equipment that are the pride of modern civilisation.

Starting with self-hardening tool steel, high-manganese austenitic steel, stainless steel and a few other similar grades of alloy and special steels, modern metallurgists have now developed a wide range of alloy and special steels with a great variety of mechanical and physical properties which have made possible the development and production of the great complex of modern machinery.

It is significant to note that while for countless years, iron and steel rusted and rotted in the sight of mankind, lay festering in scrapyards, stared red out from back gardens and stood stiff in rows of decaying park-railings, as painters went round daubing them, as overworked housewives ground away at kitchen knives to keep them bright, only at one known place of the world was a notable victory obtained over the inevitable red-destroyer—in Delhi where for centuries an Iron Pillar, "one of the wonders of the world", stood and still stands, unassailed by time. The pillar bears full testimony to the science and technology which was known to our forefathers and to the great advance that had been made in our country even in those early days.

A layman may ask what is an alloy steel and why so much emphasis is laid nowadays on this category of steel and why some of the key industries like automobiles, machine tools, fertiliser plant and equipment, aeronautics, defence services, oil and gas drilling equipment, cutting and conditioning tools, electrical equipment, etc., say they are facing such great difficulties owing to shortage of special steels. Why can't plain carbon or non-alloy steel serve the purpose? There is no doubt that plain carbon steel could cover a wide range of materials having varying mechanical properties ranging from soft and ductile low carbon steel having carbon content 0.08% max, or 0.12% max, or 0.15% max suitable for cold-forming as used in the manufacture of motor car bodies, difficult pressings, containers etc. to very hard and comparatively brittle high-carbon steel of which files, wood-cutting tools, some cupping and forming tools, etc. are made. In between the above two grades different combinations of hardness for strength and ductility could be achieved by varying

the carbon content and imparting suitable heat-treatment.

The effect of alloying additions is to make the steel more responsive to heat-treatment and thereby induce a better combination of mechanical and physical properties. Where a combination of hardness and toughness is needed, especially in bigger sizes, such combined properties cannot be developed in plain carbon steel except by judicious additions of different alloying elements in suitable proportion. By adding such an alloying element, altogether new properties are developed which are not obtainable from plain carbon steel. Examples are: heat and corrosion resistance that is characteristic of chromium-nickel steel; and high red-hardness of hot working tungsten-molybdenum bearing tool steels.

Industries requiring alloy and special steels may be grouped under six main headings and the future approximate annual requirement of the different grades of alloy steels for these industries may be as indicated below :

1. TRANSPORT EQUIPMENT :

Consisting of steam, diesel and electric locomotives, railway carriage and wagons, automobiles comprising commercial vehicles, passenger-cars, jeeps, station-wagons and related miscellaneous ancillary automobile stores, scooters, motor-cycles, three-wheelers and bicycles, ships and aircraft.

The alloy steel requirement in three broad categories for the production of these kinds of equipment will be approximately as follows :—

	Tonnes
Alloy Constructional Steels	58,884
Stainless Steels ...	4,444
Tool Steels ...	12,823
Total :	76,151

2. ELECTRICAL EQUIPMENT :

Consisting of generators, motors, transformers, switchgears, refrigerators, air-conditioners and water-coolers, electrical metering equipment, heavy electrical equipment and electronic parts.

The alloy steel requirement in three broad categories for the production of these will be appromximately as follows :—

	Tonnes
Alloy Constructional Steels	2,955
Stainless Steels ...	2,625
Tool Steels ...	5,535
Total :	11,115

3. INDUSTRIAL MACHINERY :

Consisting of metallurgical equipment, oil drilling and refining equipment, chemical plant and machinery, textile machinery, food and dairy equipment, coal industry equipment, cranes and lifting appliances, boilers, turbines, tractors and conveyors, machine-tools including reduction gears; machinery for making paper, sugar, cement, jute and rubber, miscellaneous manufacture comprised of bolts, nuts and rivets, ball-bearings, structural fabrication, hand-tools, cutlery and domestic utensils, type-writers.

The alloy steel requirement in three broad categories for the production of these will be approximately as follows :—

	Tonnes
Alloy Constructional Steels	110,915
Stainless Steels ...	40,555
Tool Steels ...	48,172
TOTAL:	199,642

4. AGRICULTURAL MACHINERY

The alloy steel requirment will be approximately as follows:

	Tonnes
Alloy Constructional Steels	6,250
Tool Steels ...	6,250
TOTAL :	12,500

5. SPARES FOR VARIOUS MACHINERY, PLANT AND EQUIPMENT :

The alloy steels requirement calculated on the basis of 10 per cent from (1) to (4) is approximately as follows:

	Tonnes
Alloy Constructional Steels	17,900
Stainless Steels ...	4,762
Tool Steels ...	7,278
TOTAL:	29,940

6. MISCELLANEOUS CONSTRUCTION EQUIPMENT INCLUDING STOCK, SMALL-SCALE INDUSTRIES

Alloy steel requirement for construction will be 12,500 tonnes and for miscellaneous calculated at 10 per cent from (1), to (4) as follows:

	Tonnes
Alloy Constructional Steels	25,900
Stainless Steels ...	6,762
Tool Steels ...	9,778
TOTAL:	42,440

7. SERVICES' REQUIREMENTS

The alloy steels requirement calculated at 10 per cent from (1) to (6):

	Tonnes
Alloy Constructional Steels	22,280
Stainless Steels ...	5,914
Tool Steels ...	8,983
Total:	
Alloy Constructional Steels	245,084
Stainless Steels ...	65,662
Tool Steels ...	98,819
Total:	409,565

8. Stock at 10 per cent from (1) to (7) ...	40,956
Grand Total ...	450,521

The different types of alloy and special steels listed above will be used as wire-rods, black-bars, or sections, bright-bars, plates, hot-rolled sheets and strips, cold-rolled sheets and strips, tubes and pipes, heavy forgings and castings.

Since alloy and special steels are of such crucial importance for all the main engineering industries, we must produce them within the country to the greatest extent possible instead of depending on outside supply in spite of the fact that all alloying elements which are required for the production of different grades of alloy and special steels are not available within the country and have to be imported from abroad.

There is no doubt that the strictest economy should be exercised in the use of all the high-priced alloys. They are of national importance at any time, and are more so in the present stage of development of our country, when practically all the

(*Continued on Page 42*)

ROURKELA

and self-reliance in steel

A. N. BANERJI
General Manager,
Hindustan Steel Ltd., Rourkela

ONLY ten years ago, the total ingot steel production in the country was of the order of 1.5 million tonnes annually. There were only two major steel plants producing steel at the time, even though the decision to set up three more steel plants in the public sector and to expand the capacity of the two existing steel plants had already been taken; work was in progress in regard to some of the projects even at that time. The intention was that by 1961 the steel producing capacity of the country would be raised to 6 million tonnes. It was felt that with the production of 6 million tonnes of steel, it might be possible to meet the basic demand for steel in the country as it would stand in 1961.

There were many pessimistic individuals who felt that Government had been overestimating the steel requirements of the country and that when the country would start producing 6 million tonnes of ingot steel, there will be a glut in the market. There were arguments and counter-arguments in newspapers and in various other forums about the advisability or otherwise of suddenly increasing the steel producing capacity of the country to such a great extent. Even eminent persons connected with steel industry felt that perhaps Government was moving a little too fast in the matter of expanding the capacity for production of steel.

However, by the time the work of establishing the additional capacity for production of steel had been completed, it became clear to everybody that even with the production of 6 million tonnes of steel, the requirements of the country would not be met and that we would have to go in for much larger expansion in order to meet our steel requirements. As such, during the Third Five Year Plan period, it was decided to add another 3 million tonnes of ingot steel capacity to the plants that had been put up during the earlier Plan Period. This time, of course, the pessimists did not raise their voice and did not object to such additions to the steel producing capacity in the country. Supplies have gone up very considerably in recent years belying the early prophecies of the doubters; the demand has also gone up, and steel continues to be as difficult to obtain as it used to be in the past.

We have just entered 1966; and we are now getting from the existing five steel plants more than 6 million tonnes of ingot steel per year. The effects of the Third Plan expansion have not yet manifested themselves, but it is hoped that within a short time, an additional capacity of 3 million tonnes of steel per year would also materialise. Even now we find ourselves in need of more steel, and demand for import of steel keeps coming from various quarters.

What is the reason? First, it has to be understood that demand for steel, particularly in a developing country, can never be stationary; it will increase along with the tempo of development. Steel is the basic raw material for virtually every type of development project; need for steel will keep mounting with increasing development.

Secondly, it is to be borne in mind that steel is also the basic raw material for most of the industries that are being established, both in the private and in the public sectors for manufacture of machinery, various types of consumer goods, etc. It is also the raw material for the structural fabrication industry, the container industry, the electrical equipment industry, in fact, of a large variety of industries that have come into existence during the three Plans. As such, the more capacities we put up for these industries, the more steel we would require to keep them running.

As I said, steel is vital for development, for virtually every type of project and industry that we have built or propose to build. Therefore, all the steel plants in the country are national assets; but not all steel plants produce the same types of materials. The two older plants do not specialise; they produce a mixture of structurals, merchant sections and flat products. The three

new plants do specialise and of them Rourkela produces only flat products, i.e. plates, sheets, tin plates, strips etc. Rourkela also produces welded pipes of large diameters. From the point of view of end products, perhaps the importance of Rourkela is a little more than that of the other steel plants, even though, all the steel plants are of the greatest importance to the country. While such development projects as have a large component of civil engineering work do need large quantities of bars and rounds, other development projects which are based on structurals need such structurals as well as plates for their execution. The structural fabrication industry is as much dependent on plates as it is on structurals.

Flat Products Vital For Development

But the real importance of flat products comes in industries which use steel as their basic raw material. The container industry is entirely based on flat products; the automobile industry similarly relies on flat products for its manufacturing processes; the tube-making industry can use only strips and skelps as its raw material; the shipbuilding industry cannot thrive without plates—these are only a few examples of how flat products are vital for manufacturing processes. Actually it has been stated that while in a developing economy in the initial stages, steel materials other than flat products are of considerable importance, the more developed a country becomes the greater becomes its need for flat products. The quantum of steel consumption in a highly developed country would prove this thesis. Since we have attained a certain degree of development, the importance of Rourkela in the national economy has increased.

I have already referred to the pipe plant at Rourkela. This pipe plant was installed originally to supply pipes for the establishment of cross-country pipelines for conveyance of crude oil, petroleum and petroleum products from oil wells to refineries and from refineries to consuming centres. When a country's requirement of oil is comparatively limited, rail transport can cope with the problem of distribution; however, when such requirements go up, rail transport becomes uneconomic and pipelines become the only solution to the problem of distribution. Such pipelines have been laid in the country over the last few years from the oilfields in Assam to the Gauhati and the Barauni refineries and from the Barauni refinery to various places of consumption. A large proportion of pipes needed for these pipelines has been supplied by the Rourkela Steel Plant. Rourkela Steel Plant has also supplied pipelines for connecting the Ankaleshwar oilfields with the refinery at Cambay.

With our progress of development, we have to step up our basic transport system, namely the railways. For this, large tonnages of rails are needed which are supplied by the steel plants like Bhilai which have facilities of manufacturing rails; but mere laying of permanent track is not enough to gear up the transport system of a country. A very large number of wagons is required to be fabricated to cater for the mounting transport demand in the country and a very large number of coaches has to be manufactured to look after the passengers' needs. For manufacture of wagons as well as of coaches, flat steel is necessary and Rourkela has been able to supply the major part of the steel requirements for these manufactures during the past few years. Rourkela has also been assisting the locomotive factories in the country in the supply not merely of boiler plates, but also of slab frames for building locomotive bodies. Chittaranjan Locomotive Works now depend on Rourkela for most of the slab frame requirements.

Considerable Supply Of Sheets And Plates

Large quantities of drums and barrels are needed for the oil industry. The only raw material needed for manufacture of drums and barrels is sheets. Formerly, India had to depend entirely on imports for the manufacture of drums and barrels. Now Rourkela has been able to supply a considerable part of such requirements.

Another important item needed for the container industry is tin plates. Until now Rourkela's contribution has not been very significant in this field as compared to the needs, but it is hoped that in future in this area also Rourkela will be able to meet a large part of the country's demands.

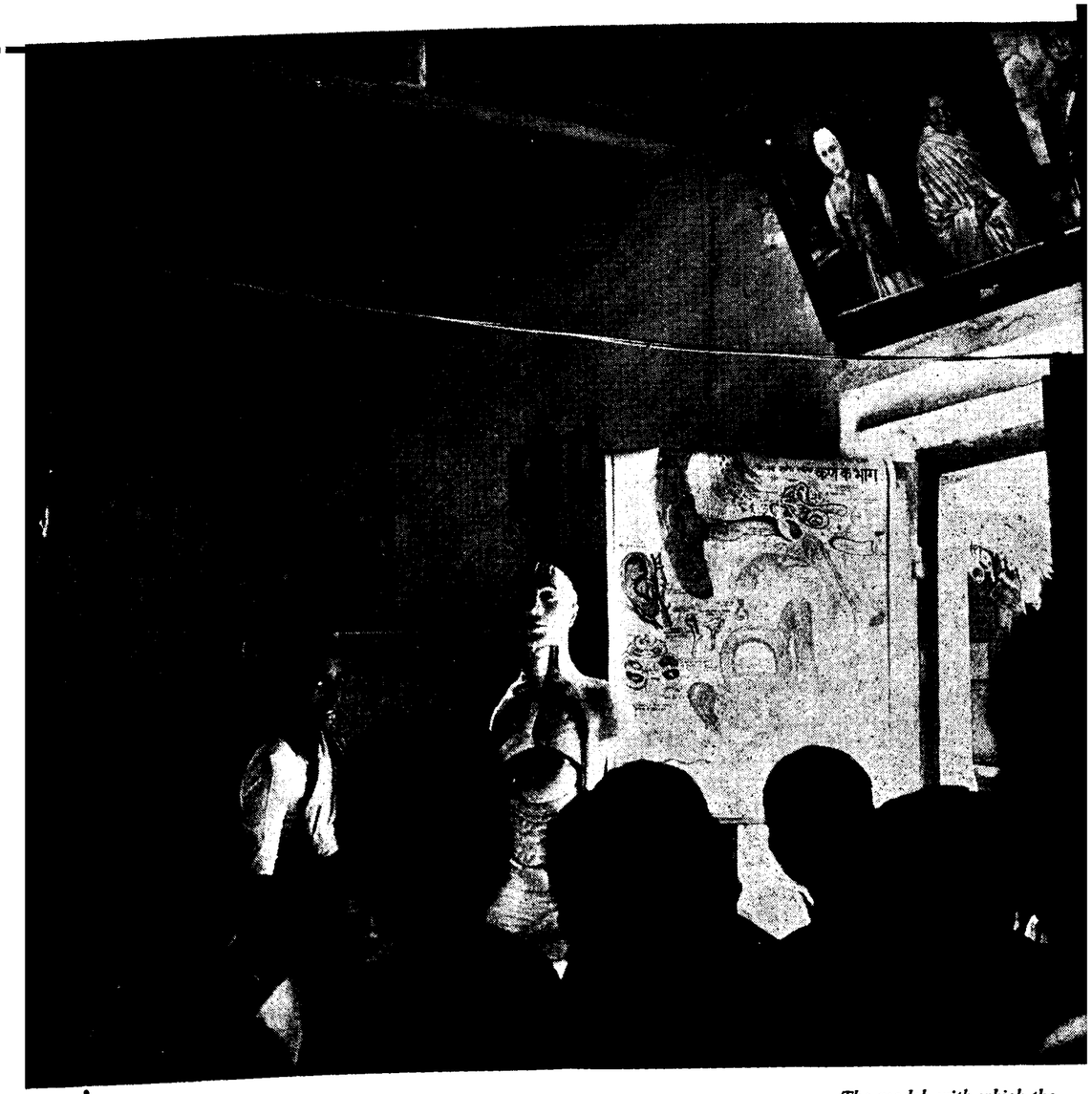
The statement below will indicate steel supplied to various types of industries over the past 18 months.

	Industry	*Supply during last 18 months.*
1.	Wagon builders	80,500 tonnes
2.	Bridge girders	10,777 tonnes
3.	Tube makers	179,465 tonnes
4.	Barrel/drum makers	58,163 tonnes
5.	Tin plate container makers	29,418 tonnes
6.	Furniture makers	36,096 tonnes
7.	Shipbuilding quality plates	8,026 tonnes
8.	Boiler quality plates	13,569 tonnes

Rourkela is in the process of being expanded now to an ingot capacity of 1.8 million tonnes. The corresponding additional finished steel capacity at Rourkela on this basis will be 0.52 million tonnes. Several important additions are being made to the plant to cater for certain special needs of the country; for the first time India would have a continuous galvanising line and a major electrolytic tinning line. The product mix of Rourkela after the expansion would be as follows :

		(*million tonnes*)
1.	Wide and heavy plates	0.28
2.	Hot rolled sheets, narrow light plates and strips	0.30
3.	Cold rolled sheets	0.30
4.	Hot dipped tin plates	0.05
5.	Electrolytic tin plates	0.10
6.	Galvanised sheets	0.16
7.	Electrical steel sheets	0.05
		1.24

It is hoped that after this additional capacity is available, it will be possible for Rourkela to serve the country to a much better extent than what it has been possible for her to do so far, even though her contributions to date have not been inconsiderable.



The model with which the teacher is explaining human physiology was donated by the people of the area.

People of Madras Give Rs 10 Crore to 37,000 Schools

Report Overleaf

SCHOOL IMPROVEMENT SCHEME OF MADRAS

Report by Rosscote Krishna Pillai

Photographs by T.S. Nagarajan

THE black-board in the school had become almost white. The teacher in the elementary school whitened it further with his chalk. He had no go, and the little children had to wrinkle their eyes to make out what was written.

For three years the teacher had been corresponding with the District Board—for it was a Board school. Then the Director of Public Instruction happened to visit the school. He heard the teacher's story and guessed what must have held up the question of painting the board back to black. Evidently the District Board had written to all the other schools under its care to find out the total number of boards to be painted and then would have called for tenders.

The Director looked at the teacher's face and the children's faces. An idea came to him. He asked the teacher whether he got along well with the people of the locality. The teacher said, yes. Then the Director suggested to him that since Pongal, an auspicious day for the Tamils, and a day when the old things yielded place to new, was near, could he not persuade a parent to spend three or four rupees to repaint the black-board?



The suggestion was acted upon and the children of the one-teacher school again had a black-board. There was no further correspondence, no accounting, no audit, no tenders, no more waiting.

That was eight years ago. The place was a village in the Chingleput district of Madras State. Little did either that humble teacher or Mr N.D. Sundaravadivelu, the Director of Public Instruction, then know that they had planted the seeds of a gigantic movement.

A few days later, Mr Sundaravadivelu visited another school in the same area, Kadambattur. The walls of the school were all black. They had not had the benefit of a white-wash for years. The headmaster had already spent some rupees in postage, writing to the District Board—perhaps more than what was required for the white-washing. The Director came up again with a suggestion. Couldn't each man of the locality set apart a bucket of lime for the school while he white-washed his own house every year? Or why couldn't two or three rich persons jointly bear the white-washing expenses? Yes, it could be done and it was done.





Many of the gifts are humble—a water container and a clock received by schools in Kancheepuram.

And there was a third school in the same area where five teachers were handling five different groups of children in one room! One hundred and fifteen boys and girls crammed in 45 places. Mr Sundaravadivelu asked the teachers how they managed it. One of them replied, "We take the room by turns. While one teacher explains the lessons to his class, others engage their students in drawing or in some noiseless exercise." Obviously, thought the Director, some children (and teachers) stayed home.

Every school in the area had some deficiency or other—a white blackboard, dark walls, crammed classrooms. The area had already taken some initiative in the matter of school children's welfare: it had taken up the Midday Meals Scheme and had implemented it in all the 76 schools a few months earlier. Couldn't the people be induced to go a little further and pool their resources to improve the schools?

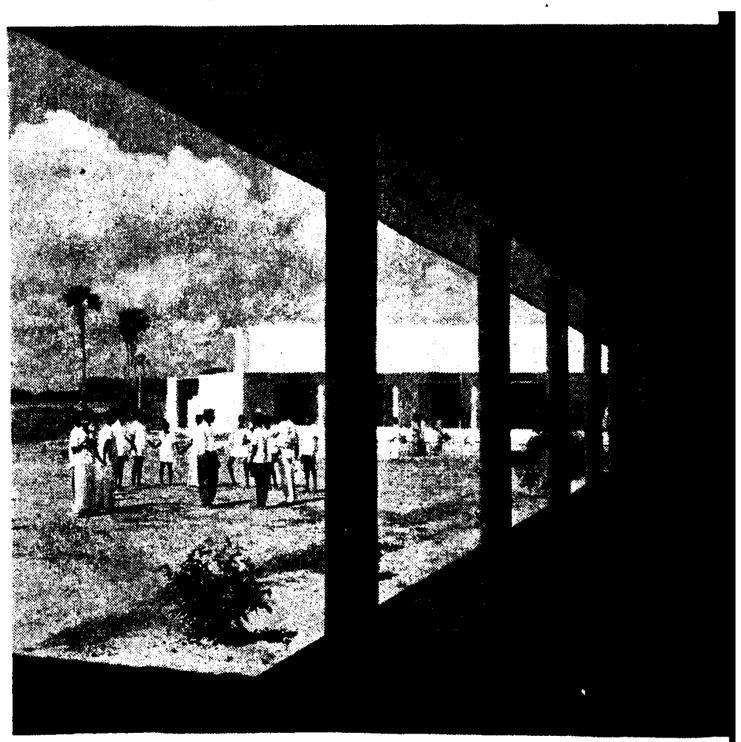
The Kadambattur block of Chingleput district proved to be a fertile field to this idea of public co-operation. The first step in this new movement was to make an assessment of the requirements of every school in the area.

This was done, and it was an eye-opener. There were schools without desks, or benches, or chairs, or even a single piece of furniture; schools without clocks; schools without maps or charts; schools where science was taught with the help of the piece of chalk but with no apparatus or equipment; schools without libraries; schools with not even a square yard of playground; schools with broken doors; schools with absent windows; schools with leaking or unthatched roofs. Among the 76 elementary schools of the block, not even one had a urinal; no, not even for the girls.



Yojana Staff Feature

Teachers and students at gardening outside the Keeranallur village High School built out of poor men's collections. Below: A view from the Bhaktavatsalam Shashtiabdapoorti Memorial School, Athur village, Chingleput. Left: A classroom in the Tyagi Senior Basic School, Kancheepuram, with children sitting on sand.



Mr Sundaravadivelu (who has now become Director of Higher Education) recalled in vivid detail those early stages of what is easily the most notable public co-operation programme in India's educational field.

It was a heart-warming story he told: "You have only to go to the people. You can't imagine what they can do !

"We first took Kadambattur block for our experiment. We asked the teachers to go from house to house, talk to the people, tell them of the schools' needs and then persuade them to supply the needs—singly, in twos and threes or collectively, each according to their capacity.

"The response of the people was immediate and immense. Within two months, from December 1957 to February 1958, something like Rs 13,000 worth of equipment were donated by the people for 76 schools.

"Then we hit upon another idea. You know, people greatly value recognition. It is a very human urge. So after the first lot of gifts came in, we arranged on February 20, 1958, an exhibition of them at Kadambattur and the donors, the local leaders, and the people were invited. It was the first School Improvement Conference. The whole thing clicked very well. The people had a visual measure of their innate strength and capacity."

Soon followed the second conference at Thiruvellore, near Kadambattur, which collected Rs 25,000 in donations.

"These two conferences were our pilot experiments," said Mr Sundaravadivelu. "They were successful and since then there has been no looking back."

What was done in Kadambattur and Thiruvellore was done elsewhere. Teachers and educational officials in village after village, town after town and block after block took up the movement, went to the people, held meetings, formed committees, made collections and then organised a conference and an exhibition.

To date 271 conferences have been held in various parts of Madras State and 37,067 schools have participated in, and benefited from the School Improvement Project.



Teachers serving midday meals at the Annapoorani Upper Primary School in Madras city

"Who organises these conferences, the teachers or the officials?" I asked.

"The people of the locality. It is their exclusive responsibility. The teachers are only catalytic agents. They contact the people individually and tell them of the problems. They sort of touch the nerve-centre of the people's enthusiasm and benevolence. The people become electrified; they meet and elect an *ad hoc* committee which organises the drive for collection of gifts and ultimately the conference."

Politics Kept out of Movement

"Don't political rivalries come into play in such conferences?" I asked.

"Well, we have tried to scrupulously keep politics out of this Project. That is why only *ad hoc* committees are formed and not permanent committees, which breed vested interest. The *ad hoc* committee is dissolved as soon as the conference is held. And Mr Kamaraj, who was the Chief Minister of the State at the inception of the Project and who was greatly inspired by the movement, took a very correct stand which helped to put the movement on the rails. He told me: 'Tell the people, whomsoever they want as leader or chairman of the committee, they can have. The Government will co-operate with him, whatever may be his political party.' That attitude was a far-sighted one and many possible headaches were avoided."

Besides guarding against politics, the Madras educational authorities have also taken care to see that people who donated land or equipment or money for school improvement do not interfere with or influence the administration of the schools.

(*Continued on Page 59*)

The CO-OPERATIVE WAY

Key Role in Emergency and a Basic Instrument of Socialism

GULZARILAL NANDA

In the current economic thinking in the country, co-operation has acquired an important and honourable place. We would do well not to forget that this is the result of dedicated labours of a long line of eminent co-operators. In a large measure this is also due to the vision and untiring efforts of Jawaharlal Nehru. His concept of socialism implied an enlargement of individual freedom, a broadening of its scope and a deepening of its content. The increasing complexities of modern technological society, irrespective of the kind of political organisation and structure, tend to restrict the area of individual decision-making. The big society and the big organisation tend to swallow up the small man. Under Jawaharlal Nehru's inspiration we made a conscious effort to help the growth of economic organisations which would preserve and expand the scope of individual freedom. Therefore when we speak of co-operation the idea is not merely that it is a workable instrument for getting certain things done. It is more than that —it is a cherished part of the basic values of the Republic.

For purposes of planning and administration, one thinks of the movement in statistical terms—the number of societies, the quantum of share capital, the size of membership, the annual turn-over and similar things. But statistics often tell only half the story. The opportunity that co-operation provides for a small man to come into his own, to regain his inheritance is, in my opinion, central to the process of social transformation that is taking place in our country. The task of the leaders of the co-operative movement is constantly to relate the developments in the co-operative sector to the emerging problems of socio-economic transformation. On theoretical as well as pragmatic considerations, it is obvious that unless this is done, co-operation would be reduced to the status of a small island in a vast sea of economic forces. Therefore I think of co-operation as the distinctive aspect of Indian socialism. I have always felt that the best form of economic organisation is that in which it is possible to achieve maximum harmony between individual initiative and freedom and social obligation. No one can even begin to think of the Indian situation, and our economic problems, without recognising the overriding claims of social and economic justice. This inevitably leads us to think of economic growth in a socialist direction on a planned basis. We have adopted this as a national goal but concentration of ownership of means of production and distribution in the hands of the State while having its due place of importance is not the sole method of achieving socialism. If people have to feel the glow of working for a just social order then it is they who must see that they are the makers of their destiny. Economic organisation must make the fact of their ownership a living reality to them.

INDIVIDUAL'S POTENTIALITIES FULLY REALISED

This kind of society is hardly achieved by imposing upon the people choices and disciplines that come from above, either from an impersonal bureaucratic machine ostensibly working for a new order or from the well known, and therefore more easily castigated, individual owner. To me, therefore, co-operation offers a way out of the impasse to which the great debate starting in the nineteenth century has brought us. If science and industry have to be pressed into the service of man, if they have to exalt man instead of diminishing him, we must recognise that co-operation alone offers a principle and a method of organisation in which the individual, while subserving the social good, realises fully his own potentialities.

The future that faces the co-operatives, therefore, is not one of doing a little here and little there and acting as the errand boys of a giant industrial machine. The future that beckons to the co-operators is one of unlimited possibilities in all the fields of economic activity. It requires certain boldness and imagination to realise these possibilities. All those who are participating in the co-operative movement in the country have to address themselves to the basic question whether co-operation should merely be an economic activity confined to the periphery of economic action or, consistent with its

early promise, make a serious endeavour to enter the main stage. The choice, in other words, is between the ante-rooms of power and the great halls where the economic destiny of the nation is in the making.

Every movement or every idea in the process of implementation encounters difficulties, born out of inertia and apathy as well as of deliberate resistance to a new order of things. We have to be prepared for it. This, however, is not a plea for complacency or for avoiding some of the distortions that may have come to notice. For it is precisely in the degree to which we make a conscious effort to understand the weaknesses and shortcomings that we can embark hopefully on the future journey.

AGRICULTURE, INDUSTRY, TRADE

A number of investigations have drawn attention to a large number of weaknesses in areas of leadership, organisational pattern, methods of management, composition of membership etc. These studies provide an opportunity for co-operators to analyse the many different aspects of co-operative activity such as co-operative farming, industrial co-operatives, co-operative housing societies, consumer co-operatives etc. in the complex of socio-economic, political and administrative factors and to take appropriate steps to ensure their successful functioning. The subject of co-operative farming has to be approached with the burning consciousness of the economic and social inadequacy of the small land holder and a desire to see that he too gets his due place. Unless one looks at the problem, whether in the field of co-operative farming or co-operative marketing and processing, from the point of view of redressing the economic and social imbalances that impede production, one will not find the correct solutions. Of equal significance is the question of extending the scope of co-operative activities in the fields of industry and trade. Some progress has been made in these fields and a number of co-operative units, mainly in sugar and textiles, are coming up. A beginning has also been made with consumer co-operatives. But progress in these spheres is still very slow.

In the field of agricultural co-operatives also there are a number of things that need immediate attention. For instance while the number of societies and the amount of working capital has recorded an impressive growth, it will not escape attention of those who are concerned with the success of the movement in its wider setting that the major activity of these societies is to provide credit. Non-credit societies have grown in a much slower manner. Even regarding the supply of credit we hear of utilisation of credit for non-productive purposes. Yet another disturbing development is the inability of co-operative societies in the rural areas to be of greater assistance to the weaker sections of society. Mention should also be made of the weaknesses existing in the managerial and administrative cadres which very often shake the faith of the people in the viability of co-operative institutions.

If these trends are analysed, one finds that on the one hand the movement tends to drift from its moorings and on the other it tends to sacrifice economic efficiency in the name of people's organisations. In so far as co-operative institutions fail to embrace within their fold the vast majority of economically depressed members of society they do not move in the direction of the true and basic goals of co-operation. And in so far as they do not pay attention to the essential tasks of efficient, scientific management and sound business methods, they tend to discredit the very idea of co-operation as a form of economic activity. No amount of State assistance and encouragement can fill these gaps in the functioning of co-operative institutions. Our allegiance both to the goals and methods of co-operation has to be total and uncompromising. Only a co-operative leadership so committed can make the movement a dynamic principle of rural reorganisation. Co-operators have often talked of removing the crutches, meaning government supervision, on which the movement is supposed to lean heavily. That is good as far as it goes. But the pity is it does not go very far. For the responsibility and the obligation of training efficient and dedicated cadres to run people's organisations rests squarely on the unofficial leadership. It is also their obligation to see that the co-operative institutions do not become examples of economic and social inefficiency. This is the challenge which the movement faces today.

SIGNIFICANT ROLE IN DEFENCE

The emergency following Pakistan's aggression has woven the twin tasks of defence and development into a composite whole. The whole world has seen the spectacle of a country divided on many questions being transformed into a united nation determined and confident to safeguard its freedom and honour. This unity is a precious thing for us because the great and historic task of overcoming the bondage of poverty can be successfully completed only on the basis of the united will India has displayed in recent months. We have to build on this, brick by brick, the society of our dreams. Let no one be in any doubt that defence of the country requires a simultaneous strengthening and development of our economic base. In this crucial task the co-operatives have a very significant role to play.

What the nation needs as a matter of urgent priority is self-sufficiency in food. Co-operatives have to play their part in maximising production by making available the supply of necessary credit as well as other productive requisites. We also have to think increasingly in terms of linking credit with production and marketing because that is the only method whereby we can ensure a fair price to the producer and prevent the exploitation of the consumer.

It is not only in the rural areas that the co-operative movement must expand and step up the tempo of development. With the background of rising prices and shortage of consumer goods, consumers' co-operatives are called upon to play an ever increasing role in ensuring equitable distribution of essential goods and services at reasonable prices. In fact if consumer co-operatives are able to cover within a short span of time all workers in organised sectors like industry and Government organisations, they will have succeeded in making a significant impact on the price level. These are essential tasks and our energy has to be directed to achieving them. Wherever there are defects, whether in the field of management or in that of training of workers, they have to be swiftly remedied. We cannot afford to wait. A democratic society has to demonstrate its vigour and energy in times of crises.

MUST OCCUPY COMMANDING HEIGHTS

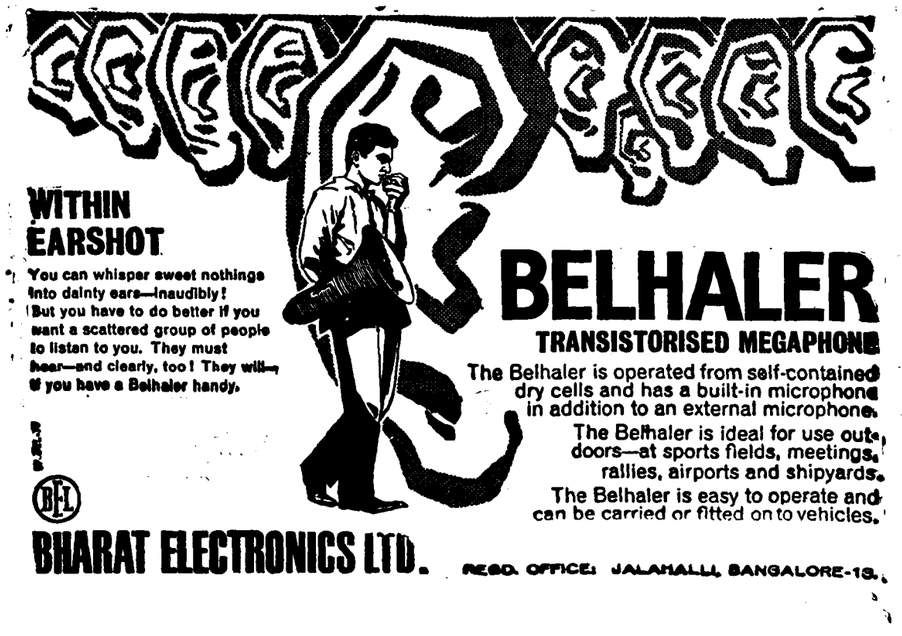
I hold steadfastly to the belief that co-operative institutions must come to occupy the commanding heights of the economy on behalf of the community. A vast expansion of co-operative institutions must take place in the fields of trade, small industry, large-scale agriculture and construction activities. Our target must be to embrace within the range of our activities at least one-third of trade and commerce and small industry. A substantial portion of large-scale agriculture should also be in co-operative hands. Labour co-operatives have to aim at increasing manifold their share in the construction activities.

At present we are seriously lagging behind in all these fields. These targets have to be realised in a short time. Otherwise the pace of economic and social change, which is already quite rapid under the impact of the five-year plans, will leave co-operative institutions behind. We should be in a position to influence the direction of social and economic change in a decisive manner. This cannot be done until we have the determination to accelerate the growth of co-operative institutions.

It is vitally important for us to combine speed with quality. It makes a large and difficult demand on our resources. But in the interest of the growth of a healthy equalitarian social system compatible with democratic traditions in the country this has to be achieved. An important prerequisite is a vast scheme of education of the members of the entire community in the principles, methods and spirit of co-operation. In this task of formidable dimensions all agencies, official and non-official, have to come together. Our schools, colleges and universities could be of great help in this work of national significance.

Yet another implication of this is that members of co-operative societies should not be sleeping partners, sharing the benefits of operations of co-operative societies where it is possible, and suffering from the unrestrained neglect of people in power in a large number of cases. This is not co-operation. We must have, on a very big scale, programmes of intensive and continuous education of members of co-operative societies so that they can take an intelligent part in their functioning. We must also pay attention to the managerial and administrative personnel. We need a large pool of trained and tested people who can assist the community in running these institutions. They have themselves to be thoroughly imbued with the philosophy of co-operation.

Efficient management has to be coupled with integrity in performance of functions by the management of co-operative societies. Integrity has to be our watchword because nothing shakes the faith of the people in co-operatives more than the malpractices and financial irregularities that are revealed from time to time. Many a co-operative society has been wrecked on the rock of financial mismanagement.



At last we have the correct diagnosis, but are too high dosages of fertiliser being prescribed?

New Agricultural Strategy Analysed

B. S. MINHAS and T. N. SRINIVASAN

I. Introduction

EVER since 1951 Indian agricultural production has been increasing at an average annual rate of a little over 3 per cent. Taken by itself it is not a mean achievement. Nonetheless this growth has been far short of the growing needs of the country and in consequence our dependence on food imports has continuously been growing. This state of affairs cannot go on for long. The rate of growth of agricultural production in general, and food crops in particular, must be stepped up.

Diagnoses of and remedies for correcting persistent food shortages have been varied and manifold. A sizeable part of thinking on the agricultural problem has been clouded with prejudices and ideologies of different hues at different times. Fortunately this fog is lifting and the "new strategy" (See [1]) for agricultural production is predicated on a correct diagnosis of the problem[1]: that the chief limitation to increased agricultural production is not the backwardness of the farmer but rather the inadequacy of the supply of current inputs, particularly chemical fertilisers. We seem poised for necessary efforts towards augmenting our fertiliser supplies in the near future.

So far so good. The "new strategy", however, prescribes a treatment which leans heavily on some technical miracles. The purpose of this paper is to separate out the rational possibilities from technical miracles. Before proceeding further, let us first summarise the central features of the "new strategy".

Main Feature of the New Programme : The "new strategy" envisages a consumption level of 2.4 million tonnes of nitrogen(N) in 1970-71. The requirements of phosphatic (P_2O_5) and potassic (K_2O) fertilisers are indicated at 1.00 and 0.75 million tonnes respectively.

Out of these quantities of chemical nutrients, 1.29 million tonnes of N and 0.47 million tonnes of P_2O_5 are going to be appropriated for meeting the requirements of new high yielding varieties of paddy (Taichung Native 1, Taiwan 3, etc.) and wheat (Sonora 63, Sonora 64 and Lerma Rojo) and hybrid maize, jowar and bajra which will cover 32.5 million acres of land having secure irrigation facilities. The requirements of pesticides and credit needs of this area will also be adequately met.

Dosages of N as high as 112 kilograms per hectare plus 54 kilograms of P_2O_5 for rice and wheat are recommended and these 32.5 million acres are estimated to provide an additional 25 million tonnes of cereals. In contrast, let us remember that in the best of years we have never produced more than 77 million tonnes of cereals from a total cereal acreage of approximately 230 million.

This very ambitious official programme summarised above, however, seems to fall far short of the aspiration of technicians in the field of plant breeding. Dr M.S. Swaminathan, for example, asserts that "to produce 100 million tonnes of foodgrains, the country ought to need only 10 million hectares of land if all results of scientific work can be adopted on such an area". It appears possible to him "to get a *minimum* of 10 tonnes of grain per hectare by growing two crops a year if facilities for irrigation and adequate quantities of fertilisers (i.e. 100 lbs. of N, 50 lbs. of P_2O_5 and 30 lbs. of potash per acre) are available (See [6]).

In other words, a little less than 25 million acres of land (or about 49.5 million acres in terms of gross cropped area) should give us 100 million tonnes of cereals as against an all time high of about 77 million tonnes produced on 230 million acres of land in 1964-65. All this surely is staggering. It is nothing short of a miracle. It may be in the realm of possibilities but it is most improbable. Besides, it may not even be economically sound even if possible and probable.

It is our contention that these conclusions are based on insufficient evidence on the responses of new crop varieties to fertilisers. The enthusiasm for extremely high dosages of chemical fertilisers is born out of lack of appreciation of the problem of optimal allocation of fertilisers from the point of view of maximal production in the nation. The recommended dosages seem to disregard the criterion of private profitability of fertiliser use to millions of farmers who are going to put this programme through.

In the next section we shall review the evidence on responses of crops to fertiliser use. As far as new crop varieties are concerned the only evidence that is available in published form is on dwarf varieties of wheat. We shall use this information for calculating the optimal allocation of nitorgen between the current and new varieties for achieving maximum grain output. We shall provide an explicit analysis of seed (new) and fertiliser limitations and also discuss the significance of credit and administrative inputs for the new programme.

II. The Evidence

IT will be readily admitted that for a country as vast as India with varying soil and climatic conditions, it is rather difficult to talk about 'the' response of a particular crop to chemical fertilisers. However, given a large number of careful observations spread over a number of years and a number of areas in the country, a meaningful average response function may be estimated. We have such observations regarding the response of the prevailing varieties of rice and wheat to the use of chemical fertiliser. On the other hand, experiments with the exotic varieties that are to play an important role in the new strategy have been conducted only in the last two years and in a few experimental stations. We shall see presently that these experiments, however inadequate, do suggest that the exotic varieties (a) give higher yields than existing varieties even without the use of fertilisers and (b) can take higher doses of fertilisers as compared to the existing varieties. But these very same experiments also indicate that average yield rates of 6 tonnes/hectare of wheat that are sometimes quoted in this regard are fanciful. Also the resistance or susceptibility of these varieties to pests and blights has yet to be investigated thoroughly. Some evidence in this respect can be found in Swaminathan [7]. Given all these qualifications, it can hardly be overemphasised that extreme caution is to be exercised before one proclaims that these new varieties provide the solution to our food problem.

Our emphasis on the inadequacy of the evidence on new varieties should not and will not deter us from examining the soundness of the fertiliser dosages that are being officially recommended for the new varieties. We shall examine this aspect from two points of view[2]: (a) of maximising the addition to output arising out of the use of fertilisers and (b) of the profit maximising behaviour of an individual farmer or share cropper. Readers will certainly appreciate that the calculations that follow, based as they are on inadequate data and on average responses for the country as a whole, should be used with extreme caution. They can be more safely interpreted as indicating orders of magnitude rather than as results precise to the last decimal point.

In Figure I we have plotted the additional yield that results from the use of varying doses of nitrogen[3]. In this paper we shall discuss only the use of nitrogen. Our arguments apply equally to the uses of phosphatic and potassic fertilisers. By and large, Indian experimental data suggest that the effects of the three types of fertilisers are additive. Relatively few cases of positive or negative interactions have been observed. See Panse [3]. Two results emerge very clearly from these graphs: the responses of the various crop varieties are broadly similar though new varieties withstand considerably higher dosage of nitrogen than existing varieties, and, more importantly, the response curves exhibit rapidly diminishing marginal returns to the use of fertilisers.

For example an extra kilogram of nitrogen given to a hectare of land growing Sonora 63 when no nitrogen is being applied yields more than 16 kilograms of wheat. However, when an extra kilogram of nitrogen is added to a hectare of land which is already receiving 100 kilograms of nitrogen, we get an additional output of only 2 kilograms. Similar results hold true for other varieties.

In fact, this result is the basis of one of our main criticisms of the official plan. Even if seed or other limitations restrict the sowing of new varieties only to 8 million acres of land, there is no reason why an extraordinarily nigh dose of 112 kgs./ha. (100 lbs/acre) of nitrogen need be applied to these areas. Output can be increased by reducing dosage in these lands and using the nitrogen thus released to increase the dosage on other lands growing the existing varieties[4].

This point is illustrated in the set of calculations for 1970-71 presented in Tables 1 and 2. In these calculations we have assumed that area under wheat will be 18.2 million hectares in 1970-71 of which 6.4 million hectares will be under irrigation. According to the official strategy (see [1]) 3.2. million hectares will be sown with new varieties. The document however does not indicate the total amount of nitrogen that will become available for use in wheat growing areas. We made two alternative plausible assumptions regarding this total. Given the total, 0.36 million tonnes of nitrogen are pre-empted for the new varieties according to the official strategy. The remaining is allotted between the other two categories to maximise their contribution to additional output. This is how our official strategy allocations are derived. The optimal strategy allocates the given total amount of nitrogen among the three categories in such a way that total additions to output is maximised. We used the response of Sonora 63 in calculations for the new variety.

It is seen from Table 2 that, if total nitrogen allocated to wheat areas was 0.36 million tonnes in 1970-71, devoting all of it to the new variety will yield an extra output of 3.18 million tonnes of wheat whereas the same total when optimally distributed among the new and old varieties will yield 4.70

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1 Numbers in square brackets refer to the list of references at the end of this article.

2 We shall be presenting the more technical aspects of these calculations elsewhere.

3 The response curves for existing varieties are taken from Panse [3]. The data on new varieties are taken from [2].

4 Panse [3] also makes this point.

million tonnes or an extra 1.52 million tonnes. However, if total nitrogen available was 0.48 million tonnes, the optimal allocation will yield 0.79 million tonnes above that obtainable under the official allocation. In using these figures it must be recalled that we are only reallocating nitrogen. A similar reallocation of phosphatic and potassic fertilisers will also yield additional output over and above what can be obtained under the official strategy.

It must also be remembered that we are assuming that because of seed or other limitations only 3.2 million hectares can be sown with new varieties. If all the 6.4 million hectares of irrigated wheat land were sown with new varieties, even more output could be obtained. This is indicated in Table 3.

It is seen that with an additional 3.2 million hectares under new varieties, a total nitrogen availability of 0.36 million tonnes, when optimally allocated, will yield an extra output of 8.89 million tonnes as compared to 6.80 million tonnes if the area under new varieties is only 3.2 million hectares.

We do not have published data on the response to fertilisers of the proposed exotic varieties of rice.[5] Given that the area under rice is considerably larger than under wheat, it is clear that optimal reallocation of fertilisers along the above lines will result in even more substantial increase in additional output due to nitorgen than with official allocation.

So far we have been concerned wih maximising the addition to national output given the total availability of nitrogen. It is by no means obvious that the private profit maximising behaviour of individual farmers will lead them to use precisely the same amount of fertiliser as suggested by the optimal (output maximising) allocation. We turn to this question now. What we are after is to find that dosage of fertiliser which will maximise the additional net revenue that can be obtained by using fertiliser[6].

In all these calculations we have assumed the price of nitrogen to be Rs. 1.66 per kilogram. Price of wheat and rice are assumed to be

TABLE 1

Strategy	Nitrogen Availability Assumption[1]	Dosage of nitrogen (Kgs./Ha)		
		New varieties	Existing Varieties	
			Irrigated	Unirrigated
Official	A	111.2	0	0
	B	111.2	29.4	2.1
Optimal	A	52.3	32.4	7.3
	B	61.7	36.2	13.9

TABLE 2

Strategy	Nitrogen Availability Assumption[1]	Increase in Output due to Nitrogen (million tonnes)			
		New variety	Existing Variety		All Varieties
			Irrigated	Unirrigated	
Official	A	3.18	—	—	3.18
	B	3.18	1.49	0.26	4.93
Optimal	A	2.23	1.61	0.86	4.70
	B	2.49	1.70	1.53	5.72

[1] A : 0.36 million tonnes
B : 0.48 million tonnes

TABLE 3

Strategy	Fertiliser Availability	Area under new variety (million hectares)	Additional Output (million tonnes) due to		
			Variety change[1]	Nitrogen	Total
Official	A	3.2	2.10	3.18	5.38
	B		2.10	4.93	7.03
Optimal	A	3.2	2.10	4.70	6.80
	B		2.10	5.72	7.82
Optimal	A	6.4	4.21	4.68	8.89
	B		4.21	5.73	9.94

[1] In computing the figures under this column we have assumed that existing varieties of wheat yield 1 tonne per hectare of irrigated land with no chemical fertilisers used. The corresponding yield for new varieties is 1.65 tonnes per hectare.

Rs 0.50 and Rs 0.67 per kilogram respectively. Variable costs associated with the use of fertilisers are given two alternative values: 10%, and 20% of output price. We assume that cost of fertiliser is met by borrowing and interest charges amount to 10% of the cost. Since a crop season has a druation of six months or less, the interest rate implied is more than 20% per annum. We consider three crop-sharing arrangements: outright ownership (100%), 50% and 40%. In each case the entire cost of cultivation including fertiliser cost is assumed to be borne by the tenant. Table 4 presents the results.

It is seen from this Table that as the cultivator's share in output goes down so does the profit maximising dose of nitrogen. A similar phenomenon occurs as variable costs increase as a proportion of output price. These results should have been intuitively obvious anyway.

The most interesting aspect of this table is the high profitablity associated with the use of fertiliser. Even if the tenant's share of output is 50% and he has to bear the entire cost of cultivation he still can earn a return of 65% (assuming variable costs to be 20% of output price) on the money he spends on fertilisers if he uses them optimally on irrigated wheat. If he uses fertilisers on the new wheat variety he will earn 89% and on rice 67%. Unirrigated wheat yields a return of only 12%. These returns are earned over a single crop season which may not exceed six months in duration. It is clear that even allowing for additional risks that use of fertilisers may involve these high returns will justify their use.

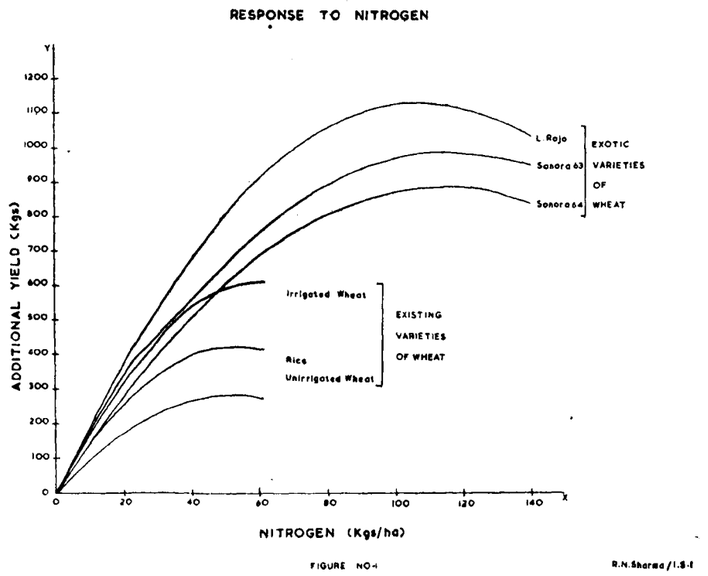


FIGURE NO-1

Finally let us compare these profit maximising dosages (see Table 4) of fertilisers with those given in Table 1. It is seen that for the new variety of wheat the profit maximising dosage is below that suggested in the official strategy. *In other words, the farmer or tenant will not find it profitable to use as high a dose of nitrogen as is recommended in the official plan. The reverse is the case in the existing varieties. That is the farmer or tenant will find it profitable to use more nitrogen on existing varieties than the official plan suggests.*

TABLE 4

Crop	Cultivator's share	Optimal dosage of nitrogen (kgs./ha) given that variable cost is		Net Revenue/ha given that variable cost is		Net returns as % of fertilisers' cost given that variable cost is	
		10%	20%	10%	20%	10%	20%
New Variety of Wheat	100%	88.4	84.9	256.5	210.4	159	136
	50%	60.5	53.6	60.3	42.0	107	89
	40%	46.6	37.9	28.6	16.9	34	24
Existing Variety of Wheat Irrigated	100%	47.0	45.6	207.9	149.7	242	180
	50%	35.7	32.9	65.2	60.1	79	65
	40%	30.1	26.5	29.3	20.3	53	42
Existing Variety of Wheat Unirrigated	100%	30.4	28.0	49.6	37.7	89	74
	50%	10.9	6.0	19.9	11.0	20	12
	40%	1.2	—	—	0.1	5	—
Rice	100%	43.2	41.8	167.9	139.3	213	183
	50%	33.1	30.3	49.2	36.9	81	67
	40%	28.0	24.6	28.2	19.3	55	43

The picture is not so clear-cut when we compare profit-maximising dosages with those of the optimal plan. In the case of farmers who own their land, profit-maximising dosages of nitrogen are higher than those under the optimal plan. This result may in part provide an explanation for the current excess demand for fertilisers. After all, under the existing situation it is most probably the owner-farmers who can get credit for the use of fertilisers. Since it is profitable for them to use more nitrogen than the optimal dosage for maximising output with a given volume of available nitrogen, no wonder there is a scramble for fertilisers. However, if the tenant's share of output is only 50% and he bears all costs, the profit-maximising dosage is above or below the output maximising dosage depending on the variety, total nitrogen availability and the level of variable costs in relation to output price.

III. Some Policy Issues

OUR calculations of the previous section should provide a con-

[5] However one of the authors, in a recent visit to the Central Rice Research Institute at Cuttack, looked at year's experimental results on one of the new varieties. These indicate that there is negligible additional yield beyond a dose of 40 kgs. of nitrogen per hectare. In fact, the response curve turned down beyond 60 kgs/ha. of nitrogen.

[6] A very similar analysis is presented in Seth and Abraham [5].

vincing demonstration of the fact that the use of chemical fertilisers is extremely profitable. This is why the demand for them at present, in spite of the fertiliser prices which are alleged to be high, is far in excess of the supplies available in India.

Under conditions of assured rainfall and/or with irrigation facilities, tenancy should not become a hurdle in the way of fertiliser use. Even under the adverse (40 : 60) crop-sharing arrangement and when the tenant pays the entire fertiliser cost, he can expect a return of better than 40% per crop season on every rupee spent on fertilisers. In view of the very low level of fertiliser use in India (about 2.5 Kg/ha) large quantities of fertilisers are capable of being absorbed without jeopardising the attractiveness of profits from fertiliser use. It is probably needless to stress that the optimal levels of fertiliser use (and the profits per unit of investment) for tenants are lower than for owners. In the long run share-cropping can obstruct the process of intensification of current input use far short of levels which would be desirable from the point of view of extracting maximum output from the limited amount of available land.

Tenancy is not at all conducive to long run investments on land. Uncertainty in regard to land reform policy (new legislation as well implementation of existing laws) can completely choke off land improving investments by landlords (as well as tenants).

As we pointed out earlier the logic of our calculations forces us to conclude that share-cropping should not become a hindrance to the use of current inputs like fertilisers. Sharing the cost of fertilisers by landlord (or if fixed cash rents are substituted for share-cropping), a practice that has come into being in some areas, should further help the absorption of fertilisers.

Crop-sharing tenancies are considered inimical to the use of current inputs for still another reason, namely lack of credit for purchased inputs. Tenants do not get credit because they cannot produce title or lease deeds as collateral. Even where a tenant succeeds in all this, the maximum amount that he can get as loan is small. Since the share-cropper cannot get credit, he cannot buy fertilisers. The argument to consider here is this, that the peasants, owners as well as share-croppers, need credit. The latter will need credit even if they were made owners overnight. And if in the present conservative mood (that has taken hold of the Indian Socialism) we cannot even guarantee secure tenancy leases for the share-croppers, much less confer ownership rights on them, we can at least secure some social justice for them by providing credit through channels which bypass the problem of collaterals. The problem of credit and tenancy, in their relationship to fertiliser use, must be kept in distinct functional as well as analytical categories.

Other often talked about difficulties in covering large areas with fertilisers are : (i) the insufficiency of administrative inputs and (ii) inadequacy of transport and storage facilities. It is difficult to say precisely what the first difficulty really is and to what extent it limits the areas to be covered. The National Extension Service, especially in view of its proposed expansion, and the intensification of VLWs' efforts towards promoting the use of modern inputs, should be able to handle the distribution of fertilisers over considerably larger areas than proposed. It is not clear why the transport and storage bottlenecks should affect extension of areas to be covered by fertilisers. The transport and storage of grain under the concentrated area approach may perhaps involve a greater strain on the existing facilities.

IV. Summary

1. In our view the "new strategy" for agriculture is based on a correct diagnosis of the problem of raising agricultural production, namely the insufficiency of modern inputs like chemical fertiliser.

2. The efforts in introducing new crop varieties with better genetic capabilities are in the right direction. However, the claims made for particular varieties recommended in the programme are based on inadequate data.

3. Even if these data were to be considered adequate, the extremely high dosages of chemical nutrients recommended for the new varieties seem unjustified. In fact a proper reallocation of available fertilisers (which are not in unlimited supplies) among old and new varieties can substantially increase grain output over and above the amounts envisaged in the official strategy.

4. Under the prevailing grain and fertiliser prices, peasants will not find it profitable to put in the amounts of nitrogen recommended in the official strategy.

5. The use of fertilisers under conditions of assured rainfall or irrigation is highly profitable even if the peasant is a share-cropper and pays the entire cost of cultivation including fertiliser cost. However, a share-cropper will use fertilisers in smaller amounts.

6. The problem of tenancy has long-run adverse implications for the absorption of fertilisers. In the short run, because of low current use of fertilisers, a good deal of input intensification can take place and still be profitable to share croppers. However, tenancy affects land-improving investments adversely even in the short run.

7. The problem of credit must be tackled on its own merit and quite independently of the problem of tenancy. The use of fertilisers is very much dependent on the availability of adequate credit. Some arrangements for provision of credit which bypass the problem of collaterals may be necessary.

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Strength from Within

A NEW BALANCE BETWEEN DEFENCE AND DEVELOPMENT NEEDED

C.R. PATTABHI RAMAN

No country can derive strength from external sources. It is well to remember Mr Khrushchev's famous observation when he visited India some years ago and applauded us on our various achievements. He wondered whether we were not neglecting defence requirements. By and large we have come up to expectations in so far as our planning is concerned and have scored some noteworthy successes, for example in the field of transport and power. However, these were not primarily intended for defence purposes.

The recent crisis culminating in the hostilities with Pakistan colluding with China has only exhibited the dangers of too much dependence on foreign aid, but changed the approach of treating defence capability and military equipment as flowing from specific situations. Today defence has to be considered an essential concomitant of economic development, and planning has to be defence-oriented.

The slogan "Jai Jawan! Jai Kisan!" given to India by our Prime Minister summarises the orientation of the planning in India and our thinking in general. The Prime Minister has stated: "If the experience of the recent past holds any lesson for us all it is this: we must endeavour to be as self-reliant as possible. In the ultimate analysis it is the strength of the nation itself which matters most and which is our best safeguard." General Cariappa in a broadcast during the recent crisis said that it required more than 50 people working efficiently in various walks of civilian life to keep a soldier fighting fit at the front. Mr Asoka Mehta, Deputy Chairman of the Planning Commission, referring to modern defence, has said:

"Modern defence is deeply embedded in civilian life. A large complex of economic and social efforts is needed to sustain the fire power of the jawans...Defence in the world of today demands, let me repeat, the donning of armour by the whole nation."

Mr Tarlok Singh, another distinguished Member of the Planning Commission, says :

"The emergency now upon us, while changing the character and purpose of planning, also enlarges its scope and role in our national life...Planning has now to become wholly problem-and-task-oriented. The emergency marks out the more from the less essential...Planning assumes all the characteristics of a military operation designed to succeed—precision in objectives and targets, well thought-out strategy and tactics, an assured line of supply, co-ordination in action, command and responsibility and bold initiative in the field".

He goes on to say :

"In working for self-reliance, a nation such as ours seeks to liberate itself both from external limitations and from weaknesses and failures that lie within. We have yet to redeem the promise of freedom for large numbers of our people. For millions the content of freedom is still meagre. To create enough work, to u our manpower resources in a gain and productive manner, to exte the principle of social responsibili to the relief of distress and sufferi within the community, to impleme completely our programmes of la reform and social justice, are tas wholly within the capacity of nation such as ours."

It is necessary for us in the count to keep many of these aspects our development prominently mind. It must be anticipated th at least some aid-giving countri are apt to think of linking foreig aid only when it is in consonan with their foreign policy. In oth words, the aid will be increasing influenced by political considerati and the human considerations m get relegated to a lower place. must be admitted, however, th the latest assistance from the U.S. of rushing food-grains to India as heartening as it is timely.

We are one of the biggest ai receiving countries and therefo there is all-round demand for se reliance and defence orientation far as future planning is concerne In its recent report the Reserve Ba of India has stated as follows :

"The Indian economy has reach a critical phase in its developme at which its further expansion every direction has begun to me with serious internal and extern constraints. The imbalance gen rated as a result of rapidly mounti expenditures on defence and dev lopment in a situation of a rel tively slower growth of output a export earnings has caused inten pressures on the price level and t foreign exchange reserves, and aff ted the country's capacity to und take larger plan expenditures co

ensurate with the needs of the conomy."

There may be additional pressures n account of defence preparedness, hich may result in imbalances re- rred to in the Reserve Bank report. rices will have to be held at reason- ble levels as far as possible. Re- ources have to be raised for public xpenditure without resorting to nflation. This makes it all the more ecessary to enforce austerity at all evels.

Need for Restraint

We were spending nearly Rs 25 rore a day on defence expendi- ure before the recent crisis. It s bound to be much higher now. his would lead to inflationary ffects as well as shortages in im- ortant items. Civilian consump- ion has to be restrained in order to elp the price line. For this we may ave to control personal consump- ion and keep expenditure to the inimum. We may have to ask ourselves whether the expenditure f even a rupee is really necessary. Austerity therefore becomes the com- non goal of life for all our people. his austerity must be reflected at ational and governmental levels.

A realistic appraisal of the situ- ation may perhaps imply a slightly ifferent economic growth in some irections. Agriculture has earned he highest priority after defence. elf-sufficiency in food is essen- ial not only for our defence but lso for our freedom of action, inter- ationally speaking. In the All- ndia Seminar on Agricultural Policy held recently, some econo- mists have expressed the view that he policy of food imports was res- ponsible for stagnation in the agri- cultural economy in the first three ears of the Third Plan. They lso indicated that it resulted in the rolongation or postponement by he Government in formulating a ound agricultural policy for the ountry. Some even said that PL 480 was a drug and a drag on the eco- nomy of the country.

It is not necessary to agree with his kind of thinking completely ut the warnings are useful. It was suggested that three different types of prices in relation to food policy. (i) minimum guaranteed sup- port price, (ii) procurement price and (iii) market price, should be given serious consideration. The economists also recommended the drawing up of a national food bud- get and the devising in clear terms of a public system of distribution of food-grains to consumers. The thinking today is that nationally available supplies should be equi- tably distributed between surplus and deficit areas. It must be re- membered that even an advanced country like the U.S.S.R. had to change its planning patterns on account of agricultural insufficiency. Even they have to import wheat from the West to overcome shortages.

India's proverbial dependence on season rains can be remedied to a great extent not only by land reforms and big irrigation schemes but also by minor irrigation works. It has been said that agricultural produc- tion today involves a massive popu- lar effort at exploring, creating and applying to farm production res- ources which are largely local in character and can be mobilised in the context of local manpower and facilities.

We have total cropped area in India of 390 million acres and a net irrigated area of 70 million acres. Domestic production provi- des 13.2 ounces per person per day. Imports add 1.3 ounces, thus raising it to 14.5 ounces per day. We shall have to think in terms of living with our own production and this may involve some discipline as also proper procurement and distribution as a prerequisite.

Approach to Industry

Similarly, our industrial pro- gramme has to be tackled with a fresh approach. Industries which are directly or indirectly re- levant to defence have gained high priority. We may have to regulate the use of what might be considered strategic and scarce materials. It is usually pointed out that a modern bicycle factory could turn over to the manufacture of gun barrels and other defence requirements at short notice. In the setting up of new industries, the tie-up with defence has to be given due consideration. I, however, see a silver lining to the clouds that appear to darken our progress. External assistance uncer- tanties may end soon and we may be able to reschedule our repayment obligations so that the needs of the next Plan are met. To a great extent our courageous stand in the recent crisis is responsible for appreciation by the world of our qualities. The people of India and our brave jawans have added to our stature. *Izvestia* from Moscow dated December 24, 1965, praising our efforts at indus- trialisation and making our economy independent says that our "succes- ses in industrialisation are indispu- table though they are not as big as needed." They refer to the "growth of our authority and influence in the international arena".

Ever since Independence, India has progressed appreciably and has taken big strides in development. For example, we inherited a mediocre railway system after partition in 1947 and have achieved self-suffi- ciency in the railways. Some of our locomotives and wagons have become world famous for their qua- lity and performance. Taking a long-term and broad view of self- reliance, we must always guard against political arm-twisting by our neighbours. Defence orientation can- not confine itself to the immediate situation in India.

Quotation Box

The External Affairs Ministry has asked press attaches of Indian diplomatic missions abroad to read books on publicity and public relations. —*A U.N.I. report*

Subramaniam, Minister for PL-480 food-grains.
—*Mr K.A. Abbas in "Blitz"*

Would he write his memoirs now that he was free and "sort of retired?"

"I am afraid I have to do the same thing as Maulana Azad is sup- posed to have done. When I find a Humayun Kabir, probably I will do it."
—*From report of Mr. T.T. Krishna- machari's press conference*

One should always give one's opponent a way out.
—*Capt. Liddel-Hart*

Amost a member of the family is his dog, 13-month-old Buster which saw service on the Sialkot front along with his master.
—*From a press release on Lt. Col. A.B. Tarapore, posthumous winner of the Param Vir Chakra*

What they (Indian authors in English) write is rather like the legendary Indian curry which is served in Indian hotels to foreign tourists but which resembles nothing cooked in any Indian home.
—*Prof Sib Narayan Ray*

Indian reporters whose day's work has often seemed enviably limited to a brief spell of dictation by a laconic Government spokesman
—*From a report in "The Observer"*

A NEW FAMILY PLANNING STRATEGY FOR RURAL INDIA

Change from the Clinical to Welfare Approach Is Praiseworthy but Resources Are Being Spread Too Thinly

S. N. AGARWALA, Institute of Economic Growth, Delhi

THE recently announced 'extension' family planning approach of the Government of India is a distinct advance over the 'clinic' approach. But it still suffers from a number of limitations.

The family planning programme should be an action-oriented programme, directed in the initial stages to those groups which are likely to accept family planning most readily. If the programme is directed to all the people living in a locality, the limited resources will have to be spread thinly over a large area, and a permanent or a quasi-permanent administrative machine will have to be set up. This is likely to be expensive and time-consuming.

The organisational set-up for the family planning programme should have speed and manoeuvrability, and should be devised from the bottom instead of from the top. Brain banks should be created at the Taluka, District and State levels; and social scientists, government officers and social 'leaders' should be involved in decision-making Since family planning requires a change in the attitude of the people, serious efforts should be made to involve social scientists in the programme and to de-medicalise the non-medical functions. Information, education and persuasion should be the responsibility of social scientists.

The task of evaluating the impact of family planning programme should be assigned to the demographers. Research and evaluation should be built into the action programme, and should flow from down to the top instead of being directed from the top. Therefore, in my opinion, a sound family planning policy should be based on the following principles :

(i) Personalise the movement instead of universalising it.

(ii) Approach that group first which is likely to accept family planning most readily.

(iii) Do not spread your resources thinly over a wide area; spread them thickly in potentially successful areas.

(iv) Give special consideration to the rural areas as 82 per cent of India's population lives there.

(v) Have a bottom-up administrative approach instead of a top-down approach.

(vi) De-medicalise the non-medical functions.

(vii) Develop a transdisciplinary approach on family planning and involve a number of social scientists in decision-making at different levels.

Those who want it most

Married couples in India can be divided into two categories:

(i) Couples who have four or more living children and who do not wish to have more. They are already motivated in favour of family planning.

(ii) Couples who have three or less than three children. They are not motivated in favour of family planning and have to be persuaded.

Of the 100 million couples in India[1], roughly 38 million belong to the first category and the remaining 62 million to the second category.

Since adequate resources to reach all the 100 million couples in a brief period are not available, it is appropriate to adopt a policy whereby maximum benefit is obtained from a given expenditure. Thus, our strategy, at the outset, should be *to carry family planning to those who want it most*. In other words, action should be taken first to satisfy those groups of people who are already

1. At the time of the 1961 census, there were roughly 93 million married couples in the reproductive age-groups, that is, between ages 15 and 45. This number increases by about two million each year. Thus, the number of married couples in 1965 would be of the order of 100 million.

motivated and who do not wish to have additional children, that is, 38 million couples.

Such couples are easily identifiable. The females are of age 35 and above, and have four or more living children. Since these couples do not want additional children, they can be taken to be motivated. They will, however, need information about different family planning methods. This should be given to them. It is, however, very likely that these couples will seek information mostly about those methods which help in permanent stoppage of children like the intra-uterine contraceptive device and sterilisation. After information, service facilities will have to be provided. Both information and service can be better supplied through mobile family planning workers' teams and mobile family planning clinics which should visit selected villages on pre-announced days.

Our second objective should be to *carry family planning to the door of the people.*

It may be pointed out that the expected decline in birth rate as a result of the adoption of family planning by all the 38 million couples will be of the order of 15 points, if contraceptives are 100 per cent effective. But if only 80 per cent of these couples are reached, the decline will be by 12.8 points.[2]

Another major advantage will be in the area of education. Women of this age group are would-be mothers-in-law, and if they take to contraception, they will perhaps also persuade their daughters-in-law to do likewise. Thus there is likely to be a considerable multiplier effect in the area of communication motivation.

At their door

It will be desirable to let mobile field teams and mobile family planning clinics carry out the task of information and service respectively. Teams of family planning workers, each team consisting of two workers, should visit a village few days ahead of the mobile clinic and hold group meetings or have personal discussions with the couples having four or more living children. In a village of 1,000 population,[3] the number of such couples will be about 77.[4] Since it will not be necessary to persuade these couples in favour of family planning, it should be possible for a team of two persons to provide information about different family planning methods and distribute literature among 77 couples of a village of 1,000 population in two days.

After providing the necessary information, the social workers could write down the names of the willing couples and send them to the area headquarter of the field unit, which will send a mobile clinic to the village to supply contraceptives or perform sterilisations or fit IUCDs on the willing couples. It should be possible for the social workers to persuade between 80 and 90 per cent of the couples with 4 or more children.

On a rough calculation, one mobile team of two family planning workers should be in a position to cover in one week villages with a total population of 3,000. Likewise, one mobile van can cover two villages a day, or 12 a week. Thus, four mobile teams of social workers and one mobile clinic van can cover 12 villages in one week, or 48 in one month with a population of 48,000. If it is desired to cover all the six lakh villages of India in three years, roughly 1,000 teams of family planning workers and 250 clinic vans will be needed. The following table gives the figures by States :

TABLE

Number of months and years required to cover couples with 4 or more children, living in rural areas, for one team of 2 workers covering 77 couples after every 2 days.

State	*Couples with 4 or more children in 1966*	*Required number of*	
		Months	*Years*
Andhra Pradesh	2,658,577	2,954	246
Assam	980,759	1,090	91
Bihar	3,806,947	4,229	352
Gujarat	1,370,664	1,522	127
Jammu & Kashmir	265,835	295	25
Madhya Pradesh	2,485,338	2,761	230
Kerala	1,284,116	1,427	119
Madras	2,210,047	2,465	205
Maharashtra	2,540,670	2,823	235
Mysore	1,655,840	1,839	153
Orissa	1,471,700	1,635	136
Punjab	1,468,384	1,610	134
Rajasthan	1,510,034	1,677	140
Uttar Pradesh	5,808,597	6,454	538
West Bengal	2,361,164	2,624	218
Total	31,860,662	35,395	2,949
INDIA	32,245,546	35,828	2,985

There is no provision of re-visits in these calculations. If the staff of the primary health centres could be made more mobile and could be used for re-visits and for supply of contraceptives, it may not be necessary to increase the number of mobile social workers' units and clinic vans. Provision will also have to be made for break-downs of the vans. Transport will have to be provided to field workers.

This brief note only proposes to put forth a different approach to the family planning action programme. If the basic idea appears reasonable, details can be worked out.

The proposed plan only touches the rural areas. The existing family planning staff in the urban areas, suitably supplemented by family planning field workers, can carry out a similar informational-motivational programme among couples with four or more living children.

2. Of the children born, roughly 40 per cent are of fourth and higher order. The number of couples with 4 and more children is about 38 per cent. Thus, if all the couples take to contraception and if the contraceptive effectiveness is 100 per cent, there will be $4.0 \times 3.8 = 15.2$ points decline in birth rate.

3. The size of 1,000 for a village has been taken for purpose of illustration.

4. Agarwala, S. N., "Social Workers and Family Planning Action and Research", *Journal of Family Welfare*, Vol. XII. No. 1, September, 1965, pp. 24-26.

C. L. GHEEVALA

NEHRU THE PLANNER

Revolution by Consent

"LONG years ago, we made a tryst with destiny and now the time comes when we shall redeem our pledge... A moment comes, which comes but rarely in history, when we step out from the old to the new, when an age ends and when the soul of a nation, long suppressed, finds utterance. The future beckons to us. Whither do we go and what shall be our endeavour?... To bring freedom and opportunity to the common man, to the peasants and workers of India, to fight and end poverty, ignorance and disease, to build up a prosperous, democratic and progressive nation and to create social, economic and political institutions which will ensure justice and fulness of life to every man and woman."

It is with these stirring and inspiring words that Nehru gave his message to the nation on the attainment of Independence. Indian society had been stagnant for centuries, steeped in poverty, ignorance and disease, as a result of foreign domination. It was Nehru's vision and dream that India must jump over several epochs of history and arrive at the era of atomic revolution. Nehru sought consciously to give a new and a decisive turn to history by bringing about fundamental changes in the political and economic structure of the existing society. Thus was he the architect of modern India.

Mr. Gheevala is Secretary, Indian Merchants Chamber, Bombay.

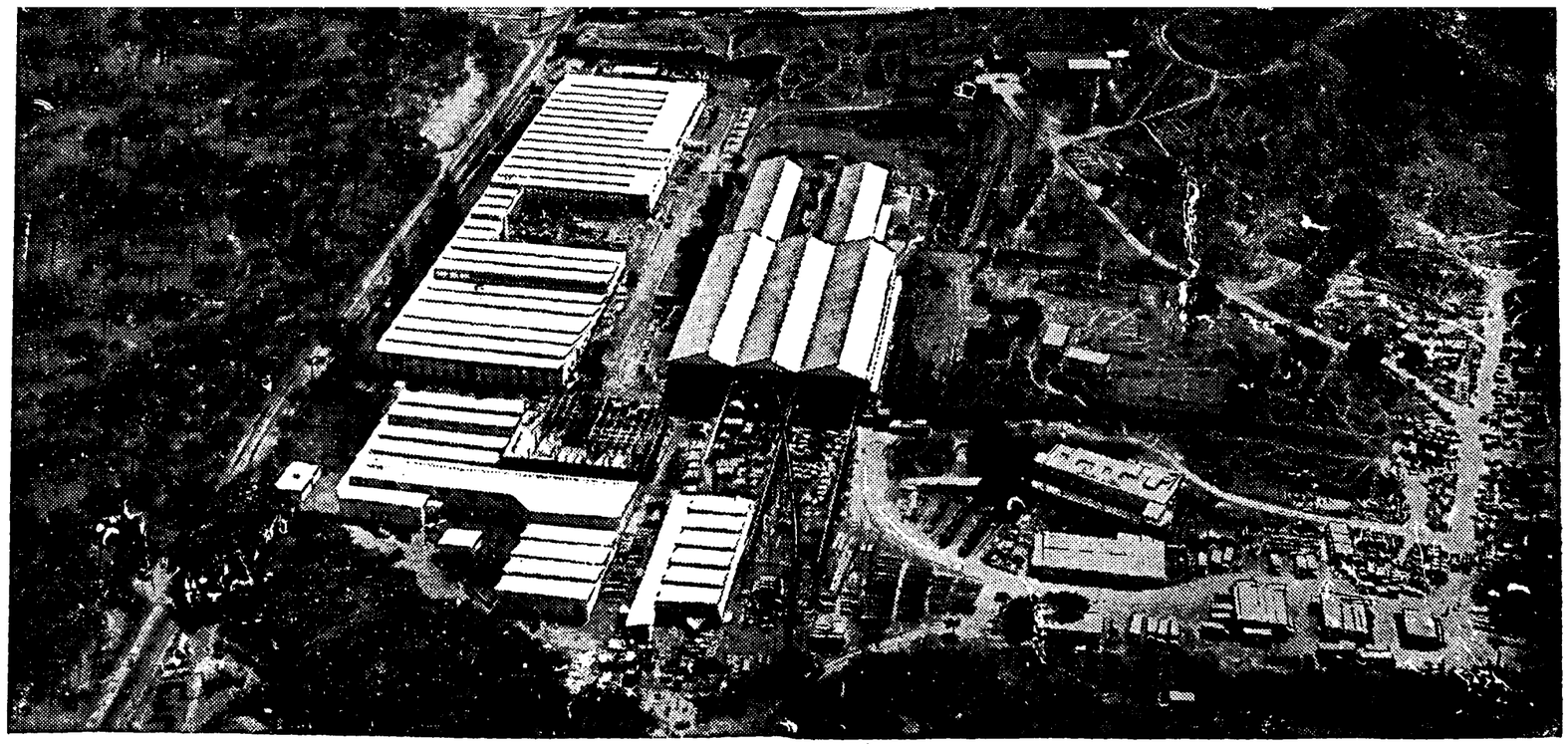
The problem before the country was the mode and manner of achieving the objective. On the one hand was *laissez faire*, unrestricted capitalism. This would be the very negation of planning. It would only mean anarchy in the economic development. On the other was the totalitarian method adopted by Communist countries. This involved regimentation and denial of democratic values such as individual freedom and respect for human personality. Nehru had travelled a great deal from his early fascination with the socialist revolution in Russia. While he had great admiration for the Soviet achievements, he could not reconcile himself to the ruthless methods employed for achieving the revolution. He was deeply imbued with the Gandhian ideals of peaceful transformation of the social order and his emphasis on the purity of means. As he often stated, he regarded Marxism as being outmoded in a world where democracy had made tremendous progress.

At the same time he wanted to achieve the socialist objectives in the new order that he was trying to bring about in India. He wanted to remove the class structure of society, do away with the degrading and demoralising effects of exploitation, and provide equality of opportunity for the fuller growth of human personality. He was, therefore, in search of a method of achieving economic revolution by consent. To quote his own words, "We want to do away with classes, but by the method of winning over people. I admit class struggle, but I do not want to aggravate it. I do not want to be obsessed with it."

Democratic Socialism

It is in this context that Nehru emphasised the middle way which would be free from ideological rigidities of one type or the other. He was quite convinced that the stupendous problems facing the country could not be solved by adopting any of the extreme approaches. He believed that both the systems were outmoded. America, the home of capitalism, had moved farther ahead in the direction of the welfare state, and even Soviet Russia had interpreted Marxism in a manner most suited to her.

In fact, as he said, "the (Russian) brand of Marxism had little to do with Marx." Nehru thus made a most positive contribution which can be described as unique in a number of ways when he stated that what was really happening in the



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IN SERVICE LIES SUCCESS

world was the development of some kind of democratic socialism which would combine democratic processes for achieving socialist objectives. India thus embarked on a great experiment of achieving democratic socialism through planning, an experiment which has served as a light to a large number of underdeveloped economies, and aroused the interest and admiration of the democratic world.

Nehru's work as Chairman of the National Planning Committee as early as 1938 is well known. After Independence the Planning Commission was established in 1950 and Nehru completely identified himself with its work. In fact, he stood as a symbol of planning for the country. Till the end of his life, he continued to be the very soul and inspiration of planning in the country.

Nehru and the Plans

Under his guidance and inspiration, the country has nearly completed three Five Year Plans. While meeting certain urgent problems arising out of war and partition, the First Plan was calculated to strengthen the economy at the base and initiate institutional changes for more rapid advance in the future. The Second Plan was conceived as an effort to rebuild rural India, to lay the foundations of industrial progress and to bring about the balanced development of all parts of the country. This Plan laid down the strategy of our planned development in clear terms. The two Plans thus helped to strengthen the foundations of economic and social life and to stimulate industrial and economic growth and scientific and technological advance.

The Third Plan, which we are about to complete, visualises the first phase in a scheme of long-term development, extending over the next fifteen years. During this period India's economy was not only to expand rapidly but, at the same time, to become increasingly self-reliant and self-generating. The Third Plan also sought to remedy the weaknesses discovered during the working of the first two Plans and laid the greatest stress on speed and thoroughness in achieving results and on creating conditions for the maximum production and employment.

The three Plans put together have involved a massive investment of the order of Rs. 21,500 crore. The country has indeed made rapid strides towards industrialisation. However, there are several sectors in the economy which continue to pose challenges which the country will have to meet. Some of these problems are agricultural production, the vast back-log of unemployment and the explosive rate of growth in population.

Continuous Process

Let us now briefly refer to some of the salient features of planning in India.

Planning, as Nehru always emphasised, has to be a continuous process and cannot be isolated for short periods. Thus the Third Plan is a projection and a continuation of the First and the Second Plans and it will further lead to the Fourth and subsequent Plans. It has to be a continuous movement towards the desired goals. Nehru firmly believed that perspective planning was the essence of the planning process.

Our planning has laid great emphasis on its democratic aspect. In the scheme of planning that Nehru inspired, the central emphasis has been on the development of the human being and the human personality. As stated in the Preamble to our Constitution, we attach great value to individual freedom because we want the creative and adventurous spirit of man to grow. It is in the context of the emphasis on democratic planning that Nehru valued co-operatives and Panchayati Raj. He considered the Community Projects and the National Extension Service to be the biggest thing any country had undertaken. He saw in them the process of building up from the grass-roots and not imposing anything from above.

In the over-all scheme of development, while accepting the case for balanced growth, Nehru knew that real progress ultimately depended on industrialisation, and industrialisation ultimately depended on heavy industries. As he used to observe, we want planning for heavy machine making industries and heavy industries; we should set about them as rapidly as possible because we must ultimately aim at producing the basic things in our own country. This would be essential if the country had to preserve national independence and, much more, raise the standards of living. Conscious of the fact that lop-sided development would lead to unemployment, Nehru pleaded for a balanced technique which would simultaneously provide employment. In his concept of socialism he did not visualise mere division of existing wealth since in India there was no existing wealth to divide. There was only poverty to divide. He therefore said that we must produce wealth and then divide it equitably.

Role of Private Sector

Clarifying the position of the role of the public and the private sectors in the great task of increasing production, Nehru was of the clear view that the strategic points in the economy must be controlled by the public sector. At the same time, he did not consider the two sectors to be mutually exclusive, but rather as mutually complementary. He used to say, "If you leave something to the private sector, give them freedom to function within those strategic controls. It is absurd to ask them to function, denying them room to function, denying them the initiative." The private sector, to him, was a part of the plan, a co-ordinated plan.

To Nehru it was obvious that India must be industrialised as rapidly as possible, and industrialisation included all kinds of industries, major, middling, small, village and cottage. He was also conscious of the fact that hundreds and millions of people would have to be employed chiefly in agriculture; in addition they would have to be given employment in cottage or other smaller industries. To him the plan must be an integrated plan for the economic growth of the country and for the growth of the individual. Above all, planning had to be undertaken within the framework of political democracy. As he said : "If it is to have any meaning, political democracy must gradually lead to economic democracy. If there is economic inequality in the country, all the political democracy and all the adult franchise in the world cannot bring about real democracy."

For Nehru a plan must envelop the entire country, dealing at the same time with each part of it.

(*Continued on Page 47*)

Building Research in Emergency

Roorkee Institute has found new substitutes for cement and other materials and developed new structures of defence use

DINESH MOHAN
Director, Central Building
Research Institute, Roorkee

IMMEDIATELY after independence India embarked on rapid industrial development and the importance of scientific research in this national effort was well realised by the planners. The national laboratories have made substantial contributions in the field of scientific and technological research but till recently these contributions had not made sufficient impact on the industry as a result of which a gap remained between research and its large-scale industrial application. The conflict with China in 1962 made us realise the importance of application of research, particularly in strategic sectors, and the present conflict with Pakistan has reinforced for us the need to intensify our efforts towards achieving self-sufficiency in all materials and processes.

Saving on Cement

The present emergency has compelled us to find ways and means of bridging the gap between building research and its application by completely reorienting the research programme on a project basis and giving priority to such projects as will produce immediate results.

Almost every large industrial, irrigation or power project requires considerable construction of buildings and other structures. These consume a major portion of the conventional building materials produced in this country, particularly cement, leaving very little cement for housing projects. The position has become more critical in recent years owing to increased demand for cement on account of defence projects.

The Central Building Research Institute (C.B.R.I.) has been working on finding out substitutes for cement and on developing new building techniques which might lead to bringing down its consumption to the bare minimum. Our successful attempts in regard to the use of 'fly-ash', a waste material from thermal power stations using powdered coal in the boilers, as a partial substitute for cement, has created considerable interest in the construction industry. By replacing up to 20 per cent of cement it can safely be used for the manufacture of pozzolanic cement either at the cement works or at the construction sites where it can be added to the cement at the time of mixing. Various construction projects under Public Works Departments and other organisations have already started using fly-ash cement with technical know-how from C.B.R.I. To cite an example, the Narora barrage in U.P. is expected to save about Rs 2.5 lakh by using fly-ash cement under the advice of C.B.R.I.

Substantial increase in the total output of cement is essential to meet the ever-increasing demands, and this can be done by utilising other raw materials. Investigations at C.B.R.I. have shown that blast furnace slag, which again is a waste produced from steel plants, when suitably cooled, can be used as a raw material for the production of cement. Superior quality cement can be produced by grinding 35 parts of this slag with 65 parts of portland cement clinker. Production of such cement has already started in India in a number of factories.

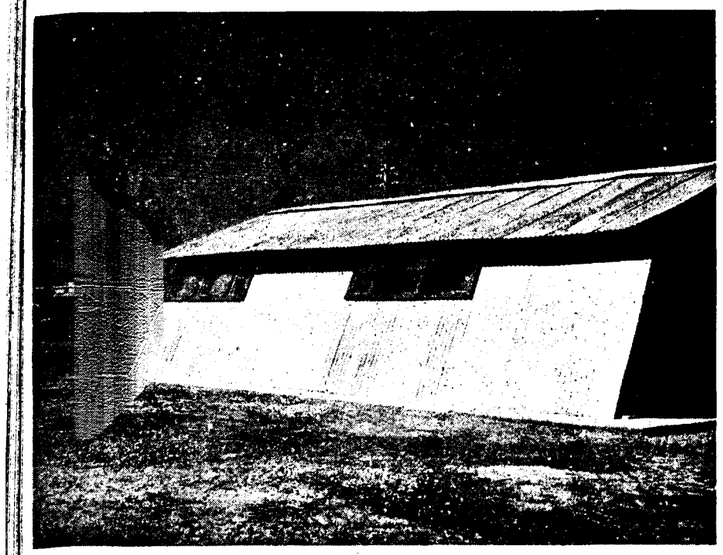
Even with increased production of cement, the housing projects will get low priority in the allotment of cement and it is therefore essential to adopt such construction techniques as will require minimum cement. Use of cement-sand mortar, which is very common even in ordinary houses, seems to be a waste of cement and C.B.R.I. has been advocating the use of lime mortar or lime-cement composite mortar for all house-building purposes. Studies have shown that considerable economy in cement can be achieved by its judicious use in foundation, masonry, floors, roofs and renderings. The Institute has suggested these to the construction industry through the publication and wide circulation of a note on Economy in the use of Cement for Residential Buildings.

Improved Bricks

Brick is another building material in regard to which research is needed in the country. Though good bricks are produced in northern and eastern parts of India, the soils in the central, southern and western regions are generally not suitable for brick-making, and buildings in these regions have to depend considerably on other materials like stone which is costly and is not available in sufficient quantities. Investigations are in progress at the C.B.R.I. on the production of good bricks from such inferior soils. As a result of investigations, the Institute has been able to advise the brick industry in these regions on the manufacture of good bricks from black cotton soils. Several improved techniques in the design of brick kilns, methods of burning and partially mechanised process developed at C.B.R.I. (See *Yojana*, August 29, 1965) are expected to increase the productivity and efficiency of the brick industry.

The Institute has developed a

number of substitute building materials which will prove to be economical alternatives to the conventional materials which are in short supply. Special mention may be made of light-weight aggregates from fly-ash, silt, slag, etc; foam concrete; building boards from coconut husk; construction joint fillers from coconut pith and cashewnut shell oil; lime from sugar press mud; and heat insulating and sound absorbing slabs from mineral wool.



Portable hut developed for defence use

Of the various new construction techniques developed as a result of research and field experimentation, mention may be made of the 'under-reamed pile foundation' which has been largely used in building construction on black cotton soil. It is an efficient and economic alternative to the conventional methods of foundations in such soils. It has been accepted as an Indian standard code of practice and is being adopted as a standard specification in Madhya Pradesh P.W.D. and the Military Engineering Service. Other construction techniques which have economic potentialities are cavity walls, reinforced concrete frames for doors and windows and pre-cast roofing units.

Portable Huts for Defence

During the present emergency, C.B.R.I. has been working on a few projects of particular importance to defence requirements. The development of a few special types of portable huts to meet the defence needs deserves mention.

A prefabricated structure of reasonable durability and living comfort, which can be easily dismantled, transported and re-erected at different sites, is needed for providing hospitals and shelters for the armed forced in regions difficult of access. Such a structure supported on a collapsible timber frame has been developed. A variety of locally available materials can be used as cladding. The entire material for a four-bay hut (area of each bay 15.83 square metres or 170 square feet) can be transported in a single five-ton public carrier or in one three-ton and another one-ton truck. The approximate cost per square metre of floor area for a four-bay hut works out to Rs 80.73 (Rs 7.50 per square foot). Detailed instructions and working drawings for the construction of such huts have been given in a special publication of the C.B.R.I.

Similar portable huts using steel in place of timber have also been designed and fabricated. The steel hut has been designed to withstand wind velocities up to 130 kilometres per hour and snow loads of 100 kg/m² and are suitable for plains as well as high altitudes. The estimated cost of a four-bay hut works out to be about Rs 86 per square metre of the floor area. The total volume (when dismantled) and weight of the components are such as can be easily transported by one three-ton and another one-ton truck and can also be air-dropped.

Suitable prefabricated huts are in great demand for housing at high-altitude snow-bound areas during the severe Himalayan winter. A prefabricated insulated hut has been designed and fabricated at the C.B.R.I. which provides comfortable living conditions at an altitude of 4,000 to 5,000 metres and is light, sturdy and portable for being air-dropped.

Import Substitution

The C.B.R.I. is currently working on a few other projects which are of importance to defence and which help import substitution. One of the projects relates to anti-corrosive paints for which there is a great demand by the defence organisations, and the aim of the project is to develop inhibitive pigments from indigenous materials to save foreign exchange required for red lead and zinc chromite. Another project aims at the development of suitable fire-retardant coatings which are not available in the country at present. A few other important projects, the results of which are expected to lead to import elimination, are: plastic waterproofing coatings, wood-wool roofing units, low cost thermal insulation materials, washable distempers, cement-paint formulations suitable for tropical regions, asbestos-cement using indigenous raw materials, etc.

In this short article only a few significant items of building research which have proved to be of immediate use to the building industry in the present emergency have been mentioned. The Central Building Research Institute is working on a number of other industrial research projects the results of which are expected to contribute towards increasing the efficiency and productivity of the building industry in the country.

HOW ECONOMIES CAN BE BROUGHT ABOUT IN

Rs 10,000 Crore Construction Bill of 4th Plan

OUTMODED PWD METHODS MUST GO

THE construction industry plays a vital role in the development works of the Union and State Governments and the large public corporations. All projects, especially those related to hydro-electric works, irrigation, power, education, health, water supply, food-grains storage, warehousing, transport, communications and industrial, civil and military housing, involve construction. The construction industry in fact accounts for about one-half or a little more of the outlay in these projects. Considered from the point of view of the total Plan outlay, the outlay on construction will come to about Rs 10,000 crore for the Fourth Five Year Plan. It goes without saying that methodical and efficient execution of work in construction will lead to substantial savings for the nation.

Several measures have been recommended for improving the working of the public works administration from time to time by special committees presided over by eminent engineering officers, but the Government appears to have shown reluctance to touch the basic causes that increase the cost in execution of construction projects. However, there have been hopeful signs recently that the Government has become aware of the need to do something.

Y. G. PATEL
President, All-India Builders' Association

Too Many Changes

It is now recognised by all that the construction industry has had to follow outmoded methods on account of its dependence on outmoded Government designs and equally outmoded specifications. Most Government designs are overburdened by safety factors. The machinery for the administration of contract is based on suspicion and distrust of those who execute the work. Thus a cumbersome administrative machinery, with redundant supervisory staff, has been built up for administration and supervision of builders' work. It has not stopped at that. Even the Government officers who administer contracts are looked upon with suspicion. Hence there are other series of checks. The accounts branch has poached into what should predominantly be an engineering problem. The whole administrative machinery has become so big and complicated that all efforts at efficiency, speed and economy are defeated.

I mention here with much hesitation and regret that works by the authorities are not properly planned nor is there any appreciation of the job requirement. In the majority of cases, drawings are not ready or available for inspection by the builders before tendering for the work. This lacuna in working introduces a great element for variation in the rates quoted by the builders. The confusion does not end there. Even after the work order is given, there is delay in execution of work owing to hold-ups on account of revised drawings and designs from time to time, without any reference to the builders who have great stake. As a result, the builders find it difficult to plan work intelligently and make sustained progress. It affects efficiency and economy.

Hence what is necessary is a complete overhaul of the present machinery with a view to modernising it to such an extent as would enable Public Works Departments and builders to take full advantage of technological progress made in the world in execution of construction works. This will lead to efficient and speedy working and lesser financial burden.

By judicious analysis of working conditions in preparation and execution of plan projects and of the obstacles that now make administration of contracts cumbersome, it would not be difficult to find out the clogs in the wheel and remove them. This could be achieved by short-term and long-term measures.

Maximum publicity of works tendered will help many more builders to tender. It will encourage healthy competition. In addition to proper newspaper publicity, the services of professional associations like the Builders' Association of India should be utilised. The circulars of these associations will convey the news of coming-up works "at the house" or "on the table of the builders", which newspapers cannot do. The Builders' Association of India circulates this information once a month. The frequency could be increased by mutual agreement.

Economy at Planning Stage

(i) A good deal of economy could be realised by proper planning. If the complete picture with detailed drawings and specifications are ready and supplied, builders will quote

rates which would be much less than otherwise.

(ii) Designs should be simplified and made economical or alternate designs should be invited. Safety provision should be given importance but it should be realistic.

(iii) *Land Acquisition :* This should be completed before works are put to tender so that there is no hold-up on account of litigation, objection by local authority, etc.

(iv) *Siting of Projects :* This should be properly done so that situations such as shifting of sites may not be faced after taking the works in hand. It should be sited at such a place that bad or no roads or long distances do not add to the transport cost.

(v) *Specification and Material Budgeting :* (a) Specification should be practical, giving due consideration to the availability of local materials. This will help in saving in both transport and cost of materials. Specifications which we have inherited from old P.W.D. Manuals are idealistic. These should be realistic and should take into consideration the technological progress made in the development of the modern materials. (b) The requirement of materials, which form about two-thirds the cost in construction, is not properly assessed or budgeted. As a result there are frequent interruptions in the progress of works leading to extension of time and other complications. Moreover, in view of the present stress on austerity, savings could be made by economic use of cement and steel.

Financial Burden

There is good scope of economy in this important regard. The interest burden could be greatly reduced by uniformly adopting a system which does not block up builders' capital in earnest and retention moneys. Regular monthly or fortnightly payment of running bills will help turnover. The conservative approach is evident particularly in the States. We have progressed in many fields including financial institutions. These institutions provide guarantee for builders' lapses. Advantage should be taken of this modern facility by allowing the builders to give fidelity bonds of insurance companies both for earnest money and for security deposit.

Again the percentage of the total cost of works demanded as earnest money and security deposit for the purpose could also be reduced for economy's sake, without in any way affecting the owner's interest. Maharashtra State accepts 5 per cent. This could be adopted with minor modifications elsewhere, for example 1 per cent could be given with tenders and 4 per cent could be deducted from running bills with maximum limitations of one lakh rupees as has been adopted by C.P.W.D. This amount should be accepted in insurance or bank guarantee bond. The foresight shown by the Works and Housing Ministry in this matter by changing the C.P.W.D. rules should be uniformly adopted with the modification suggested above by all the work authorities of the country.

There are payment disputes and delays. On that account large amounts of builders are blocked. This adds to the financial burden and cripples builders' working capacity. Only such amount should be held up as is in dispute. The balance of the final bill and security deposit should be released immediately. This would reduce the interest burden on builders which would naturally benefit the owners. Secondly, it will increase builders' working capacity and add to healthy competition to the benefit of the owners. Economy has great scope in this field.

Administration of Contract

A great deal of economy in construction works could be realised by proper administration of contracts. Timely issue of works orders and scientific supervision are very important for economy. At present there are a large number of people supervising the work. This system could, without any risk, be revised and one well-paid officer could be employed for supervision. The rest of the supervision burden should be left on the builders. It will be economical as administration expenses could be brought down, the burden of quality work could be thrown on builders, and execution of work speeded up owing to the absence of interference by *mistries* and overseers.

Variations and Deviations : These may be inevitable but they could be minimised for they create disputes, delay work and add to the cost both of the job and the administration. They could be reduced by judicious planning and clear deviation orders.

Completion in Time : Completion in time or ahead of time should be rewarded just as delay by builders is penalised. This will encourage builders to do good work speedily. Authority will benefit by early use of the completed work.

Accounts, T.E. & Audit : The Accounts Section and T.E. Department should be under the Chief Engineer's administration and audit should be done immediately and not after lapse of a long period.

Strengthening Construction Industry : At present there is no proper system of registration. Different authorities have different rules. There should be a uniform system for the whole country enforceable by law. The Builders' Association of India has under consideration a scheme for registration of builders, which could restrict undesirable elements from entering the construction field. Secondly, those entering the construction field will have a clear concept of what is modern construction. It will help them to do their job efficiently, speedily and economically.

Modernising Construction : Builders should be encouraged to equip themselves with modern construction machinery, equipment and materials. This will increase the turnover capacity and help to reduce costs. A scheme should be worked out for providing finance and foreign exchange, where necessary, for the purpose. The World Bank loan scheme has been recently introduced but not widely applied. This should be made broad-based, associating builders' representatives with the panel of licensing.

Finance at reasonable rates of interest could also be provided in loan form by the formation of Construction Industry Development Finance Corporations. Till such time as they are formed, facility for finance to all builders undertaking small, medium or big works should be provided through the present financing agencies of the Central, States and private banking institutions.

Building construction could be industrialised by developing standard

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Construction Contracts

Streamlined Forms and Procedures Will Cut Time and Costs

Harshavadan J. Shah

CONSTRUCTION contract represents the owner's offer to a builder to carry out certain specified building work or civil engineering project on certain set conditions acceptable to the builder. It is an important document laying down the relationship between the owner and the builder.

In the earlier years of construction, success frequently depended on one's ability to drive men, mules and materials in order to maintain the progress schedule and in such a manner as to complete a project at the lowest possible cost. Today such practices have been replaced to a large degree by carefully planning each stage of a project even before the actual construction has started, by selecting the most suitable construction equipment for a given project, by analysing a project further to determine the best methods of constructing it, and by maintaining adequate control over a project for periodical reports showing the progress, cost and other desirable information. Engineering principles are being applied to construction with excellent results, the main object being the engineer who designs a project according to the owner's wishes and the constructor who builds the project work towards the same goal, namely the creation of something which will serve the purpose for which it is built in a satisfactory manner.

Selection of any system of contract should receive particular attention from the view-point of obtaining a high level of productivity on the job. It has to be seen that nothing in the contract tends to reduce the efficiency or increase the cost of the work. This fundamental issue could be pinpointed while considering certain important conditions now in force and the procedure adopted in execution of a job.

There are three different forms of contract systems :

(1) the lump sum system,

(2) the item rate or percentage rate system, and

(3) the cost plus fixed fee.

Lump Sum Contract is a contract in which the builder is supplied all the details of work including working drawings supported by quantities or schedules of working prepriced by the owners. This requires indeed a very careful planning. The builder has to quote a lump sum amount for the work. No measurements are involved, except in deviation. It does call for more time and preparatory work in the initial stage which is more than compensated by speedier completion of work and reduction in contractual problems. It has the advantage that the owner knows fairly well, and in advance, how much the job will cost, which enables him to make adequate provision for financing the job as well as for his ultimate use. With elimination of all measurements (limited to deviation only), jugglery of calculations and other corresponding headaches are greatly reduced. This system is in use fairly well in many European countries. In our country this system is adopted by the Military Engineering Service of the Ministry of Defence. It is also used by certain State Governments, especially when the contractor is quoting on his own design, for example bridges, public health works, etc.

Item Rate or Percentage Rate is commonly adopted by most Public Works Departments of the Central and State Governments, the Railway Administration and other public sector undertakings and also by private architects. Here the builder quotes his rates item-wise, or quotes a percentage above or below a certain standard rate schedule. In this system the work done is measured and paid. The general idea of the scope of the work with general drawings and specifications are supplied at the time of tendering. The detailed drawings are supplied with the progress of the work.

Cost plus Fixed Fee: If the project involves many uncertainties that make it impossible or difficult to estimate the cost in advance, it may be desirable to award the contract on the basis of the cost plus a fixed fee. On the cost plus a fixed fee contract, the owner agrees to reimburse the contractor for all the cost incurred in constructing the project and pay him an additional fee as a profit. The amount of the fee usually

is agreed on in advance of entering into a contract. The contract may require the contractor to furnish all materials, construction equipment, labour and supervision to complete the project. This system is followed in emergencies and by certain private owners.

Having referred to the different prevailing contract systems, it may be noted that the first two are in force in our country to a large extent. The Central P.W.D., State P.W.D.s and the Railways follow the second, while the Military Engineering Service follows the lump sum system. The contract conditions are worked out in such a way as would adjust themselves to the system adopted.

Defects and Difficulties

At present there are different sets of conditions for different departments. This indeed creates a severe problem with the builder. One has different construction conditions and procedures varying from department to department and from State to State. There is no standardisation; often, even in the same type of construction, different nomenclatures and methods are used. This makes free competition difficult, if not impossible. The builder is apprehensive about giving a bid from one Department to another even though he is familiar with the type of work that has to be executed, because of different conditions. The risk involved would be more and as such one tends to stick to the Department with which he is well acquainted. This could be removed by adopting a uniform contract system with certain degree of standardisation in specifications and a standard nomenclature. Of course the specifications would need certain adjustments that may be demanded by local circumstances.

The present construction contract forms are mostly one-sided, favouring the owner. These contract forms and their conditions were framed long ago, may be a hundred years ago. They are inequitable. This in turn breeds unhealthy practices which are not only detrimental to the general health of society but increase the cost of construction as well. The old form perhaps had its usefulness in the old administrative set-up. It has entirely no justification under the present democratic and nationalistic set-up.

In the prevalent standard contract form, the builder is denied the most basic right which is fundamental in a contract between two parties. Here one party has all the rights and the other has to accept the decision without any say. The builders have been agitating to restore the normal conditions of a contract, e.g. that in case of difference of opinion, the matter should be referred to the arbitration according to the Indian Arbitration Act.

It may be observed that in the case of large contracts where bids are invited from all over the world, as in an international tender, the normal arbitration clause is provided. It is in the case of Indian nationals that this is denied. The builders of India have pleaded for the removal of this and other one-sided conditions for many years and, except in a few cases here and there, things have not improved and the old system is followed.

In Fairness to Both

It is very necessary that the builder should be treated as an equal partner who shares a common object to create something in the satisfactory manner. Towards this end, the Builders' Association of India has prepared a standard contract form, fair to the owners and to the builders, keeping in mind the conditions prevailing in international bidding.

Just as the present contract system is one-sided, the procedures are also dilatory. Before the bids are invited, it is essential that considerable time is devoted by the engineer to the preparation of complete design and drawings, specifications, etc. The more complete the tender, the more competitive would be the offers. There are a number of administrative bottlenecks which delay the acceptance of the offers, after the bids are submitted. Often administrative and financial approvals are taken by the department after the tenders are invited.

Acceptance of the tender : For the acceptance of the tender, certain definite methods have to be followed. If the method of registering builders is followed, then it would be easier and safer to accept the lowest bid.

Earnest and retention money : The practice in regard to earnest money and security deposit varies from department to department and the whole procedure needs revision. It is 4 per cent with one State and 10 per cent with another. There are cases where it varies from 2 per cent to 10 per cent. In several places bank guarantees are accepted while others refuse to recognise this. This confusion has to be cleared. There should be uniform clauses and procedures for earnest money and security deposit. The total amount of security deposit should not be more than 4 per cent, as is in the State of Maharashtra, that is 1 per cent with the tender, 1 per cent on acceptance of tender and 2 per cent from the running bills. This should be accepted either in cash or bank guarantee or by insurance guarantee bond. The latter method will not only give great financial relief to the builders, with corresponding increase in capacity, but is bound to have a beneficial impact on the cost of the work. Refunds of security deposit have also to be regulated so that they are not blocked unnecessarily.

Deviations and extra items : Deviation cannot always be avoided but they can certainly be minimised. By streamlining the sanctioning procedure, delay and consequent difficulties could be reduced. Generally deviations are advised orally by the engineer-in-charge. No set procedure is followed to avoid the disputes arising out of them. A healthy practice would be that for all the deviations the rate should be agreed upon before the work according to the revised instructions commences. In case of urgency the builder could be instructed to execute it, but in case of differences the matter should be referred to arbitration, and the decision should be acceptable to both.

Accounting and payment : The present payment procedure of running and final bills are such as would not encourage efficiency and does not ensure regular payments to the builder. Accounts sections act independently. They should be under the engineer-in-charge who should be solely responsible for all the payments, as for works.

Supervision: The supervising procedure adopted by most of the Public Works Departments needs

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Compacted Soil Can Replace Stone and Cement

Big Economies Possible in Building Roads, Runways and Houses

H. L. UPPAL

Central Road Research Institute

DEVELOPMENT and modernisation of the country involve the building of thousands of miles of roads to open out the backward areas, besides construction of houses in very large numbers. If such a programme of construction adopts conventional specifications in regard to the use of cement, stone or burnt brick, the finances required will be so colossal as to be beyond the resources of an underdeveloped country. Also, the materials may not be readily available in adequate quantities to cope with the magnitude of construction. It is, therefore, essential that there should be a determined search for alternative construction materials.

Recent researches in soil science have shown that almost all types of soils (and other inferior materials, such as *moorum*, laterite and *kankar*) that have so far been rejected in civil engineering construction can be improved in their engineering properties to varying degrees, depending upon their composition. By such improvement they can replace stone or burnt brick partly or wholly and they will thus help economies in development plans of the country.

Some of the proven results of research which hold promise are discussed below:

SOIL COMPACTED AT A PARTICULAR MOISTURE

It has been shown that soils improve considerably in their strength when compacted at a controlled moisture to high density. The strength further increases if the soils locally available are blended to improve their grading before compaction at controlled moisture. If properly graded soils are mixed with coarse aggregates such as brick aggregate, *kankar* or laterite, in the ratio of two parts of graded soil to one part of aggregate and then compacted, the resultant mass will not only give a high strength in the dry condition, but will also resist abrasion by light traffic.

SOIL STABILISED WITH CEMENT

Whereas soils compacted in the manner mentioned above have high strength when dry, soaking leads to a fall in such strength. But compacted soil can be made to resist the softening effect of water by stabilisation with cement. With a small concentration of cement, the blended soil, when compacted to high density, will give a strength of about 250 pounds to the square inch even in the wet state. The strength would further increase with the increase in the cement content.

In the case of very clayey soils it has been found economical first to treat the soil with a small concentration of lime before stabilisation with cement.

INFERIOR AGGREGATES

There are large deposits of inferior aggregates in the country which have not been fully exploited on account of the fact that certain failures occurred in some initial trials. It has been shown, however, that inferior aggregates can, after testing, be used in the lower layers of road pavements in place of rubble soling. Inferior aggregates, if found mixed with plastic fines, are generally rejected for use in road construction. These can also be economically improved with lime or cement resulting in fairly high strength even when satufated.

SOIL GRAVEL MIXTURE

There are large deposits of soil gravel mixtures in the country which are being used as such. It has been found that if such gravelly material is properly graded with respect to their coarse and fine fractions, they improve in their engineering properties, rendering them strong enough for use in road bases.

Based on the researches that have yielded this information, soils and other inferior aggregates can be scientifically improved to economise on the cost of the following types of projects:

1. Roads

Since both the number and the weight of vehicles using the roads today have increased considerably, the thicknesses adopted in the past are inadequate. There is the additional fact that many areas are swiftly getting water-logged, thereby requiring still higher thickness of pavement. The 20-year Road Development Plan, 1961-81, lays down fairly high thickness for pavement, as the following table shows:

	Mileage	*Thickness of crust (inches)*
National Highways	18,200	30
State Highways	35,000	30
Major District Roads	54,800	28

It will be seen that if the construction of these roads were to be carried out according to the conventional method using stone boulders, burnt brick or hard *kankar* in the lower layers, and stone metal of 1½" size in the upper layers, the cost would be very high indeed. The same thickness can, however, be built up, without affecting the scientific design, by replacing the hard stone used in the lower 18 inches of the road crust with soil compacted at controlled

moisture. Replacing the lower 18-inch layer of stone boulders with compacted soil, which is only 10-15 per cent the cost of the stone, for a length of over a lakh of miles, has had the effect of reducing the estimated cost of the 20-year Road Development Plan by a couple of hundred crore of rupees. At places where stone is costly, a part of the remaining crust can also be replaced with inferior aggregates, soil-gravel mixes or soil stabilised with cement, of a requisite strength. This will further cut down the cost to a very large extent.

The Road Development Plan further provides a length of 1,17,000 miles of other district roads and 68,000 miles of classified village roads. It will probably be impracticable to build these roads according to conventional specification. Such roads can still be constructed by building up the crust either with soil gravel or inferior aggregate or stabilised soil. By adopting all these techniques, the saving on the whole Plan will run into few hundred crore rupees—a very substantial saving.

2. Runways

Present-day runways of airfields are about two miles in length, and about 200 feet in width. The specification for flexible pavement which is about 45 inches calls for hard stone throughout the depth. Even when a concrete pavement is adopted, there is a provision of 12-1" of stone before concrete slabs are laid. Recent field trials in India on the construction of runways using flexible design have shown that out of the total required thickness of about 45 inches, the lowermost 12-inch layer can be built with compacted soil alone and that the middle layer can be built with soil stabilised with cement except for the top 6 inches which required to be built with hard stone. Such specifications, besides being scientific in design, will reduce the cost by almost a 40 per cent, saving about Rs 30 lakh per runway.

Even when cement concrete specifications are adopted, the lower layers of 12 inches or so need not be built with hard stone metal, as is the practice now. This could be built with local soil stabilised with about 4 per cent cement, instead of carrying stone metal over long distances, as high structural strength is not a necessary feature in the design. It is known that many important constructions were held up for want of hard stone.

The use of soil or other inferior aggregates in the construction of runways will not only reduce the cost but will also give more outturn—which is of still greater importance in these days of emergency.

3. Houses

(a) *Permanent*: As stated above, a compressive strength of about 300 pounds per square inch can be attained by compacting local soil with about 4 per cent cement even under wet conditions. This strength should be satisfactory for single-storey houses of the type mostly built in small towns, farms and villages. The use of such material will reduce the cost of the wall by almost 50 per cent besides offering better insulation against heat or cold. *The saving is based on the practical experience of building 4,000 houses using soil cement in the construction of walls.* The houses are about 16 years old and are reported to be giving satisfactory service.

(b) *Temporary Village Houses*: Temporary houses, as built in villages today, require very frequent outlays on maintenance, a task which also consumes the time of the farmers that can be usefully spent elsewhere. Since compacted soil has a reasonably high strength in dry conditions, it can be used for building houses. To retain strength during the rains, the compacted soil walls can be plastered with a waterproof mud covering. A study conducted by the Central Road Research Institute has shown that this is practicable.

In view of the great potentialities that soil offers as a construction material, a concentrated effort at a fairly high level is called for to enforce its use in the interest of the economy.

CONSTRUCTION CONTRACTS

(*Continued from Page 38*)

thorough revision. The supervisory staff sometimes outnumbers the builders' staff and they merely serve to delay matters. Many times they are also responsible for the growth of unhealthy practices. In this regard, Government departments can advantageously follow the practices adopted by Indian or European architects. They engage the services of one well-paid officer and the rest of the supervisory burden is left on the builder. The supervising engineer must be well qualified and trained.

Penalty : The present procedure for levying penalty for a fault is one-sided. Details as to who has been at fault are rarely gone into, since it is easy to punish the builder even for the faults of supervising staff. It would indeed be advantageous to link up bonus provision with that of penalty. That would ensure speedy construction.

Technical checks : In certain Government departments there is another agency over and above the supervising engineer. This is the direct outcome of the old contract system which is based on mistrust. This system has unnecessarily added to costs and led to avoidable heart burning on both sides.

Final bills : Contract procedures for payment of bills have to be properly streamlined and enforced. Today it takes months, if not years after completion of the job, for the final bill to be scrutinised and passed for finalising bills and making payments. Sometimes, on the basis of a small defect, the entire bill is held up.

It is difficult, in the compass of a small article, to go into details of all the problems connected with the construction contract and its procedures. One thing is certain—that if we propose to achieve the targets laid down by the Fourth Plan, contract conditions and forms need immediate revision. A contract form in keeping with the modern conditions and equitable to both sides will make great saving on the cost itself. The builder who makes provision in his bid for all kinds of contingencies and eventualities will no longer have any reason to do so. It would also ensure expeditious completion of capital projects, on which depends national development.

STANDARDS ESSENTIAL FOR ECONOMY IN CONSTRUCTION

H. C. VISVESVARAYA

Deputy Director, Indian Standards Institution

It is well known that standardisation leads to economy and efficiency. As in other fields, the application of the principles of standardisation to achieve these objectives in the field of construction is not new. In fact, the studies of the archaeological excavations at Harappa, Mohenjo-daro, Lothal, Rangpur, Kalibanga and other sites of the Indus civilisation dating back to over 5,000 years ago reveal that considerable attention was paid even at that time to standardisation in construction.

Several factors, either singly or in combination, contribute to the economy and efficiency attained through standardisation, for example the efficient utilisation of building materials, rational simplification of variety in the components used in a project, appropriate methods of design, manufacture, construction and operation, satisfactory performance and adequate safety, suitable methods of testing and analysis and use of standard terminology in transactions.

The very process of laying down the standards involves intensive consultation amongst all the interested parties. So it represents the general consensus of view on the subject consistent with available resources, knowledge and experience.

A number of instances can be cited to show what economies standards have been able to lead to, some directly and many indirectly. A few are mentioned here as illustrations :

(i) *Steel and Cement*—A recent study made by the National Council of Applied Economic Research has brought out that a saving of as much as 23.6 per cent in steel, or in quantitative terms, a saving of nearly 1.79 million tonnes of steel equivalent to Rs 1,253 million at current prices, would be possible if the various standards and codes of practices evolved by ISI are implemented during the Fourth Plan. Whilst this is the first occasion on which a quantitative assessment has been made of the probable savings that can effected by adopting Indian standards, this typical study will indicate the order of the savings that can be achieved in the construction industry through standardisation. Similarly, the adoption of the concrete codes, such as IS: 456-1964 Plain and Reinforced Concrete (*Second Revision*), which specifies the strength grading of concrete in performance to the present practice of grading by nominal mixes and which permits more rational methods of design like the ultimate load method, will result in considerable saving in both cement and reinforcement.

(ii) *Timber*—In the context of acute scarcity of timber, rational utilisation of timber resources has a considerable part to play in achieving economy. Secondary species of timber, in addition to the popular species now being generally used, have therefore been included in Indian standards such as IS: 883-1961 Code of Practice for Use of Structural Timber in Building (Material, Grading and Design) (*Revised*) with a view to promoting use of these species. Standards on commercial and structural grading of timber further aid the economic use of timber. They permit a proper choice of material for different limitations of stresses and provide a basis for the easy selection of alternatives where material of one species may be in short supply.

(iii) *Industrial Wastes*—In the context of the expanding construction activities, utilisation of industrial wastes is becoming increasingly important. IS:455-1962 dealing with the Blast Furnace Slag Cement and IS:1489-1962 dealing with Portland Pozzolana Cement, and other standards such as those for Fly Ash and Masonry Cement, being formulated at present, will go a long way in contributing towards conservation of scarce building materials.

(iv) *Modular Co-ordination*—Industrialisation of building construction at once leads to modernisation of building methods such as mechanisation and prefabrication. The most important underlying factor is standardisation of building components with special attention to design. One of the features of this standardisation is rationalisation of the dimensions of building components and materials on a simple dimensional relationship using a basic unit. Such a basic unit is called the *module*. Modular co-ordination is now being given considerable attention.

A few national standards, such as IS:1233-1958 Recommendations for Modular Co-ordination of Dimensions in the Building Industry and IS:2375-1963 Recommendation for Modular Co-ordination Applied to RCC Framed Structures, have been brought out. The various Indian standards dealing with building units and components such as bricks, tiles, sheets, doors, windows, etc., specify their dimensions with the ultimate object of achieving full modular co-ordination. The economics that can be achieved by applying modular co-ordination are evident from the following examples which are based on a study made by the

Ministry of Works in U.K. :

(a) *Saving in drafting time* —

On traditional basis 114 sheets of drawing were required for the component parts of a school building. By applying the principles of modular co-ordination, these were reduced to 33. Thus for 8 school buildings built on this basis only 41 sheets of drawing were required in all.

(b) *Saving in materials*—In traditional practice, over-order of materials is about 10 to 15 per cent which represents the actual waste. It has been shown by an example worked out in the U.S.A. that an actual saving of 10 per cent in materials can be effected.

(c) *Saving in labour at site*—Labour of cutting and fitting materials was reduced by 5 per cent to 45 per cent relating to different items of building work.

(d) *Building bye-laws*—Safe and sound building construction methods are matters of public interest, and, therefore, measures to protect this public interest consistent with economy become necessary. Building bye-laws are one such measure. A model bye-law such as IS:1256-1958 achieves the necessary unification in the practices followed in this basic aspect of construction economy and safety.

STANDARDISATION AT LOWER LEVELS

For the full development and growth of any industry including the construction industry, it is necessary to resort to standardisation not only at the national level, which ISI is doing, but also at other levels such as the departmental level and project level. These correspond to what are normally called 'Company Standards' or 'Association Standards'. The departmental or project level standardisation would, in its broadest sense, include all project activities for streamlining, co-ordinating and documenting routine procedures within the given department or project.

Most Public Works Departments in the country have cells to look after the work of formulating specifications, schedules, etc., but often there is a certain amount of confusion in regard to their duties and responsibilities. Such cells are the agencies for producing departmental project and inter-project standards. Through standardisation at these levels it is possible to have (i) fewer raw materials, (ii) smaller inventory of materials and components, (iii) reduced requirements for plant and machinery, (iv) reduced obsolescence in materials and equipment, (v) efficient use of man hours by controlled construction and operational methods, (vi) simplification through interchangeability, (vii) fewer drawings, (viii) lesser disputes and arbitration, (ix) reduction in non-productive capital through improved co-ordination amongst various activities.

One of the surest means by which the construction agencies can, therefore, economise on their site operation is through departmental or project standardisation practice. This activity strengthens and complements not only site operations but also national standardisation itself. Unlike national standards, these departmental or project standards go beyond the basic requirements, to cover all the intermediate stages of building activity, namely design, fabrication, plant and machinery, production and construction control, purchase and stores required.

PRAGMATIC ENGINEER

In order, that the various departmental or project standardisation cells serve fully the purpose for which they are set up, it is necessary that these cells should be manned by adequately trained men. The engineer who is required to deal with standardisation activity should have special training. The philosophy of a standards engineer is optimistic, cautious and pragmatic. He is optimistic about overcoming his adversaries—tradition and disinterest. He is cautious so that he may be sure of the right. He is pragmatic because the nature of the job forces him to be practical. He is continuously being trained and retrained in human relations. He must never forget that the sole justification for his existence is his ability to lower cost.

With the objective of assisting Indian industries in securing maximum benefits from standardisation at plant level ISI has sponsored programmes for promoting the establishment of company standardisation. The programmes have aroused considerable interest and about 200 prominent industrial units have availed themselves of ISI's services to help in initiating standards activity in their respective units.

Based on the present company standardisation programmes, planners, design engineers, and construction engineers must be specifically trained for this purpose so that they can look after the work of standardisation cells in each project or department.

ALLOY STEELS

(*Continued from Page 10*)

alloys have to be imported from abroad by incurring heavy foreign exchange expenditure. Our ability to attain the production and to use these steels in the most gainful manner is greatly dependent on the combined and co-ordinated efforts of both steel-makers and users.

Some of the ways by which the users could help the steel-makers are as (a) by designing the components on the basis of the lowest practical mechanical properties for any given duty; in other words, not calling for a higher strength alloy steel where a comparatively lower strength alloy steel could be satisfactorily used; (b) by leaving it to the steel-makers as far as possible to decide the composition of the steel which will have the desired properties; and (c) by segregating alloy steel scrap into composition-wise categories for return to the steel-melters.

The main obligations of steel-makers in this field are to make the utmost use of the alloy content of scrap and to produce different grades of alloy steels with the aid of alloy recovered from scrap which, with suitable heat-treatment, could give the user the desired physical properties with the least expenditure and maximum conservation of virgin alloys.

Can't We Spare them This Kind of Honour?

G. N. ACHARYA ON THE STATUES WE BUILD FOR OUR GREAT

PHILOSOPHERS may scoff at them as frozen expressions of human vanity, but statues have had a long history. Ancient Greece abounded in them. There was no street in Rome without a statue. Every emperor was deified and his statue worshipped. Egypt was the classic land of statues. The statues of Ramses II at Abu Simbel, now being shifted to make room for the Nile waters to be impounded by the Aswan High Dam, is a reminder of ancient Egypt's search for the means of immortalising its grandeur.

Indian custom and tradition is somewhat uncertain An image was an object of worship and devotion. Despite anthropomorphism, it could not be a reflection, but only the externalisation of a mental vision. It could not be a memory image but one ideally determined and gradually reduced to symbolism. That is how *Silpa Sastra*, like Panini's grammar, became frozen in a state of perfection. Perfection is not susceptible of change or improvement.

Long before that happened, however, gods and saints were put into stone or bronze. The greatest subject of this process was the Buddha. By a strange irony, he who denounced idol worship became an idol some 200 years after his life. Till the third century B.C. the Buddha was always represented by a symbol—footprints, an umbrella or an empty throne. After that it was a rich harvest of images. There is nothing in the world to match the Buddha images in size, numbers or beauty.

The tallest image in the world is a colossal, 172 feet relief carving of the Buddha on a hillside at Bamyan, the famed Afghan valley. The standing Buddha at Anuradhapura in Ceylon is a pigmy by comparison.



Statue of Dr Ambedkar in Delhi

(The tallest free standing statue is, of course, the Gomateswara at Sravanabelagola; but that is a Jain image.) For numbers, there is the Cave of the Thousand Buddhas in Tung Huan in China's Shantung province, rediscovered by Sir Mark Aurel Stein in 1908.

Coomaraswamy and Havell have described the Prajna Parimita Buddha statue, found at Sringasari in Java, as the most sublime in the world. It was carved in the eighth or ninth century during the Sailendra Empire, and must inevitably have been the product of Indian skill. The most beautiful Buddha image in India, however, is the four-ton bronze statue discovered at Sultanganj in Bihar, cast in the sixth century.

A fairly comprehensive reference to statue customs is found in Bhasa's play, *Pratima*, assuming that subject to the exigencies of dramatic plot, the poet has given a faithful account of the customs as he knew them. It would be out of place to discuss all the dialogue in the first part of Act III, at the hall of statues. But from the remarks of Devakulika, the hall's keeper, and later, the minister, Sumantra, some facts can be deduced. The hall of statues was a tall building rivalling a palace in height. It was built outside the city limits, in a wooded area.

No statue was ever erected of the living. (There is a superstition still current that it is inauspicious to have a statue or portrait of living persons.) But apparently dead kings got theirs pretty quickly, because Bharata saw his father's statue on the fifteenth or sixteenth day of his death. Even in so short a time, it was possible to produce stone images of exquisite workmanship.

If this represents standard Hindu customs and tradition, it follows that when a stone statue of Mr K. Kamaraj was unveiled by Mr Jawaharlal Nehru on the pedestal on which there had stood earlier the statue of Col. Neill for the removal of which there had been a *Satyagraha* campaign in Madras in the thirties' not only was a superstition defied, but a tradition was ignored.

When we pass to the Islamic period, things become simple. Compared to the sophistication, the subtleties and contradictions of Hindu philosophy, art, social thought and customs, everything Islamic is simple. Islam is sternly opposed to the anthropomorphic concept of God. Its faith was translated into action. No Muslim emperor dared to aspire for a statue. No Muslim artist ever tried to represent the human form.

Even a few years ago, Hyderabad orthodoxy frowned on Ismat Chugtai's attempt at portraying the human form.

A British Legacy

Statue making of real persons came to India in a big way only with the British. Like their legal and constitutional ideas, the British passion for statues was derived from Rome. The earliest statue in Bombay was that of Mount Stuart Elphinstone who was Governor between 1819 and 1827. Erected in 1833 it is still safe in the Town Hall. By 1942 there were 25 British statues (including busts) in this city. I do not remember any erected since then.

The first statue of an Indian in Bombay was that of Sir Jamshetjee Jeejeebhoy, merchant and philanthropist. Lady Falkland, in her memoirs, states that this was the "first instance (for many centuries at all events) of such a tribute being paid by Asiatics to one of their fellow countrymen". Like everything else, the art of statue making was also dying out in India. Many statues of Indians were also made in Britain. Both the statues of Phirozeshah Mehta in front of the Corporation building, and that of J.N. Tata opposite were made by the British sculptor, Derwentwood.

But there were risks involved. Derwentwood had to replace the Tata statue. When the statue of Chamaraja Wodeyar of Mysore, made by a British sculptor, was installed, family members complained that the head was disproportionate. A new head was commissioned from a Bombay sculptor, G.K. Mhatre. Bombay soon became the centre of sculptors. Names like Mhatre, Wagh, Talim, Karmarkar, Goregaonkar, Phadke and Kamat became familiar. But no one attained particular distinction or reputation like, for instance, Devi Prasad Roy Chowdhury, whose statue of Mahatma Gandhi erected on the Marina Beach, Madras, was unveiled by Mr Nehru in 1959. Mr Nehru hailed the sculptor as a "man of genius". Roy Choudhury has the distinction of having another work, the Triumph of Labour, also erected on the Marina.

Bombay statues have rarely called forth praise from art critics or non-critics either. In the words of Arnold L. Haskell (in another context), they do seem very much like "depressing rows of frozen mutton". (A solitary exception is the monument to Dadabhoy Naoroji opposite the Flora Fountain, made by B.V. Talim, which, Karl Bergner, the Austrian sculptor, an otherwise severe critic, found "really artistic". Little regard is paid to the environmental factors either. A bust of Mahatma Gandhi erected on Juhu beach, for instance, is dusty, dilapidated, and set amidst the haunt of vendors, hawkers and parked cars. The air is filled with the noise and the odour of *chat*, *behlpuri* and exhaust fumes.

The latest trend in statue making as an art is discouraging. Top artists are not attracted to it. This may be because modern art is anti-representational. The camera has superseded portrait painting and, to a lesser extent, statue making. The only place where, apart from the temple, statues are in demand, is the film studio.

In recent months statues have been much in the news. Old ones are being dethroned or destroyed. About a year ago, three ex-viceroys, Lords Chelmsford, Willingdon and Irwin were taken off their plinths in New Delhi, after some Socialists had insisted on disfiguring them. On the night of August 9, 1965, two statues of ex-British rulers in the Horniman Circle garden in Bombay were broken. Threatened by further acts of vandalism, the Government removed these as well as the statues of Victoria and Edward as Prince of Wales.

The only parallel for such infantile escapades was the action of Aurangzeb, who had the stucco decorations of the high relief stone carvings at Bamian shot down. He may have imagined he was destroying Buddhism. So may the present-day vandals imagine that they are wiping out the pages of history. In its issue of December 19, *The Observer* (London) carried a story under the whimsical heading "Overthrow of the Monarchy" which said that the New Delhi King George V is also in danger of being deplinthed.

All this activity creates vacant plinths; and irresistible lure to the statue champions. Inevitably, Netaji Subhas Chandra Bose, Jawaharlal Nehru and Mahatma Gandhi are the favourite candidates. Luckily so far there are not too many dedicated to their memory. With the possible exception of the Gandhi statue on the Madras Marina I have not seen, nor heard of, even one that stands out, either for the excellence of its craftsmanship or the appeal of its location.

Some two years ago, the Ministry of Education commissioned Prof Sankho Chaudhuri of Baroda to make a fifteen-foot bronze statue of Mahatma Gandhi. (Another Gandhi statue now installed at Bangalore also comes from a Baroda studio.) There were newspaper reports that Mr Chaudhuri's Gandhi statue had been set up in Brazil. But the artist was never officially told about it. Like many others who have to deal with government departments, his experience does not seem to have been very happy. He has made no statues since then and hopes he will never have to make any. Mr P.R. Kamat, who made the statue of Sir Dinshaw Watcha opposite the Churchgate station in Bombay, once expressed similar sentiments to me. Artists are temperamental. Necessarily so. They wouldn't be artists otherwise. Business men and bureaucrats who have an occupational bias for smooth and non-resistant operation are incapable of giving artists a square deal.

On August 7 1963, the late Mr M. S. Kannamwar, then Chief Minister of Maharashtra, announced plans for building a colossal statue of Mahatma Gandhi perched atop a tower to be built in the sea off Marine Drive. The money for the project whose cost was of "the order of Rs 27 lakh" was to come from a fund collected by a committee of which Mr S.K. Patil was the president and Mr Y.B. Chavan, the chairman. There were some mild public protests. Mr D.G. Tendulkar published extracts from a letter written by Gandhiji when his attention was drawn to efforts being made to erect a clay or metallic statue costing only Rs 25,000. He called it a "waste of good money". He went on to say: "I should like the committee to desist from the unfortunate enterprise. Let them save what money they can. I shall deem it ample honour if those who belive in me will be good enough to promote the activities I stand for."

(Continued on Page 56)

Reporting Social Change

AN UNDERDEVELOPED AREA OF THE INDIAN PRESS

H. Y. SHARADA PRASAD

REPORTING of social change is one of the underdeveloped areas of our Press. A few months ago Mrs Indira Gandhi, the Minister of Information, said that economic and social development received less than a twentieth of newspaper space. The Press Institute of India, doing a quick check, found this charge to be true. The leading English newspapers of the country, the check showed, devote between 5 to 6 per cent of their editorial space to social and economic development. Non-English newspapers give even less.

The Press Institute had another study made recently of coverage of social change in four English and some language newspapers. The English newspapers studied were of two different two-week periods—August 1 to 15, and October 1-15. The number of items dealing with themes of welfare and development and the space taken up by them were measured. The results were:

	August 1-15, 1965		*October 1-15, 1965*	
	Items	*Col. inches*	*Items*	*Col. inches*
The Hindustan Times, New Delhi	18	149.5	8	72.0
Free Press Journal, Bombay	36	256.5	11	91.5
The Hindu, Madras	34	240.0	4	17.5
The Tribune, Ambala	25	140.5	5	21.5

The big fall in the second period as compared to the first is due to the fact that the national preoccupation in October was with Pakistan and defence. But, over a more normal whole month, the month of August, the details for two Bengali newspapers were:

	Items	*Col. inches*
Ananda Bazar Patrika	41	493.0
Jugantar	33	340.5

OBSESSION WITH POLITICS

The items counted included news reports, editorials, feature articles, and letters to the editor. The term "social change" itself was given a broad connotation. It included agriculture, community development, co-operation and rural industries. It included urban social problems, labour conditions and housing. It included public health and family planning. It included education. And it included those very Indian social problems such as caste, welfare of the Scheduled Castes and Tribes and the uplift of women.

What the Press Institute exercise means is that this vast area of activity comprised by agriculture, co-operatives, urban development, housing, health, education and social welfare is regarded by our newspapers as meriting roughly an entry a day and between 6 to 11 inches of space. The news items themselves are often government hand-outs or reports of Parliament proceedings or speeches—which means that barring editorials the newspapers do very little on their own to report social change. It means that what Mr Nehru used to call the wonderful adventure of building up a new India excites the Indian Press very little.

The chief reason for this is that politics is the obsession of the Indian Press. The pulls and pressures of politics, the sayings and doings of people in public life, kaleidoscope of group alignments, the conflict between profession and practice—these hold a fascination for newspapers. With the exception of sport, markets and literature, all else is regarded as an adjunct to politics. The concern of the Press for politics has probably helped the functioning of our democracy but this does not do enough justice to the fast-growing diversity of Indian society. While newspapers' direct involvement in politics was there even before the achievement of freedom, there is now very little of the old identification with social reform causes. With the disappearance of the campaigning editors the Press has ceased seriously to regard itself as an engine of social change. With improvement of pay and security newspapermen have become an elite class, and editors and news editors plan their papers more for this class than for the underprivileged. This of course is more true of English than of language papers, and more true of Delhi than of Bombay. But the cutting away from rural links has had its own effect on newspaper attitudes.

Increasing professionalisation of the Press, surprisingly, has not led to greater attention of the problems of the professions. The information in the Indian Press on engineers, doctors, or sociologists is confined mostly to reporting of their professional meetings and con-

ferences. Even there, the speech by the dignitary who delivers a general sermon is deemed more worthy of reporting than what an expert with a lifetime's devotion to a field has to say about it.

INVESTIGATIVE REPORTING

There is little investigative reporting. Probably because it is a seller's market for newspapers, our Press is content to forfeit its right to look around, find out, ask questions and write about happenings at first hand. In fact that reporter has yet to come into his own in Indian journalism. He is still regarded as belonging to a lower caste than the desk man. This accounts for much of the colourlessness and lack of warmth in our newspapers. In September we saw that even war was written about impersonally. On the last day of the fighting with Pakistan, there was a bombing of Amritsar, but the leading newspaper of the Punjab gave no human details of the ghastly event and devoted four paragraphs of the eight-para report to saying how shocked the Chief Minister of the State had been.

Right now there are at least three non-political themes which should interest the Delhi newspapers—rationing, food production in the region around Delhi, and the campaign to popularise an intra-uterine contraceptive device. Taking the third first. The Press still seems to regard family planning as a government programme and is very uninvolved in it. An occasional address is reported, but there is no discussion of it as between the newspaper and its own readers—as there is, for example, on the subject of corruption. A large number of women in Delhi are talking about the loop, but no newspaper has thought it worth to send reporters to doctors and to hospitals to find out the response to the campaign or to run regular features or doctors' columns on it. Of rationing there has been some reporting in the newspapers—but not enough when we remember that every home in a city of three million is affected. As for agriculture, Delhi citizens have been told little of the remarkable progress of the seed movement in the region around Delhi.

NEGLECT OF AGRICULTURE

Agriculture indeed is easily the most neglected area in Indian journalism. The Gandhian economist, Mr J.C. Kumarappa, is supposed to have told Mr Nehru when India achieved independence that the Prime Minister of a country like India should take up the portfolio of agriculture rather than foreign affairs. If the Indian Press gives to agriculture a quarter of the attention it does to foreign affairs, it would make a signal contribution to winning the food production battle.

If newspapers are not doing it, there are several reasons. Agriculture, first of all, is not considered an interesting subject. But the real reason is the urban bias of newspapers and newspapermen. In the first place, the proportion of urban sale to total sale of the larger newspapers is going up. And district newspapers lack the resources to undertake much reporting, for reporting involves travel and travel costs money. Then there is the fact that our newspapermen are mostly from the urban middle class, with literary rather than agricultural affiliations.

Among newspapers there are exceptions like *The Hindu*, which has always shown a special responsiveness to regional needs. Some newspapers have begun publishing weekly farming notes and letters. But what is required is not to treat this as a separate compartment but make it a part of the newspaper's legitimate daily work.

Where do we begin if we have to have better reporting of agriculture? Obviously we begin in the editor's room. He should send reporters out to move and talk and see, to be on their own for days on end, roughing it out in buses and jeeps and spending nights in huts with only kerosene lamps. B.G. Verghese has done it. Kusum Nair has done it. *Yojana* reporters have done it. One of our men spent three weeks in the district of Ahmednagar and wrote a report of 12,000 words on irrigation, co-operatives and rural industries. Ahmednagar is a great district for the co-operative movement and the *Yojana* report gave not only an idea of the tremendous work being done there but a clue to *why* this could happen in Ahmednagar. The whole question of how the change occurs and how it can be brought about—the theme of social engineering deserves more attention from the Press. And reporters who are ready to eat *jowar bhajri* or *sarson ka sag* sitting on charpoys, who can point out the part played by enterprising local leaders (like Vikhe Patil of Ahmednagar or Tribhuvandas Patel of Anand), and who can tell the story of institutions, will enlarge public understanding and also educate other newspapermen. I would again mention the work of B.G. Verghese and Mrs Kusum Nair to show how important is this process of education of fellow newspapermen. There are themes waiting for reporters—settlement of farmers along the Rajasthan Canal; utilisation of the waters of the Tungabhadra and the Chambal projects, agricultural use of electricity in Madras.

. . . AND OF URBAN PROBLEMS

I referred to urban bias. But even urban problems are badly neglected. When some years ago the Master Plan of Delhi was published, one newspaper did not report it on the front page at all and only *The Statesman* thought of organising a discussion. Calcutta, Bombay and Madras papers are somewhat better, but we have still to appreciapte that civic reporting is mofe than reporting of squabbles in municipal meetings.

In education, active reporting is even less. Student demonstrations, examination howlers and enrolment difficulties are reported of course, and educational schemes commented upon editorially. But of investigative reporting itself there is little. After Chanchal Sarkar's "Unquiet Campus" series six years ago there hasn't been any meaningful reporting on education.

I might be permitted to say a few words on Plan reporting in India. Reading the reports published in newspapers, specially of the State capitals, and listening to some of the questions asked at Press briefings in the Planning Commission, I often wonder whether our average newspapermen—I exclude specialists, editorial commentators and writers in the economics papers who write primarily for specialists—whether we ought not to keep ourselves better informed. The eagerness is all to find out a figure and put it in the headline and

bother little about the processes and facts that figures hide. The planners themselves are partly to blame—because of the emphasis on targetry. Publicity men of Government are to blame too. A special committee which looked into Government publicity on development has spoken about the need for publicity to bother itself more with ideas than with statistics.

CAPITAL VIEW OF THINGS

If our newspapers seek to record, reflect and influence social and economic change they cannot do it only through editorials. They cannot do it by publishing statistics-laden publicity material put out by Government. They cannot do it by sending a representative on a conducted tour. They can do it only by performing the newspaper's prime duty of collecting facts firsthand, by observing and reporting as objectively as possible. There is need for a general increase of information in India to sustain public discussion. We can claim to be a country where there is government by discussion, but we do not seem to be as keen on ensuring that the discussion is based on adequate data as on asserting our right to express our views. The Press has no obligation to be optimistic. But it has an obligation to inform. If this were done more systematically, the overpowering gloom of the capital view of things would be lessened. The worm's-eye view of India is more cheerful than the capital eye-view. One has to meet some of the dynamic young men who man our remote projects, shake hands with rock-drillers who had been driving a plough only two years before, to know that things are not as static as the pundits make them out to be.

BRING IN THE DONS

A structural weekness of the Press aggravates the problem. Between the daily newspapers in a hurry and the opinion periodicals with their predictable points of view, we do not have a strong intermediate tier which undertakes serious professional reporting and examination of the trends and movements in the country. There is need for such journals in English because English is still the currency which establishes a cultural common market in India. The Sunday magazine sections of the English newspapers do not have space for the task. If they are planned at all, they tend towards the literary. In the smaller newspapers the Sunday section "sub" has a problem filling space even with embassy features. It is for newspaper owners to examine whether there isn't scope in India for special Sunday journals that are different from *Blitz* and *The Illustrated Weekly*.

Things would improve if the newspapers established closer links with the universities. In Bombay, where I worked for ten years, I know how little communication there was between journalists and university men. Newspapers will benefit by attracting the writing don. The writing don would be as good a commentator on the social scene in India as he is in Europe or the United States. He would have the special knowledge that a newspaperman, however hard working, would lack in understanding complex issues, especially with our newspapers being so ill-equipped in library and reference facilities. The dons do even now contribute polemical articles to the editorial pages. But between these and the learned books, higher and higher priced these days, there is a function of public education that the university men can and ought to perform.

Two arguments might be advanced by newspapers against this plea for more reporting on social themes. One is money. The other is newsprint shortage. The Indian Press must still be spending only 11 per cent of its budget on the editorial department—as pointed out by the Press Commission twelve years ago. The newsprint shortage plea need not be taken seriously. It will be generally agreed that more imaginative subbing will release large areas for better use. And how many newspapers bother to organise reader research to find out what is read and what is not?

Paper read by the Editor of Yojana *at the Asian Seminar on Editorial Planning and Content organised by the Press Institute of India in Delhi*

NEHRU THE PLANNER *From Page 32*

It must offer opportunities for voluntary organisations and workers to fulfil a vital and increasing role in national development. It must endeavour to integrate various activities, agricultural, industrial, social and educational.

Planning and Defence

Nehru was fully aware of the fact that planning must also provide a base for our defence. According to him, defence consisted in the country being industrially prepared for producing the goods and equipment of defence. He was equally clear in his mind that however peaceful our policy, the Government should be prepared for facing emergencies. He observed: "The real strength of a country depends on the development of industrial growth which implies the capacity to make weapons of war for the army, navy and air force. You cannot have a factory producing tanks in the absence of other industrial development in the country." He therefore insisted that our immediate object should be, from the point of view of both economic development and defence, to build up industry, heavy industry in particular. There is no doubt, as has been amply proved during the recent Pakistani aggression, that the industrial development we have already achieved particularly in the sphere of basic and heavy industries, has stood us in good stead.

Such was the comprehensive vision and dream of Nehru the Planner. Through the industrial revolution which he ushered in, a vast transformation is taking place in our socio-economic order and the process will, in course of time, change the face of the whole country. India will also prove to be a bastion of democracy.

Collector's Item

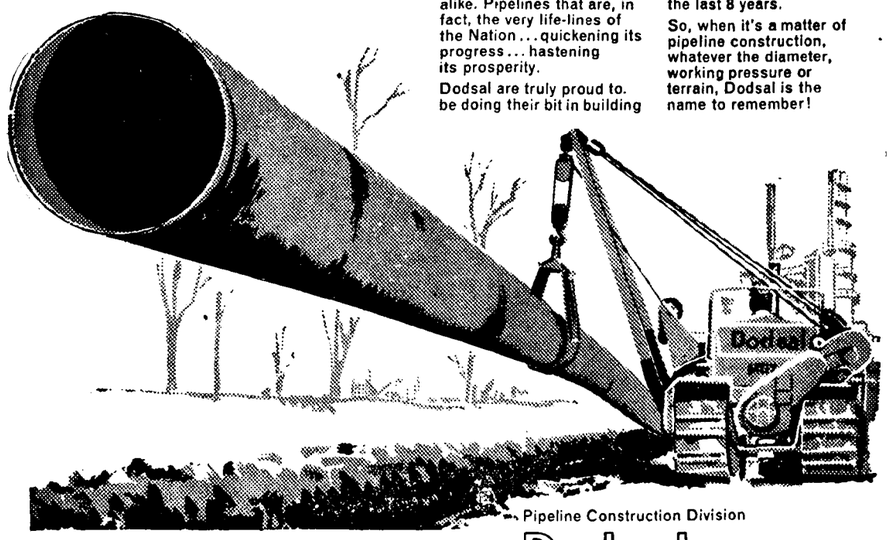
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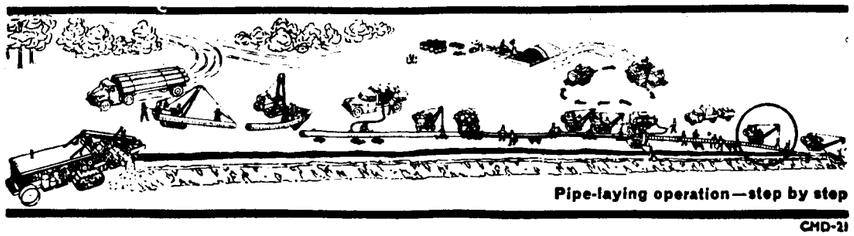
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Pipe-laying operation—step by step

CMD-21

States must realise their schemes are complementary, not competitive

REGIONAL PLANNING IN INDIA

"Development from Below" not Practicable with Present Administrative Divisions

L. S. BHAT

THERE is hardly any difference of opinion among planners and administrators on the need to incorporate the essential facets of regional development in the long-term national development plan. Yet there is much confusion and controversy on the nature of the region and the approach to regional planning and development.

While regional scientists are bewildered at the acceptance, without further question, of linguistic States as regions, there seems to be no alternative to the recognition of the State as an important 'area level' in the hierarchy of regions. This is because the sixteen federal States have considerable autonomy and powers to prepare and implement their plans within the framework of the national plan. While the State plans are expected to be prepared giving due consideration to regional potentials and problems of areas varying widely in land-form and land-use character, in actual practice very little is done in this direction.

The three-tier system of local government that came in existence during the Third Five Year Plan has introduced the village (Panchayat), the block (Panchayat Samiti) and the district (Zila Parishad) as important administrative units which are supposed to prepare an integrated plan for each district aggregating the plans from the village level. Here again the concept of 'planning from below' and the content of an area plan, whether of a village or a block or a district, have not been formulated beforehand. This is likely to result in the mechanical summation of all plans of different area dimensions without examining their special patterns and inter-relationship[1].

At the national level projects of national importance like the basic and heavy industries, interregional/inter-State transport network, and large irrigation and power projects have to be considered mainly on regional economic considerations and not on the basis of individual States. Special problems such as of decentralisation of industries so as to reduce the pace of their infilling in the already over-congested urban industrial complexes have also to be dovetailed in formulating a regional development policy. Likewise, large-scale rural unemployment or under-employment in areas of high density of population and the relatively less developed areas need special consideration at the national and regional levels. It is therefore essential to isolate the problems of planning on the basis of their local, regional and national importance and to devise measures for planning and implementation at the appropriate area levels.

There is ample literature on the techniques of regional analysis and principles of regional planning, and there are case studies to illustrate the scope and content of a regional/area development plan. The USSR and France provide two examples of planning which have accorded *regions* an important place in preparing development plans and coordinating them within the national plan. Theoretical studies have also shown that it is possible to employ more sophisticated quantitative techniques of regional analysis such as interregional, multisectoral programming models within which industrial complex analyses, interregional flow-studies and industrial location analyses are all complementary procedures of regional analysis. It must however be admitted that the theoretical studies have far outstripped the available data and therefore it is difficult to test their practical utility with the available data. This is particularly true of developing countries where the right type of data are scarce.

With reference to regional planning in India we are faced with two problems: first, there is a need to evolve a modified approach to regional planning suited to democratic way of planning in a federal system of government and, second, the collection and processing of data by appropriate authorities at different area levels have to be started forthwith to provide spatial dimension to the development model.

[1] One cannot fail to appreciate the utility of county maps prepared on large scale (6" : 1 mile, 2.5" : 1 mile, and 1": 1 mile) which accompany the development proposal of counties to the Ministry of Housing and Local Government, London. They include maps of present land-use, land availability and development proposals. Similar instances can be quoted from Germany, France and Puerto Rico.

Spatial dimensions of the national plan can be resolved into three main aspects, *regional approach* to planning at national level, planning at the *regional* level and the preparation of a *regional/area development plan* for smaller areas within those regions.

These three stages of the studies are interlinked and they might serve to provide a regional breakdown of national targets and aggregation from below. At present two important area levels which would have otherwise facilitated the preparation and implementation of regional development plans are lacking in the administrative framework. These are the *macro-economic regions* (larger than the size of the States to include parts or whole of different States on economic considerations) and *sub-regions within the States.*

Five zonal councils were constituted at the time of reorganisation of States in 1956. These zones comprising groups of States, unlike the sixteen States, do not have a role in planning. Macro-regional study of South India and some aspects of spatial patterns of development in India as a whole reveal the possibility of accepting the southern zone (of Mysore, Andhra Pradesh, Madras and Kerala), western zone (of Maharashtra and Gujarat) and the eastern zone (of Bihar, West Bengal, Orissa and Assam) as macro-economic regions. However, the central zone comprising Uttar Pradesh and Madhya Pradesh and the northern zone with Punjab, Rajasthan, Jammu and Kashmir, Himachal Pradesh and Delhi do not seem to be suitable as economic regions.

It is possible to define the role of these regional authorities on the basis of the three stages of work as suggested above. Macro-regional authorities in consultation with the national planning commission and the State planners could evolve a suitable regional locational policy for basic and heavy industries to facilitate regional specialisation in the types of economies for which its resource endowment is best suited. Macro-regional authorities should also prepare techno-economic surveys of resources of the region from time to time and suggest to the national planning commission the future pattern of inter-regional transport pattern, power supply and the location of major industries and irrigation projects etc.

Regional authorities for sub-regions of distinct land-form/land-use character or agricultural specialisation within the States should concentrate on preparing for each sub-region a general regional land-use plan in quantitative terms. Such a land-use plan should also indicate the integration of agricultural land-use with processing industries located in 'central places' of different order. The type of infrastructure which will stimulate development of the economic activities in an integrated manner should also be shown.

Studies in the Mysore State and South India comprising the States of Mysore, Madras, Kerala and Andhra Pradesh suggest clearly the need for sub-regional authorities within the States to evaluate the agricultural land-use potential based on the groups of *tahsils* or blocks lying within distinct land-form/land-use regions. For example in the Mysore State four or five regional authorities might be better suited to prepare integrated agricultural land-use plans than 20 districts wherein almost all districts are heterogeneous, containing within them groups of *tahsils* or blocks which are the parts of different land-form/land-use regions.[1] Obviously the structure of land-use and other economic data aggregated on the basis of districts conceal the regional realities. Norms of input and production could be more meaningful if they are worked out on the basis of regions rather than for every district or State.

A block or *tahsil* seems to be the best unit area for preparing a regional development plan which spells out the various components of the generalised regional land-use plan into its locations and 'actual' areas to be brought under different uses. Sub-regional authorities of different States should guide the preparation of such plans and also evolve suitable *regional norms* for preparing quantitative plans for different regions.

Role of Districts in Planning

In most parts of the country except in the Ganges plain the districts are too large and contain within them several blocks or *tahsils* which have different types of land-form/land-use characters. In such cases the concept of 'planning from below', integrating the plans of villages and blocks within the district plan seems to be impracticable. It is also true that the land-form/land-use regions within some States are too large and far from being compact. This necessitates the creation of planning districts comprising groupings of development blocks around important foci of regional economica ctivities.

In short the following framework of regions is suggested with a view to providing spatial dimension to the national development plan: the nation, macro-economic regions (comprising the groups of States wherein they have common problems and potential to develop as economic entities), States, sub-regions within the State (comprising groups of development blocks or planning districts), planning districts (groups of development blocks), development block and village. Where there are anomalies, as in the case of the Central and Northern zones, it is preferable to use the district as the unit area for delineating macro-economic regions.

The question of creating macro-regional authorities is dependent on the urgency realised by the national planners to evolve a general regional development policy within the strategy of the national plan. The creation of such authorities will help to impress upon the States that their plans are complementary and not competitive in deciding the future locational pattern of basic and heavy industries and other developments where regional economic considerations ought to be given due weightage. Likewise the creation of regional planning cells for different sub-regions within States can neither be avoided nor postponed if we are to prepare integrated land-use plans on the basis of which the spatial dimension of the State plan can be elucidated.

What appears as 'friction' between the Centre and the States in

(Continued on Cover iii)

[1] Bhat, L.S. (with Rao, V. L. S. P.) : *Planning Regions in the Mysore State : The Need for Readjustment of District Boundaries*, Indian Statistical Institute, 1960.

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A District in Pursuit of Self-Reliance

THE SANGLI RECORD

V. V. GOKHALE
Chief Executive Officer, Sangli Zilla Parishad

A jack-well under construction



Zilla Parishad Takes Up Hybrid Seed Production on Co-op Basis and a Rs 15 Lakh Well Programme

Rows upon rows of parent seeds planted on December 17, 1965, in fifteen acres of the Zilla Parishad farm near Sangli, heralded an agricultural revolution, the kind of which has not been witnessed before by farmers in the district.

These fifteen acres were the beginning of a large campaign to take up nearly 2,000 irrigated acres in this district in January 1966 for preparing hybrid seeds of maize, jowar and bajra. There is clamour among the farmers for hybrid seeds; they are prepared to pay any price—even sixteen rupees a kilogram—but only small quantities are available. So the Zilla Parishad has taken up a programme to grow its own seeds on a large acreage this year. This promises to be a crucial step in making Sangli district self-sufficient in foodgrains within the next two years.

Pakistani aggression and scarcity conditions have combined to create in Maharashtra the firm conviction that there is no more time to lose in the food battle. Indeed the Chief Minister of Maharashtra has held up before the State the objective of self-sufficiency in the matter of grain. Strengthened by the new pattern of democratic decentralisation in Maharashtra, the Zilla Parishads have taken up this challange.

THE SEEDS PROGRAMME

The Sangli Zilla Parishad's decision to take up co-operative production of hybrid seeds in at least 500 acres owes its origin to the visit of Prof. V.K.R.V. Rao, Member of the Planning Commission, in November when he put forth the idea. The Zilla Parishad accepted the challenge and has launched an ambitious programme of growing seed on 2,000 acres of irrigated land immediately (600 acres with maize, 750 acres with jowar and 650 acres with bajra) in collaboration with the local co-operative sugar factory. The district also hopes to have its own processing plant, costing nearly Rs. 2 lakh. It will go into operation in April 1966, and will grade, treat and pack the seeds at a fixed moisture content so that it may be certified by the National Seeds Corporation.

At the rate of at least 4 quintals of hybrid seed (jowar) obtained



A well built by the district construction co-operative being inspected by the Chief Minister of Maharashtra and others.

per acre, nearly 8,000 quintals would be available for distribution to the farmers in the next Kharif season. The seed growers are expected to fetch Rs 2,000 per acre in four months with an expenditure of Rs 600 to Rs 800. Even assuming a successful seed production programme in only 1,000 acres before May 1966, the multiplication ratio of 1 to 100 will enable the Zilla Parishad to bring one lakh acres in the district under hybrid jowar, maize or bajra in the next rainy season. This will cover one-tenth of the total ten lakh acres of jowar and bajra in the district. In addition there would be a second crop on at least 50,000 acres in the Rabi season.

It is possible therefore to step up the district food production by five lakh quintals, which at present is the food deficiency for the district.

The campaign will get substantial help from the rural electrification drive. There were fewer than 100 electrical pumping sets for irrigation in the entire district in 1961. The figure had risen to 800 by March 31, 1964. It will rise to 1,200 in the current year. The Electricity Board plans to cover all the villages of the district within the next two years. Meanwhile up to 2,000 oil engines will also have been installed this year in the district by individuals and the Zilla Parishad.

Fertiliser use will also be stepped up, with the prospects of more imports, and the going into production of the nitrophosphate factory at Bombay. Although consumption of all kinds of fertilisers in the district more than doubled during the last three years (from five tonnes to 11 tonnes), the present supplies can only meet one-third of the demand from the district.

Hybrid jowar or maize during Kharif gives a double advantage. Apart from at least 50 per cent higher yield, the crop is harvested in 100 days (for jowar) and this ensures early sowing of the second Rabi crop, perhaps in middle or late October and, therefore, ensures a better crop. The traditional jowar crop is prone to damage owing to long height, takes five and a half months, and is harvested in December. Many farmers do not like to take a second crop late in January after the traditional jowar.

EXTENSIVE WORKS PROGRAMME

"If you get a lemon, make a lemonade" said a successful man. The Zilla Parishad, struck by the rain scarcity problem, decided to make an all-out effort to take up a works programme exceeding Rs 15 lakh in cost constructing percolation tanks, *bandharas*, and wells, desilting of tanks and building market roads. Besides, a pilot programme of 80 community wells has also been taken up. These wells are specially planned for the poor small-holders. Another programme, the construction of small *budki* wells in the beds of *nallahs* and rivers, has also been taken up by the Zilla Parishad. It is expected to show results this year.

Since the Zilla Parishad in Maharashtra has its own Works Department with an executive engineer and requisite staff, it is easier to co-ordinate the activities under minor irrigation, agriculture and market roads.

To intensify the construction activities in the district further, the Zilla Parishad has on its own initiative promoted the Zilla Bandhkam Sahakari Society (district co-operative society for construction work) which is an independent district level organisation created jointly by the Zilla Parishad and the co-operative sugar factory. This provides the missing link of a reliable agency to take up construction works in areas where contractors are not available or are not reliable and also to strengthen the small labour co-operative societies, by giving them financial and technical support. Within four months of its inception it has taken on hand works costing Rs 5 lakh.

As a part of the Grow More Food Campaign, the Zilla Parishad has launched a "latrines for manures" campaign. To teach the people how to build scavengerless latrines, a workers' camp was organised in collaboration with the Gandhi Smarak Nidhi of Poona. Walwa, where the camp was held, constructed 76 latrines and two gas plants in a month. This will help to augment the supply of organic manure and also solve a problem of public health in the villages. Each latrine can give an income of at least fifty rupees a year by way of manure. The Zilla Parishad plans to construct 1,500 such latrines in the district next year.

Hybrid one-day-old chicks have also been given to more than 200 small farmers so as to popularise the deep litter system of poultry in the interior villages. More than 30,000 hybrid chicks were obtained from American-sponsored farms. Three piggeries have also been started in the district and there is a plan to build six more. Some have claimed that piggeries are more profitable than poultry, particularly since poultry feed is getting costlier. The temperate climate all the year round at Sangli, however, is considered specially suitable for poultry. American Peace Corps volunteers have a helping hand in the poultry extension work; and one of them was awarded an honorary degree of M.M.T.P.P. (Master of Miraj Taluka Peasants Poultries) by the Zilla Parishad !

Co-operative Revolution

Sangli is situated at a distance of 400 kilometres from Bombay City in Western Maharashtra. With its elevation of about 600 metres above mean sea-level, and only 50 to 75 centimeters of rain, the Sangli-Miraj area has a salubrious climate all the year round. What is more important, however, is the climate of developmental activity generated by local leadership, enthusiasm and initiative. The old princely State of Sangli had an enlightened and progressive ruler. In the last few years, dedicated leadership has generated a "co-operative revolution" in the district.

It all started with the co-operative sugar factory at Sangli which began in the year 1956 with an initial crushing capacity of 1,200 tonnes of sugarcane per day, a capital of Rs 1.5 crore, and a membership of more than 1,800 sugarcane growers in 76 villages. The licensed capacity of the factory has recently been increased to 2,600 tonnes a day, and the expansion work will be completed shortly.

The success of the co-operative sugar factory brought in a sort of chain-reaction. Other co-operative ventures came up in the district. Some of them are:

(1) A distillery for making alcohol from molasses, and a chemical plant for utilising fuel oil from the distillery.

(2) A co-operative solvent extraction plant with a capacity of 50 tonnes of groundnut oilcake per day. This would be fed by 30 co-operative oil mills, of which 15 have started functioning, assisted by the groundnut package programme.

(3) 61 co-operative lift irrigation societies with a total investment exceeding Rs 1 crore (without much help from Government) which have brought an additional 19,000 acres of land under irrigation, using jack wells and other modern contrivances.

(4) A hume-pipe factory costing Rs 4 lakh mainly for feeding the lift irrigation work. (Underground pipes for water obviate any necessity for land acquisition for channels and, therefore, ensure success of the scheme without disputes).

(5) A large co-operative poultry with 13,000 birds and a number of farmer-members each of whom will have 300 to 500 birds at his village.

(6) A co-operative industrial estate in over 130 acres of land which has been flourishing with 69 small-scale private industries.

(7) A district industrial co-operative society which manufactures bullock carts with gun-metal bearings, hydraulic lime, blankets, *nira* drink, and such miscellaneous items.

(8) A co-operative spinning mill which has just acquired land and will have 25,000 spindles when completed.

(9) The district construction works society mentioned earlier.

(10) A processing plant for hybrid seeds (grading, treating, drying and packing) is the latest brand of new agro-industry coming up in the district, in collaboration with the National Seeds Corporation.

The co-operative agro-industrial complex spread over the district will achieve its real glory when the proposed gigantic paper project using sugarcane bagasse and involving an investment of several crores of rupees will go into production in the next five years.

Meanwhile sugarcane bagasse is being used this year on an experimental scale as substitute fodder to solve the fodder scarcity problem. Mixed with urea and molasses, bagasse offers a cheap fodder substitute which costs only Rs 70 a tonne. More than 150 tonnes of it could be made per day in the crushing season in an average sugar factory. This will mean, however, that the bagasse now being burnt as fuel should be substituted by furnace oil.

Family Planning Drive

All efforts at increasing agricultural and industrial production would, however, be nullified if vigorous efforts were not made to ward off the population explosion. *The Sangli Zilla Parishad stood first last year in Maharashtra in the family planning campaign—with a record or more than 3,700 vasectomy sterlisations.* This year the Lippes' Loop has become popular, and the number of loop insertions and vasectomy operations had topped the 8,000 mark by the end of December 1965. The district hopes to achieve a figure of 9,000 to 10,000 by March 31 and stand first in Maharashtra.

In the two movements which will make a decisive mark on the future life of the district—the family planning campaign and the hybrid seed campaign, the Zilla Parishad is playing a predominant part. The Gram Sevak works hand in hand with the Sarpanch, and the Block Development Officers rub shoulders with the Sabhapatis of Panchayat Samitis, in a new escalation of effort to win freedom from hunger.

The present conditions of 30 per cent literacy, 80 per cent dependence on agriculture, a poor average yield of 230 kg. jowar per acre, and the population galloping at three babies every hour will soon become a thing of the past in the district.

Quotation Box—II

Now with the liquidation of the zamindari system, the ancient systems of science were bound to be wiped out unless the historians took note of them.
—*Mr B. Das, Governor of U.P., at the Indian History Congress*

T.T.K. came closest to being Mr Nehru's economic counterpart.
—*Mr H. Venkatasubbiah in "The Hindu"*

He said he had wasted 8,490 hours waiting for a bus to and from his office during the past 10 years.
—*From a report in "The Statesman" on the Delhi transport system*

Eighty per cent of Dahomey's budget is reported to go towards meeting the salary of civil servants.
—*From an editorial in "The Hindu"*

No one can accuse India or Indians of being noticeably 20th century. In many ways we take a special pride in rejecting much of it with a certain sense of righteousness. For instance the modern banquet has been accepted minus the wine; the table and chairs, but not the way of life; the coat but not the trousers.
—*Mrs Tara Ali Baig in "The Statesman"*

IMPORT SUBSTITUTION

(*Continued from page 6*)

gasoline is slightly less than one million tons per year.

The consumption of gasoline at this level may be restricted mainly by increasing excise duty.

(d) Restrict the consumption of kerosene. Most people have the feeling that in our country the bulk of kerosene is consumed by poor people for lighting. Unfortunately reliable data on the use of kerosene are still not available. Based on my limited study of the production of hurricane and primus stoves in the country, survey of five villages in Mehsana district, discussions with various people, data collected on the number of hours a medium type hurricane lamp will give light of medium intensity per kilogram of kerosene, and the number of hours a medium type primus stove will operate per kilogram of kerosene, I came to the conclusion that in the year 1964 out of a total consumption of kerosene of 2.6 million tons:

(i) a very small portion of kerosene, namely about 12 per cent of the total, was used for lighting;

(ii) a very large quantity, namely 58 per cent, was used for other domestic purposes; and

(iii) a balance of 30 per cent was used for all other miscellaneous uses—the bulk of this perhaps was used mixed with diesel and gasoline in some trucks and buses as kerosene is so much cheaper than either of these products.

In 1964 in addition to domestic production we imported kerosene valued at Rs 14 crore.

It is suggested that in order to restrict the use of kerosene and avoid its misuse, the excise duty on kerosene may be made equal to that on high speed diesel.

(e) Discourage the use of fuel oil where coal can be used: It is obvious that as long as we have to import crude oil and fuel oil it is desirable and essential to discourage the use of fuel oil where indigenous coal can be used. The recent increase in excise on fuel oil of Rs 40 per ton will go a long way to discouraging the use of fuel oil. If the desired results are not achieved then perhaps the excise duty may still further be increased by another Rs 40 per ton. This would mean that the present selling price of fuel oil in Bombay will go up from Rs 180 to Rs 220 per ton. Further increase in excise on fuel oil will perhaps do more good than harm.

5. Replace Part of Imported Sulphur with Indigenous Pyrites : The demand for sulphur has been increasing rather rapidly as we progress industrially. With the present-day price the import on sulphur by 1970-71 may amount to Rs 18 crore or even more should the price of sulphur go up.

Luckily for us a few years ago we have discovered fairly extensive deposits of workable pyrites in Amjore area. A public sector company, Pyrites and Chemicals Development Company, has been incorporated to mine and use this iron pyrites. Unfortunately the progress made so far appears to be very slow. It is suggested that all necessary steps may be taken promptly so that by 1970-71 at least one million tons of indigenous pyrites would be mined and used. This will reduce the bill on imported sulphur by about Rs 6 to 7 crore.

If these measures are taken promptly then we shall be able to reduce our import bill considerably and to a great extent replace imports with indigenous production.

CONSTRUCTION ECONOMIES

from Page 36

designs and building components. Walls, windows, doors, etc., could be standardised for speedy industrialisation and execution of large housing programmes by mechanical construction processes as is done in France, Sweden, Denmark and Russia.

I have tried above to give some idea how economy in construction costs could be effected. We shall be spending about Rs 10,000 crore on building and civil and structural engineering works under the Fourth Five Year Plan. If by joint efforts some of these proposals could be put through, a saving of 5 to 6 per cent might be easily realised—which would mean about Rs 500 crore. A beginning has to be made one day, and today when austerity is the biggest need, is the right time to take action. But before doing so, it would be necessary to remove certain wrong assumptions regarding public and private organisations of builders. Both are doing a service to the best of their ability.

The belief that large private builders are exorbitant is fallacious. I believe they are the cheapest, in spite of the profit motive behind their undertakings. The reports of the Parliamentary Estimates Committees on the working of the National Buildings Construction Corporation, the National Projects Construction Corporation and the Bharat Sevak Samaj have proved it.

Owing to inequitous contract conditions, delay in taking decisions, uncertainty about timely supply of designs and drawings, deviations without consultations and arbitrary powers with the administrators of contracts for stoppage of works, a builder has to make provision for unforeseen liabilities. Except a few who can avail themselves of modern banking facilities, most of the builders have to pay heavy interest charges to private *shroffs*. Yet the private agencies on objective consideration will be found more economical than other agencies. This could be realised from the fact that the National Buildings Construction Corporation, apart from other difficulties, had not been able to collect bills to the tune of Rs 77 lakh from the owners. An ordinary builder in the circumstances would collapse under the burden of interest charges. What I wish to emphasise is that we should not go by dogmas but make the best use of all the services available.

Increase of 6,845 per cent in Trichur and 4,900 per cent in Gauhati

STEEP RISE IN VALUES OF URBAN LAND

Survey Shows Speculation and Scarcity are Main Causes

K. A. RAMASUBRAMANIAM

Director, Town and Country Planning Organisation

WHILE it is common knowledge that value of land in and around our cities and towns is increasing at a very fast rate, the extent of this increase is not precisely known. For various reasons it is extremely difficult, if not impossible, to have an access to correct data on land values. However, an attempt was made by the Town and Country Planning Organisation to collect, in respect of certain selected cities, data as much reliable as possible. The cities selected were those for which working class consumer price indices are maintained and published by the Ministry of Labour and Employment. The information on land values was sought for the period 1950-1965. It pertained to three distinct categories of urban land, namely, (1) central or functionally important areas, (2) undeveloped areas within the municipal limits, and (3) surrounding areas outside the municipal limits. Usable data could be collected for 14 cities* (working class consumer price indices are available for 9 cities).

Analysis of the available data (Table 1) brings into bold relief the existing high levels of land values in these cities and towns. In the central or functionally important areas the existing minimum price of land ranges from about Rs 20 per square yard in Ujjain, Kota, Cuttack and Gauhati to about Rs 225 per square yard in Calcutta. The maximum current prices are as high as Rs 207 in Trichur and only a little less in Nagpur, Hyderabad and Gauhati. In Kota and Bikaner the maximum price is Rs 100 per sq. yd. In the central areas of Calcutta the price of land in some localities is reported to be as high as Rs 1250 per sq. yd. Even in undeveloped areas within municipal limits the maximum prices range from Rs 20 per sq. yd. or a little less in Hyderabad, Kota, Ujjain and Cuttack to Rs 125 in Calcutta. In the surrounding areas in the urban periphery the price of land is still generally very low except in Calcutta and Trichur where the prices are exceptionally high—from Rs 25 to Rs 100 in Calcutta and Rs 20 per sq. yd. in Trichur.

As regards changes in the trends of land values (Table No. 2), within the central or functionally important areas minimum increase in prices of land during the last 15 years, 1950-65, ranged from 100 per cent in three of the fourteen cities to 2355 per cent in Kota. The maximum increase during the same period ranged from 100 per cent in Calcutta and Patna to 6845 per cent in Trichur and 4344 per cent in Kota.

In the undeveloped areas within municipal limits even the minimum increase in land prices varied between 28 per cent in Nagpur and 1100

TABLE 1

LAND PRICES IN SELECTED CITIES IN 1965

(*Rs. per sq. yd.*)

City	*Central or functionally important areas*		*Undeveloped areas within municipal limits*		*Surrounding areas outside municipal limits*	
	Minimum	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Maximum*
Calcutta	225	1250	25	112.5	25	100
Kanpur	25	150	—	1	—	0.6
Nagpur	144	198	1	33.3	0.1	1.0
Sholapur	90	135	1	2	0.4	0.5
Patna	—	75	—	11.3	—	7.5
Indore	—	NA	—	NA	—	NA
Gauhati	14.5	187.5	8.0	25.4	—	3.9
Ujjain	20	25	12	18	—	6
Bikaner	—	100	—	10	—	NA
Kota	18	100	4.5	18	—	NA
Hyderabad	100	200	12	20	—	4
Trichur	—	207	—	25	—	20
Cuttack	22.2	42.4	5.2	15.5	3.6	15.5
Ludhiana	—	150	—	10	—	2

* 1. Calcutta, 2 Kanpur, 3 Nagpur, 4 Sholapur, 5 Gauhati, 6 Patna, 7 Indore 8 Ujjain, 9 Bikaner, 10 Kota, 11 Hyderabad, 12 Trichur, 13 Cuttack, 14 Ludhiana.

per cent in Hyderabad during 1950-65. In Gauhati and Sholapur the extent of this increase was over eight times during the same period. The maximum increase in this category ranged from 61 per cent in Kanpur to 4,900 per cent in Gauhati. Corresponding figures were 700, 900, 1100 and 1779 per cent in Kota, Calcutta, Cuttack and Trichur, respectively.

In the third category, the outlying areas, land prices increased from two times in Ujjain to 20 times in Trichur. In the case of Calcutta even the minimum increase in this category of land was more than six-times, the maximum being 14 times.

Within the last five years 1960-65, the minimum increase, except in the case of Calcutta and Kanpur where no change has been reported, ranged from 3 per cent in Gauhati to 150 per cent in Hyderabad and the maximum from 20 per cent in Calcutta to 400 per cent in Hyderabad and Kota in the central or functionally important areas. Trichur registered an exceptionally high increase of 1061 per cent. In undeveloped areas within municipal limits the increase, except in Kanpur, varied from 4 per cent in Gauhati to 399 per cent in Trichur. For Kota and Hyderabad the corresponding figure was 300 per cent. As regards the surrounding areas outside municipal limits, the maximum increase was over 320 per cent in Patna and Trichur.

Consumer Prices

It may be mentioned that during 1950 and 1963-64 the working class consumer price index number, with 1950-51 as base, increased in the nine cities (Gauhati, Kanpur, Calcutta, Nagpur, Sholapur, Hyderabad, Cuttack, Trichur and Ludhiana) up to a maximum of 45 per cent. In all these places there was a continuous upward trend in land prices during the entire 15-year period whereas consumer price indices had, in all of them excepting Trichur, actually declined in 1955-56. In the case of Trichur, consumer price index showed an increase of only 43 per cent in 1963-64 over 1950-51 as compared to an increase of 3570 per cent in land values.

All these data show that *the increase in land values in and around the urban areas bears absolutely no relationship to the general price level or cost of living*. Surprisingly enough, undeveloped areas within minicipal limits, rather than the central areas have, in a large number of cases, registered the highest increase in land prices. To some extent this may be due to relatively low land prices there in the base year 1950, but in a large measure speculative activity seems to be responsible for this. In the central or functionally important areas either there is not much land to speculate on or land values have been too high for the past several years to permit much price increase or speculation.

For the phenomenal increase in the price of land in and around the urban areas, the most important reason is speculation. The scarcity of land in relation to the demand, especially, in the face of rapid urbanisation, has created a sellers' market in land. Since land sales are very profitable there is a scramble for purchase of land with the sole intention of its resale after some time. Another reason for the sky-rocketing of land values is a very high leval of rents of residential, commercial and industrial premises. As the returns from properties by way of rentals are handsome, the demand for buildable land even at exorbitant prices is quite large. Big hoards of unaccounted money being invested in real estate give an edge to the speculative activity.

TABLE 2

PERCENTAGE INCREASE IN LAND VALUES DURING 1960-65

City	Central or functionally important areas		Undeveloped areas within municipal limits		Surrounding areas outside municipal limits	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Calcutta	0	100	300	900	567	1300
Kanpur	100	400	—	61	—	51
Nagpur	—	220	28	80	—	NA
Sholapur	200	594	—	400	—	733
Patna	—	100	—	543	—	900
Indore	—	NA	—	NA	—	NA
Gauhati	200	1804	733	4900	—	319
Ujjain	100	150	140	260	—	100
Bikaner	—	150	—	300	—	NA
Kota	2355	4344	310	700	—	NA
Hyderabad	733	1567	1100	1900	—	300
Trichur	—	6844	—	1779	2088	—
Cuttack	330	700	400	1100	600	1400
Ludhiana*	—	254	—	174	—	1233

*Percentage figures for first category relate to increase in values in 1965 over average of 1955-60 period while for the remaining two categories percentages are for increase in 1965 over average of 1950-55.

STATUES *from Page 44*

That is a vain hope. The particular Bombay project has not begun yet, probably because of the continuing Emergency. But 1969, the Gandhi centenary year, is coming round. There does not seem to be any means of saving Bapu from the blind adoration, the hypocrisy, the vulgarity and meanness of his self-appointed worshippers. A rash of bad statues will futher disfigure our ugly streets.

The Mahatma, true to his philosophy, never gave a sitting to any painter or sculptor. The more sophisticated Nehru gave many. The results are of varying artistic value. The most famous is the bust by Jacob Epstein. But Epstein's Nehru is certainly not his most representative or a challenging specimen of his often baffling pieces of sculpture. Nehru too is destined to have many more statues. There is no cure for this craze. I can only fearfully hope some of them at least will be worthy of his greatness.

Artistic excellence cannot be bought or arranged for. But we can at least ensure that the statues of those for whom we wish to demonstrate our respect are not built amidst squalor and ugliness. They should not be sited in the middle of the din of the market place, or along roads where unfeeling traffic roars by. Otherwise they only serve as perches for crows, or gather dust and bird droppings. Their pedestals serve the needs of itinerant hawkers or homeless vagrants. We need not offer such insult to our great men.

The Psychology of Self-Reliance

WE SEE ALL AROUND US AMONGST OUR YOUTH AND ADULTS TRACES OF A DEPENDENCY PATTERN WHICH THWARTS THE ATTAINMENT OF SELF-SUFFICIENCY

Y. B. DAMLE, *Deccan College, Poona*

It is customary to analyse the problem of self-sufficiency mainly from the economic or political point of view. However, if one has to think of the whole range of the problem not from the point of view of expediency but as a matter of continuous social action, one has to think necessarily in terms of personality, culture and social structure. The problem of self-sufficiency has assumed a very acute form particularly since the advent of the recent war with Pakistan. Due to various reasons—political, diplomatic, economic, etc.—it has become increasingly acute so much so that not a day passes when the problem and its solution are not emphasised by our leaders.

Apart from the economics and politics of self-sufficiency, it has much deeper implications for the entire social system in India, meaning thereby all those who constitute the Indian social system. Analytically, self-sufficiency has to be tackled in terms of a goal, policy and relevant action, emphasising the adaptive aspect of the functional prerequisites. Last but not the least, the entire pattern of communication which would convey the message with a measure of earnestness and urgency, not to mention efficiency.

One has to think in terms of the various dimensions of the problem, viz., the national level, the state level, region, sub-region, cities and towns, villages and family. There is absolutely no denying that at the national level highest efforts should be made to attain a degree of self-sufficiency, consistent with our sovereignty, self-respect, and the minimum amount of power so as to thwart any foreign domination and aggression, even in disguise. It would, however, be a little foolhardy to insist on self-sufficiency in respect of the various States in India. The main reason for not doing so would be to recognise the simple fact that the various States have developed in a differential manner due to various factors, for example, some States have specialised in building up heavy industries, while others have specialised in agricultural production. In fact, it would be fatal to insist on State self-sufficiency, which would really impair the efficiency of the States. In this context a mention must be made of the present food-zones. It is likewise not possible for every region or sub-region or towns and cities, villages and families, to attain self-sufficiency. Nor would it be desirable.

Interdependence and Dependency Pattern

It cannot be gainsaid that any modern society reflects a great measure of economic interdependence. The entire merit of division of labour lies in such interdependence which puts premium on specialisation, exchange, distribution and efficiency. All the same, it must be remembered that economic interdependence should in no way be confused with dependency pattern. Economic interdependence signifies relationships of mutuality. On the other hand, dependency pattern characteristically signifies a one-way sort of relationship between the recipient and the giver. The recipients have nothing or very little to give back to those from whom they receive things. This sort of relationship is inevitably conducive to dependence on others which is bound to be exploited by the giver countries. In fact the entire crisis of self-sufficiency with which India is faced today largely stems from this situation. The dependency pattern is deeply rooted in our social structure, which will be exemplified while discussing the personality development in India. Due to the dependency pattern the recipients more or less abdicate any responsibility towards being on their own in any way. This naturally queers the pitch for successfully attaining programmes of self-sufficiency.

World View of a People

The world view of a people has very important implications for self-sufficiency. In India, the basic attitude towards nature and the universe has been primarily one of co-existence and not that of conquest. One has to reckon with the forces of nature and come to terms with it, which is a basic attitude prevalent in India since time immemorial. On the other hand, in occidental

society there is a basic desire and an effort to conquer and subjugate nature so as to manipulate it to the best advantage of human beings. This characterises adaptive focus as against the focus of adjustment emphasised in India. Moreover, the attitude of reverence for nature as is prevalent in India militates against rational manipulation of the forces of nature by and large. The means-end scheme which characterises rational approach and attitudes cannot thrive in the circumstances where nature is revered.

Activist orientation towards life and reality rather than a passivist orientation is extremely necessary to exploit the forces of nature to the best advantage of human beings. It is not merely enough to have practical skills in matters of day-to-day living, but what is more important is the frame of mind which would sustain a continuous inquiry into the forces pertaining to both nature and society, which need to be harnessed, modified, manipulated, changed, etc., for the benefit of human beings.

Personality Development

Many a study has been made by foreign scholars such as Moriss Carstairs, Edward Shils, etc., about the personality development in India. Edward Shils has made a rather provocative study of Indian intellectuals, while the other author has made a study of the personality development of the Indian people in general. One of the major findings of these studies has been that due to the peculiar pattern of upbringing and authoritarian family relationships, the Indian youths find it very difficult to become autonomous so as to be on their own. Whatever might be the historical or social structural factors responsible for this type of personality development there is no gainsaying the fact that amongst the Indian youths and adults one sees everywhere distinct traces of dependency pattern which definitely thwarts autonomy formation and attainment of self-sufficiency.

Structural Features of Indian Society

Family, kin, caste, age grades, polity, economy, etc., put a premium on dependency pattern. The family in India is characteristically authoritarian, which gives very little scope for autonomy formation. There is too much dependency on the elders, coupled with a great deal of imposition by the elders on the youngsters. The involvement with the kin-group also militates against autonomy formation because any decision taken by an individual is largely the decision of the kin-group. The system of age grades obviously militates against autonomy formation and attainment of self-sufficiency by putting a damper on freedom, initiative, individuality, etc.

The caste system is an all-pervading feature of the social structure in India so that it has ramifications for the entire action, interaction, behaviour, relationships, etc., of the people in India. The ascriptive basis of the caste system completely thwarts the process of autonomy formation and self-sufficiency.

The attitude towards the State and the polity in India has been one of the relationship between a benevolent patriarch and his subjects. The people look up to the State for all their needs, difficulties and problems, without making any efforts to solve even some of these on their own. There is no denying that the State has very wide powers in respect of providing economic opportunities for the development of the various units in India, which also puts a premium on perpetuating the attitude of dependency towards the State on the part of the people. Moreover, the nature of the economy which puts a premium on dependence also perpetuates this attitude and relationship of dependency.

Perquisites of Self-Sufficiency

In the first place there should be a commitment on the part of all the people to be self-reliant. It is not merely enough for the elites and the leaders to have commitments towards the programme of self-sufficiency and self-reliance. Moreover, in many cases it is experienced that the leaders and elites who proclaim from the house-tops about the urgency of self-reliance and self-sufficiency are themselves found to enjoy all the perquisites of life which are essentially produced in foreign countries.

It is a commonplace observation that foreign goods are monopolised by the high and the mighty. In fact the use of foreign-made articles has become a symbol of prestige, status and power in India. In this context mention must be made of the undue reliance on foreign experts. Local talents should be given due recognition. Innovation should be encouraged. Deferred gratification rather than immediate gratification should be emphasised. Thus immediate consumption should be forgone in favour of future prosperity.

It is equally necessary to ensure equity and social justice in this respect. Activist orientation towards life and reality must be stressed so as to emphasise adaptive primacy. Greatest amount of encouragement should be given to the people for problem-solving. Group processes should be encouraged as against the purely individual efforts in this respect. Voluntary groups for task-solving can further interdependence without impairing initiative.

Individuation should be encouraged which would unleash initiative and drive for mastering the situation from time to time. There should be freedom from the structural constraints mentioned above. Likewise, there should be a continuous and meaningful communication between the leaders and the elite and the people at large. This communication should not be a one-way process but the feed-back mechanism should be built into the process. It is extremely necessary to bear in mind that self-sufficiency is not an end product, but an ongoing process which would guarantee a nation's sovereignty and self-respect.

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Rich and Poor Alike Support Schools

(*Continued from Page 16*)

"We used to tell the donor well in advance," said Mr Sundaravadivelu, "that, however large his gift may be, he would have no right to deal with the teachers in matters of discipline, promotions or administration. You see, if somebody has made a big gift and his child happens to be poor in studies, he may, perhaps, have a tendency to use his gift as a lever to secure promotion for his son or save the child from punishment for his mischief. Such things were ruled out from the very beginning."

Mr Sundaravadivelu then referred to an indirect benefit from the project:

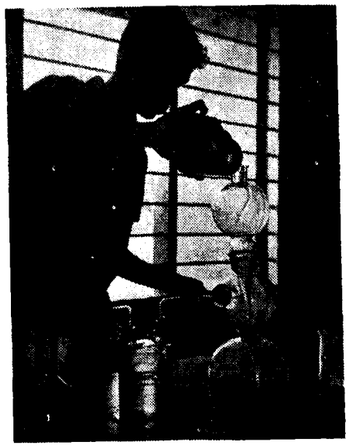
"There are many single-teacher elementary schools in the State, you know. But many of them used to exist only on paper. The teacher had no responsibility to anyone and very often would be away from the school attending to his own business. And if anybody asked him, he would retort: who are you? But after the inception of the School Improvement Project the number of such nominal schools has been considerably reduced. When the teacher takes part in the school improvement programme, he cannot any longer afford to be negligent because the people will keep an eye on him.

"Then another thing. The liaison established between the school and the people considerably raises the status of the school in the social activity of the area. It is heartening to see the friendly rivalry between people of adjoining areas."

"What is your most memorable experience in this movement?" I asked.

"When the late Dr Rajendra Prasad came here to inaugurate the Vellore School Improvement Conference, which has been the biggest so far, he told me: 'Mahatmaji and I wanted the entire rural people to be involved in a self-help programme for their uplift. Now Madras has done it in the educational field.' Those words of the President ring in my ears."

This movement for community self-help aims at filling the gaps in a school's equipment. It has a wide range of schemes. Among them are construction of school buildings, teachers' quarters and latrines; electrification of school buildings; repairs and white-washing; supply of furniture and first aid kits; equipping of laboratories and libraries; securing land for playgrounds; maintenance of gardens; and the supply of midday meals, books and uniforms to poor children.



A student of the tenth standard of the Bhaktavatsalam Shashtiabdapoorti Memorial school, Athur, preparing hydrogen, using donated Kipp's apparatus.

Out of 60,703 such schemes costing about Rs 10 crore, schemes to the extent of more than Rs 7 crore have so far been completed.

Some of this money has come from rich men. More often it is the poor that have given. Muthu Ambalam of Poonjuthi village gave away one acre of his entire possession of 1.84 acres. Selvan Ammal of Nazareth donated a gold chain towards building teachers' quarters while her own daughter, a teacher in another district, had no house to live in. Manicka Gounder of Kalathampattu in South Arcot, who chooses to go without a shirt, gave Rs 2,000 for a school building. Gopal Naicker, a farm labourer of Virudhunagar, contributed his entire annual wages for a school almirah. Murugan, a very poor peasant belonging to a scheduled caste, parted with six coconut seedlings to a school. Val Naicker, peon of the Baslagundu elementary school, donated to his school 35 cents of his meagre holding.

Village of only 587 Has a High School

A remarkable example of what the scheme has achieved is provided by the village of Keeranallur.

The village is 40 kilometres from Madras on the way to Kancheepuram. Its people opened a high school last year financed out of door-to-door collections. There is no landlord among the donors, and no capitalist who, by a mere stroke of his pen, can gift away thousands of rupees for raising a high school.

The person responsible for the school is 38-year-old M. Ezhimala Pillai, president of the school committee. He did not seem to me to be a human dynamo that he has proved to be. I wondered how this lean farmer, who earns only Rs 100 a month, could raise Rs 8,000 in a mere two months—the amount to be deposited with the Government for getting sanction for a high school. The buildings for the school were also built from public donations, with 50 per cent being contributed by the Panchayat Union.

To my question how a village of 587 population, among whom there were only three people with more than 50 acres land, could raise the funds required for a high school, Mr Ezhimala Pillai replied, "We in this village wanted our children to be able to study at least up to the high school within the village. So every household in the village donated Rs 10 per acre of dry land and Rs 15 per acre of wet land. Not only that. They gave us furniture, sports goods, gardening implements, and books, worth more than Rs 700 in a school improvement conference."

"How many children from the village are studying in the school?" I asked.

"Every child of this village is going to school, and children belonging to seven neighbouring villages come to our school."

What had made him take the lead in organising the high school?

"My only wish is that not even one child in the village should be denied learning. We were poor when we were young. We could not go in for study. I am happy that our children have a better opportunity."

Later when I met Mr V.J. Titus, the present Director of Secondary Education, he said: "We couldn't but sanction the high school. We had no right to let their enthusiasm sag. Even if the high schools don't come up properly, it doesn't matter; we must take the risk."

If this village mobilised the entire population for a high school, another village built it from the munificence of a few rich men. A modern building with large airy class-rooms has been raised in Athur, six kilometres from Chingleput, in memory of the *shashtiabdapoorti* of Mr M. Bhaktavatsalam, the Chief Minister of the State. The school has a boarding house attached to it. It organised a science improvement conference last April. Several pieces of scientific equipment like balances, Kipp's apparatus, microscopes and magnets were donated by the people of the area. When I visited the school, I saw students of the tenth standard handling equipment that I had not been allowed to touch when I was a student twenty years ago.

In Little Kancheepuram, a former toddy contractor realised that giving a building for a school for educating children was a hundred times more meritorious than letting them out to shopkeepers. Mr Parasurama Giramaniyar, 70, showed me the gift deed by which he donated in 1960 a building to house an elementary school. It was worth Rs 20,000.

Then there was Mr C.M. Kuppuswami Mudaliar, a retired postmaster in Kancheepuram, who thought that half an acre of his land would help his neighbouring school extend its building. Thus C.M. Subbaraya Mudaliar Higher Elementary School secured not only the half acre worth Rs 20,000 but also several other items like paddy lands, houses, furniture, wall-clock, vessels for cooking midday meals and so on, altogether worth more than Rs 75,000 in a school improvement conference.

The Tyagi Senior Basic School, Kancheepuram, got donations of Rs 9,000 at a conference, out of which it dug a well, built a latrine, bought furniture and had the building painted.

I really felt envious when I saw a teacher explaining in Tamil to the boys and girls of the eighth class in the Sree Rangaiah Naidu Higher Elementary School, Ayyanavaram, the various parts of a human body with the help of a life-size anatomy model made in plaster. How many schools twenty years ago had the privilege of having such a model?

This 60-year old school got this model worth Rs 300 as a gift along with various other teaching aids such as charts, diagrams, maps and chemistry and physics equipment, at a school improvement conference held in April 1965.

MEALS FOR 17 LAKH CHILDREN

Madras has not only a movement for better schools but also a well-organised humanitarian programme of free midday meals and free uniforms to poor children. As with the School Improvement Project, Mr Sundaravadivelu was the prime mover of the Free Midday Meals Scheme also. In this too a little incident became the springboard of a big movement.

The incident took place ten years ago at a high school in Perintalmanna in Malabar when that area used to be part of Madras. Two boys swooned, one after the other, at a meeting held in the school over which Mr Sundaravadivelu was presiding. On enquiry he found that the two students hadn't eaten anything that day. They were too poor. The teachers themselves had not been surprised. Boys coming to school on an empty stomach, or fainting from hunger, was an everyday occurrence.

Mr Sundaravadivelu mentioned this in a big gathering of elementary school teachers in Tuticorin. He asked the question whether a starving child could absorb all that was taught. Wouldn't it be good if schools could organise free midday meals to poor children with the help of non-official agencies?

It so happened that the Tirunelveli District Board President tape-recorded this speech. He played it back at a meeting in Nagalapuram village in Kolipatti taluk. The village leaders thereupon made a survey of the poor children in the schools and collected a specified quantity of food-grains from every cultivator.

Mr Sundaravadivelu was heartened by the response to his appeal and he and his officers began organising in 1956 midday meal centres in towns and villages.

Today 17 lakh poor children in 28,237 schools in the State are being fed under this scheme.

In this again, as in the School Improvement Project, there are various methods of contribution. Landlords, workers, rich children and mothers have donated their mite. For instance in the elementary school at Avinashi, each school child who can afford it brings every morning a matchbox-ful of rice. In many villages, the mothers at home put aside a handful of rice when they cook, which they later give to the midday meal fund.

Like the methods of contribution, the methods of organisation also vary. But everywhere the people take the lead and man committees, and officials remain in the background.

In the Annapoorani Upper Primary School, one man's single-minded devotion feeds 150 children. A committee chooses the children who need this help. And Mr B. Ratnasabapathy Mudaliar, the 70-year-old "correspondent" of the school, spends the whole day in the school and with great affection supervises the supply of lunch which consists of *sambar* and rice or curd and rice. It was a delight to watch the teachers, all of them wearing blue saris and white blouses, serving food to children who were seated in rows. Each child had a shining aluminium plate.

"The women teachers feel happy in serving food to the children because it also satisfies their moth rly instincts, you know," said Mr Isaac Albert, the District Educational Officer (Madras South), who was with me in the school.

The Kancheepuram municipal area has a centralised scheme for these meals. One thousand two hundred children in 30 different schools are fed every day—and this has been made possible by Mr A.K. Thangavel Mudaliar, the Municipal Chairman. What Mr Mudaliar did was simple, although very unusual. He divided all his properties into three parts, one for himself, the second for his brother, and the third for the midday meals scheme. He has donated 12 acres of paddy land, 25 acres of dry land and two houses to the cause of education and midday meals.

The midday meal centre is located in a spacious place. The storehouse, the kitchen and rooms for milling, pounding etc. have been provided by Mr Mudaliar. When I went there, two workers were cleaning the aluminium tiffin boxes and two others were filling them with *sambar* and rice.

As the 1,200 boxes were loaded on four bullock-carts and they began moving to their destination, I saw Mr Mudaliar watching it with an air of supreme satisfaction.

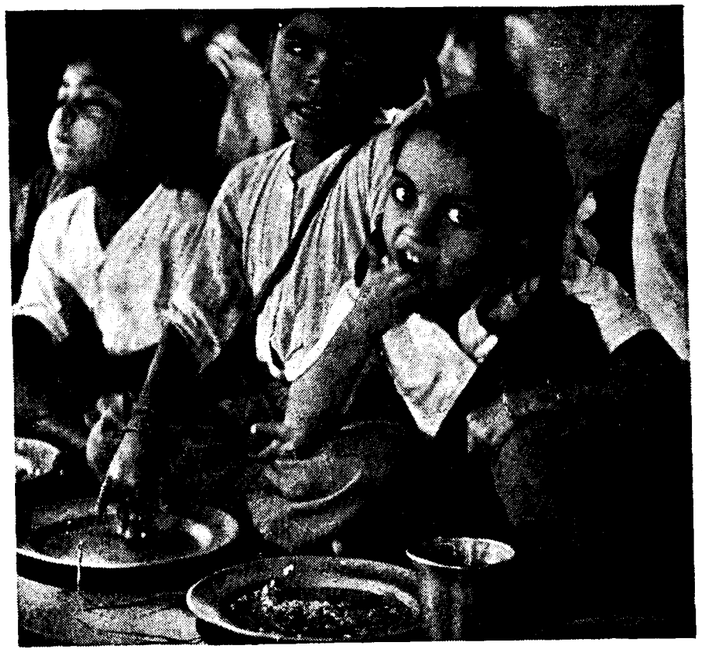
The Madras Corporation has its own midday meals scheme, started as long ago as 1929. Under this scheme 12,000 children in the Corporation schools get food.

The cooking is done centrally. It is quite an experience to see the mechanised cooking of *sambar-rice* at the Gopalapuram centre. In two vats made of gun-metal, 114 kilos of rice are cooked. Steam is fed to the vats from a boiler. The whole process takes 15 to 18 minutes. The vats are tilted to pour the cooked rice into a tank inlaid with stainless steel sheets. A mixture of *sambar* powder is fed into the tank and mixed with the rice. More than 1,000 kilos of rice are cooked every day, starting from 2 a.m., filled into tiffin boxes and sent to schools in six vans.

Like the School Improvement Project, the Madras Midday Meals Scheme has also brought about a silent social transformation. Mr Sundaravadivelu told me, "When the scheme was launched in my village, 25 of the 40 poor children refused to sit with the 15 Harijan children and eat. But after a few days, the parents of the non-Harijans were ready to let their children sit with Harijans rather than go without food. And today there is no such problem."



At the Kancheepuram Midday Meal Centre, 1,200 tiffin boxes are filled and sent to 30 schools every day.



Cheerful faces of children of the Kancheepuram C.S.I. Higher Elementary School for Girls having a free midday meal.



Mr. Thangavel Mudaliar of Kancheepuram

Books

Farm Productivity

Productivity, Special Issue on Agricultural Productivity, National Productivity Council Journal. 482 *pages.*

C. H. Hanumantha Rao

THE National Productivity Council has decided to enter the field of agricultural productivity. This special issue marks the beginning of its activity in this field.

"The key to agricultural productivity really lies in dealing with agriculture as a management problem," says the chairman of the N.P.C. He suggests that "the crux of the problem is how to get the most out of these inputs, how to organise farming in such a way that out of every acre we cultivate, out of every cusec of water we bring to the land, out of every ton of fertiliser and, what is most important, out of every man-hour hard working cultivators put into land, we get the maximum return." The N.P.C. proposes "taking several steps, primarily through the Community Development and Extension Services, to help in creating and spreading productivity consciousness among the farming community through appreciation courses conducted in local languages, through work study organised on medium-size farms, through publication of special productivity studies..."

From this general statement of objectives and scope of activities to be undertaken by N.P.C., it is not very clear whether the N.P.C. is going to proceed in a selective way by testing and improving its methods or will spread its know-how and resources very wide in an attempt to make productivity a "mass movement". It is, therefore, necessary to pay due attention to Mr A.D. Pandit when he suggests in his article that the application of productivity principles "should commence in those circumstances where one can exercise the maximum control over production factors. These conditions can most readily be found in farms attached to agricultural universities, colleges and research institutes, and seed production units of State Governments. These farms should, therefore, provide a lead in demonstrating how the most scarce resource of land should be employed in our situation with maximum efficiency."

In this connection, Mr P.L. Tandon's account of the activities of Hindustan Lever in spreading new techniques and teaching the cultivators, especially in regard to processing industries, is of considerable interest.

The articles in Part II entitled "Basic Issues" give, by and large, text-book accounts concerning definition and measurement of productivity and technical change. Barring a few exceptions, the papers in Part III concerning foreign experience deal with the general problems of agricultural development facing the respective countries and not with the specific problems concerning *productivity* as such.

Part VI contains an interesting set of articles on the experience of foreign productivity organisations in U.K., Israel and U.S.A. Mr N.S. Burtt observes that *increased production* means producing more at any price; whereas *increased productivity*, which is really more difficult to achieve, means producing the same amount at *less* cost. The N.P.C. has done little justice to this definition of productivity when it decided to include a number of papers in Parts IV and V dealing with the productivity position in India. Many of these articles are concerned either with agricultural development in general or more frequently with productivity per acre. The N.P.C. requires to draw a sharp line of distinction between its area of interest and that concerning the growth of inputs and agricultural development in general.

It is again in Parts VII, VIII and IX that productivity comes into its own. Mr D.N. Kherdekar discusses a pressing but difficult problem concerning productivity, viz., standardisation of farm implements and equipment. Mr S.V. Bhat explains the methods of scientific feed-manufacturing and feeding of cattle and poultry. Mr B.K.S. Jain emphasises the role of agricultural engineering in coping with the various problems of mechanisation in Indian agriculture. Brig. K. Pennathur outlines a concrete framework of productivity drive to be undertaken by the N.P.C.

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Children's Health

"IN Sagrampura ward 17.2% children were found to be completely healthy while 83% were found to be suffering from one or the other disease. The bulk of children had worms. Thirty-nine and seven-tenths per cent suffered from diarrhoea and dysentery, 25.3% had rickets, 25.8% had tonsils, 13.3% were not vaccinated."

This is from a report of a health survey of children in Surat published in *The Journal of Rehabilitation in India.*

If this is the situation in a city (—and one for whose eatables Gujaratis are all admiration) how must things be in villages?

Two Jubilees

THE aircraft factory in Bangalore has completed 25 years. The factory has earned people's esteem because of the great role that the aircraft produced there, specially the Gnats, played in the recent fighting with Pakistan. The jubilee is an occasion when we might remember two far-sighted economic statesmen of the country, Mr Walchand Hirachand and Dr Visvesvaraya, who were the builders of the institution.

Dr Visvesvaraya has, in his characteristic manner, given in his memoirs a laconic account of the origins of Hindustan Aircraft.

The idea was an offshoot of Mr Walchand Hirachand's eagerness to establish the automobile industry. The Congress Government then in power deputed the State Director of Industries, Mr P. B. Advani to go with Mr Walchand Hirachand to U.S.A. When flying back to India Mr Advani met Mr W.D. Pawley, an American aircraft expert who was on his way to China. Mr Advani asked Mr Pawley to draw up a scheme for an aircraft industry for India, which Mr Pawley promptly did. The Government of India wasn't too keen. Only after Dunkirk did the British rulers realise the importance of having a factory in India which could assemble and service aircraft. They permitted Mr Walchand Hirachand to establish the factory in Bangalore. The Government of India later took it over in partnership with the Government of Mysore. A few months ago, Hindustan Aircraft became part of Hindustan Aeronautics Ltd.

The other jubilee that the country has pleasure in celebrating is that of the Central Water and Power Research Station, Poona, which completes fifty years. It started as the research wing of the old Bombay PWD and has done pioneering work in model studies. Many of the great dams of the Independence Era have had their preliminary studies done at this Centre, including Hirakud, Gandhisagar and Koyna.

States-man

MR V.P. MENON was a secretariat legend. To rise from ordinary clerkship to be secretary to the Government was until freedom the Indian equivalent of "from log-cabin to White House".

"V.P." had his critics. Of his book on the integration of states, a reviewer remarked that the first person singular appeared ten times more than the name of Sardar Patel and that Jawaharlal Nehru and the whole historical momentum of the States' people's movement were barely mentioned.

His career must be regarded as a challenge to an axiom of Indian administration—that only the bright boy of twenty topping a competitive examination is fit for the higher reaches of the ladder.

As The Plan Moves

A NINTH open hearth furnace has been commissioned at the Bhilai Steel Works. With a capacity of 500 tonnes, it is the third in a series of four 500 tonne furnaces under the expansion programme.

India has signed an agreement with the U.S.A. under which the U S.A. will give a loan of 50 million dollars (Rs 23.8 crore) for purchasing fertilisers.

India and the Soviet Union have signed a five-year trade agreement under which the trade between the two countries will be Rs. 650 crore each way during the five years.

REGIONAL PLANNING

(*Continued from Page 50*)

deciding the priorities and pattern of allocation among different sectors is also imminent at lower levels, as for example between the Zila Parishads and the State. It is in this context also that the regional authorities mentioned above could facilitate the co-ordination of various developments in different regions. It is obvious that the regional authorities should have the powers of implementing certain types of development plans which will often benefit several States, districts or development blocks.

Acknowledgement

The observations made in this article are based on findings of the regional studies conducted in the Indian Statistical Institute's Regional Survey Unit.

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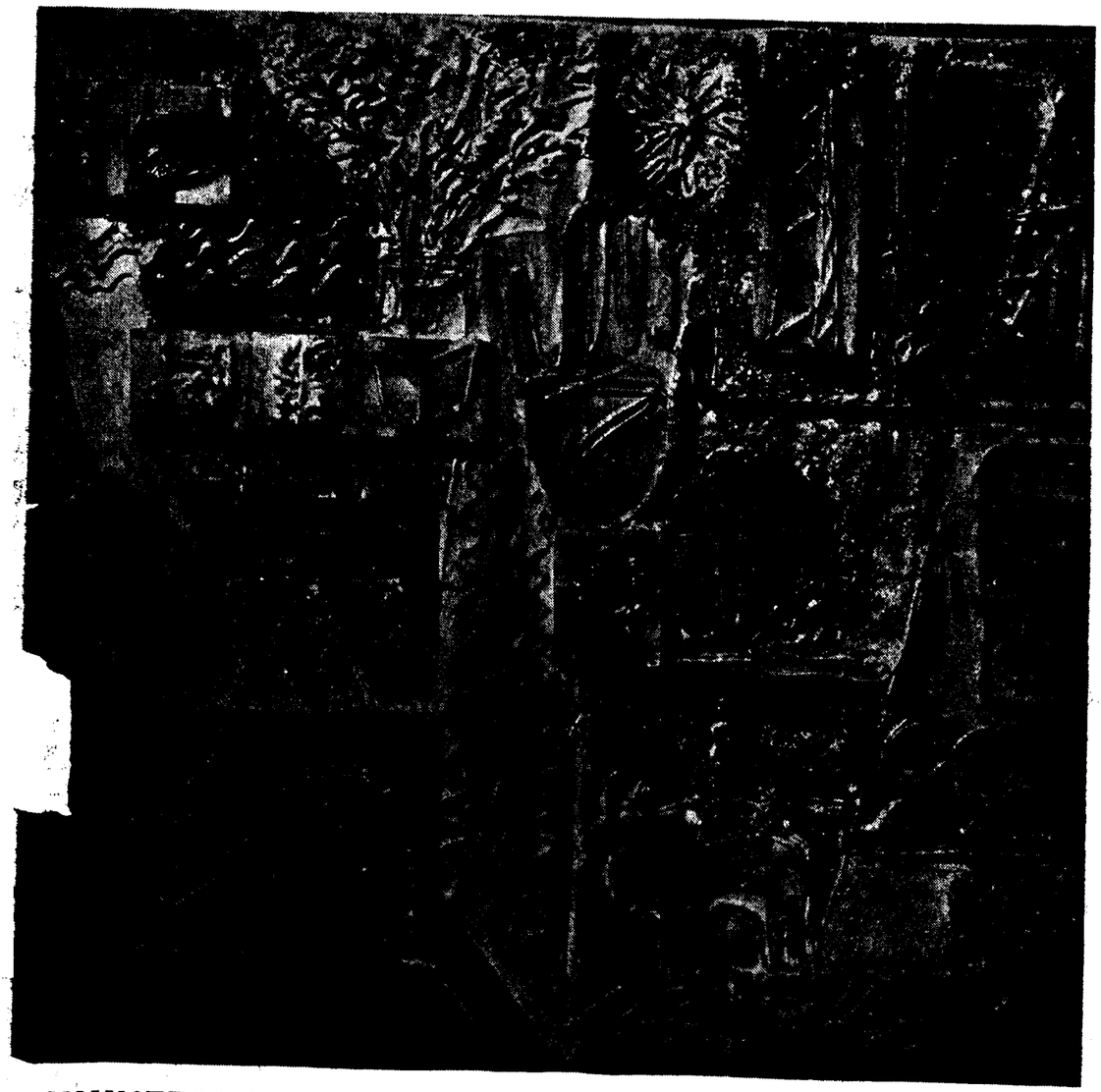
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YOJANA

TENTH YEAR 2

February 6, 1966

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SCIENTIST AS LEADER OF SOCIETY
BETTER USE FOR ASSAM BAMBOO & COAL

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Letters

Mass Education

RECENTLY MR ASOKA MEHTA stressed the need for family planning and praised the loop. But it is a matter of regret that till now we have not realised the importance of education. Our huge plan outlays are of little use unless our people are educated. Russia, one of the most developed countries of the world, made all its plans successful by introducing mass education. The pace of our development has slowed down in all fields on account of illiteracy and ignorance. New researches and developments in agriculture should be made available to farmers at their door. But the researches are made in the laboratories and published in magazines and pamphlets. Who can read these publications? Who gets them?

Mass education must be taken up on a bigger scale than the movement for family planning. It is a cure for all diseases in our planning. Such a campaign will also provide the educated unemployed with opportunities of employment and of acquainting themselves with our rural life.

SURESH CHANDRA SHARMA

Bhagalpur

The People

WE, peace-lovers, thought highly of economic development and wanted to increase the standard of living of our people. We spent large amounts on development rather than on defence. We assumed that our neighbours were gentlemen and would co-operate with us. But, unfortunately, experience since 1962 has shown us that we were wrong in the assumpiton. The Chinese and Pakistani aggressions have compelled us to divert our economic resources from civil to defence expenditure. International organisations like the United Nations are losing their control over member countries. Countries with aggressive attitude have increased their expenditure on defence. Under such critical circumstances, any negligence in the development of our defence will lead to disaster to our country.

A country can face such difficulties successfully only if it succeeds in commanding not only sufficient capital but also co-operation from the people working in different sectors. How should the people co-operate ? For this purpose the working population of our country can be divided into four categories: (1) agriculture and industry, (2) business and trade, (3) education, and (4) administration.

The agricultural sector can help the defence effort by increasing food production. People in Community Development blocks have to take over greater responsibilities in this respect. B.D.O.s and their extension workers should minimise the paper work. Asking the extension and other staff to send various sorts of reports is mere waste of time.

C.D. personnel, especially village level workers (or gramsevaks), are in a better position to help farmers to grow more food, by persuading and helping farmers to adopt modern methods of cultivation, using more fertilisers, improved seeds, etc.

Commercial and industrial community should try not only to maintain the existing level of output but also to increase it. Necessary checks should be enforced to ensure that there is no wastage, however slight. The supply of indigenous as well as imported raw materials in adequate quantities and of the required quality should be ensured, particularly to industries engaged in the manufacture of essential goods.

Businessmen and traders should realise that money is important for better living but it is not all in all. In critical circumstances, they can contribute a lot to the development of the country's economy. Government's policy of taxation is not properly formed. The policy of control of goods is not certain. Reformation of such policies as will benefit and encourage business people will be of help to the nation.

Students and teachers possess an important national resource most useful in an emergency. Students should be encouraged to join defence services. They can also tend kitchen gardens and organise people for constructive work like building roads and canals. It is pity that the student community is often found reluctant to do manual labour.

(*Continued on Cover iii*)

YOJANA

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PROMISES TO KEEP

IN her first broadcast as Prime Minister, Mrs Indira Gandhi has summed up the immediate tasks facing the country and indicated the action that will be taken to give the economy a push forward.

The keynote of the broadcast is a sense of urgency and determination rather than enunciation of any startlingly new solutions. This is but right, for what has been wrong with us is that though we *know* what to do, we do not *do* it. As the Prime Minister said, there is a large gap between intention and action; she might well have added between planning and implementation. Ideally planning and implementing are not two different activities but two stages of the same process. The stress on action is therefore very welcome.

It is important, however, to remember that not all our present problems are due to our failures and lethargy. This year's drought was not certainly man-made, although the non-use of a great deal of new irrigation resources is a failure. Similarly the interruption of foreign aid is not *our* failure, except to the extent it is a reaction to certain other actions we took in the greater cause of national honour and integrity.

In what quantity foreign aid will begin flowing in again will soon be known. The forthcoming budgets of the Union and State Governments will also show to what extent we have learnt the lesson of the new emergency, namely the supremacy of self-reliance, especially in the matter of enlarging domestic resources, restricting imports and expanding exports. A chart for the year ahead has been prepared in the form of the Annual Plan 1966-67. Mr Asoka Mehta, who has explained the significance of the Annual Plan (Page 16), has drawn pointed attention to the fact that the State Governments have preferred the courageous course of taking on responsibility for increasing taxes to the unenterprising course of curtailing development.

The year 1966-67 is also the first year of the Fourth Plan. It is true that it will not bear the same relation to the remaining period of the Plan as it would have if the Draft Outline of the Fourth Plan had already been presented; but the main programmes of the Fourth Plan will begin under the Annual Plan.

Meanwhile there is another urgent task to do: the feeding of the people. In Mrs Gandhi's words, "above all else, we must ensure food to our people in this year of scarcity." The task requires close co-operation between the Union and State Governments, between the administration and the people, and a far greater sense of promptness and responsibility on the part of officials. The grain that will come from the United States or will be procured within the country must be equitably distributed among all our people.

The real solution of the food problem is through higher production and this in turn depends on our ability to carry forward the scientific revolution in agriculture. Mrs. Gandhi has stressed the importance of reaching water, chemical fertiliser and new, high-yielding varieties of seed, as well as credit and technical advice to the farmers. She has referred to the need to breathe new life into the rural works programme and to give more income to the rural labourer.

Side by side with agricultural production, we need to give an impetus to industrial production in both the public sector and the private sector. Indeed in the whole range of administration, a new vigour has been promised, and a readiness to adopt whatever far-reaching changes are necessary to make Government more efficient and more responsive to the people's needs.

We shall succeed if we have faith in our ability to shape our own destiny. This faith is at the core of freedom, of self-reliance and of planning.

Higher Studies Through Mother Tongue

University education must provide for competence in English, but its indefinite continuance as the medium is not justified

V. K. R. V. RAO

I WANT to return to a topic which has long exercised my mind not only as an educationist but also as a democratic socialist, and now as a planner. This is the medium of instruction in our higher education. No country in the world that I know, with the exception of our neighbours, Pakistan and Ceylon, uses a foreign language as the medium of instruction, certainly not any country that has languages with written scripts and a long history of literature. Like India, Indonesia had a long period of colonial rule, indeed even a longer period, during which her medium of instruction in higher education was Dutch and her elite handled the Dutch language with as much ease and command as our Indian elite do with English. Now, in less than twenty years after independence the medium of instruction in her universities is the Indonesian Bhasa. Japan started her quest of modern knowledge with English as the medium of instruction; within thirty years, she abandoned this medium and took to Japanese as the medium of instruction in all realms of higher education. Afghanistan, Turkey, Iran, U.A.R., and all the Arab countries use the mother-tongue as the medium of instruction. So do all the Latin American countries, as also the British part of the Commonwealth and their cousins of the United States. Similarly the countries of northern Europe, eastern Europe, southern Europe, and western Europe. Many of the African countries still use the languages of their ex-rulers as their media of instruction; but their position is not on all fours with India in respect of their linguistic history; and even there public opinion is steadily working for the resuscitation of their indigenous languages and their eventual use as media of instruction for higher education. Why then do we in India show such curious persistence in sticking to English as the medium of instruction for our university and professional education?

Uncharitable critics may attribute this attitude to the power of vested interests, the reluctance of the elite to pay the price of linguistic change, and an unconscious, not a conscious, desire to maintain class distinction and deny operational equalisation of educational opportunities to the masses of the people. I have no intention of joining the ranks of the uncharitable. I would take for granted the bona-fides of the advocates of English as the medium of university instruction, and examine the pros and cons of this vexed question as objectively as I can in my capacity as an educationist and a social scientist.

Let us first examine the question educationally, which after all should be the prime motivation of persons approaching this problem as educationists. No educationist *qua* educationist has denied the superior efficiency of the mother tongue as the medium of instruction. The Radhakrishnan Commission on university education underlined this thesis; and I have no doubt that the Kothari Commission on Indian education will do the same when they submit their report in March next year. Even the inveterate advocates for the continuance of English as the medium of university instruction do not ask for English as the medium of either primary or secondary education; nor do they advocate the use of English as the medium of university instruction for an indefinite period. They would accept the eventual need for the replacement of English by the mother-tongue, but would like a long preparatory period to precede this change. Only their preparatory period seems infinite in duration as none of them has either formulated or operated any of the transitional steps that is to lead to this change.

Arguments For English Not Valid

The case for English as medium of instruction is allegedly based on practical and realistic educational considerations rather than on fundamental educational principles. The first point that is raised is that Indian languages are underdeveloped in terms of modern knowledge, that their vocabulary is inadequate, and that there are not enough books either in number or in quality or in diversity in Indian languages to enable them to function efficiently as media of instruction. I can understand these arguments if they are intended as a deterrent against a hasty or immediate or unplanned programme for a change in media of instruction. I can also understand them if they are intended to emphasise the need for a proper time-phasing in introducing the change so that while instruction by teachers and expression by students gains in lucidity and ease of communication, there is no fall in standards of educational attainment. Obviously, a man cannot be thrown into water only because we think it is good for him to swim. He has to be taught swimming, and he has to learn it not only in theory but also by practice. This is equally applicable to the plea for the introduction of the mother tongue as the university medium of instruction. But this is no argument against taking up a well-planned and time-phased programme for bringing about the change which is conceded as educationally sound.

The other educational argument for the retention of English as the medium of instruction in higher education is that English is the most comprehensive storehouse of modern knowledge and also that it is the most widely used medium of international communication. There is no doubt that both these are indisputable facts and cannot be ignored by any educationist who is a votary of knowledge. Only I think the inference drawn from these facts is unsound. These facts are as true for Russia or Germany or Japan or China as for Sweden or for Poland. But this does not make educationists of those countries demand a change in their media of instruction from their native languages to English. Even little Denmark or Norway or Finland have not gone in for a change in their media of instruction because their languages are neither the world's most comprehensive store-house of knowledge nor the most widely used media for international communication. All these countries of course provide for instruction in the English language; and their systems of higher education involve the use of English material. Learning the English language as a means of access to modern knowledge is one thing; using it as a medium of instruction is quite another thing. All that the arguments outlining the wealth of English language lead to logically is the need for higher education to include such degree of competence in the English language as to make access possible and effective to the vast panorama of knowledge available through that language.

Intercommunication Between People Essential For Nation

The other arguments used for the retention of English as the medium of instruction are not so much educational as political. Thus we are told that the world is shrinking and getting closer; and it would be anachronistic and reactionary to give up our accidentally acquired good fortune of knowledge of the English language. But nobody wants to give up the knowledge of the English language. All that is suggested is the giving up of its use as the medium of instruction. The fact that there are so many countries in the world who use other languages as the media of instruction and yet are by no means playing a negligible role in international relations or communication should be proof positive of the lack of validity behind this particular argument for the use of English as the medium of instruction in India.

Then there are others who plead for the continuance of English as the means of national integration. No doubt, the use of English as the medium of instruction brings the elite of India together, though not necessarily in unity. But a nation does not consist of its upper class only but of the mass of people. There must be inter-communication between the mass and class if India is to develop as a nation. If we are thinking of language as an instrument of national integration, the language must serve to provide inter-communication between the mass of the people of India belonging to various States so that peasants should not require interpreters. Today they will require not one interpreter, but dozens of interpreters if they meet people from the different States of the Indian Union. It may be said that if a Tamilian, an Oriya, a Malayalee and a Hindi-speaking person meet, they can talk in English. Unfortunately, those who can talk in English are only 1.45 million or so in number out of a total population of 450 million. Therefore, if a Tamil and a Punjabi peasant meet they will have to talk in the language of gestures, because they have no communication through language but they are still Indians. Unless the masses, *i.e.* peasants, workers, scheduled castes, scheduled tribes, agricultural labourers, small cultivators, craftsmen, etc., who are the real India—and not a few of us who may as a matter of fact outwit the English in fluency—are brought together through a common facility of communication, there can be no real integration. Obviously, the only language which can satisfy this criterion is Hindi.

Let me now sum up the question as I see it. Sound educational principles favour the introduction of the mother-tongue as the medium of instruction at all stages. Indian languages are yet not fully developed to take on this job. It is necessary therefore to have a preparatory period, have a proper time-phasing and determine in a planned manner the pace of change. English is and will continue to be the world's most comprehensive storehouse of modern knowledge. Higher education therefore must provide for adequate competence in the English language, but this does not validate the plea for its indefinite continuance as a medium of instruction.

Where do we go from here? My mind is quite clear on this subject. We have to accept and advance on the path of making the mother tongue as the medium of instruction at all stages of education. But the strategy we should employ for the purpose is not the one that the Osmania University tried some years ago and then gave up as ineffective. I refer to what I call the translation thesis for bringing about changes in the media of instruction. Of course there must be translations; and there must be original books written in Indian languages. Lectures must be given in the mother tongue and answers should be written in the mother tongue. But higher education cannot be confined only to the knowledge that is made available in the Indian languages either through translations or original writings. If it were so confined, academic standards are bound to fall, and this no educationist can accept. Switching over to regional languages as media of instruction will fail unless simultaneously the students are provided not only with enough and efficient equipment in the languages in the form of books, literature and reading materials but are also made to acquire knowledge contained in English books and journals through sufficient comprehension of that language.

In other words, while the medium will be the mother tongue, the knowledge will mainly be through English and the boy must have enough mastery over the English language to read and understand these books. The students whose mother tongue will be the medium of instruction but who are made to read the bulk of their books through English and acquire the bulk of the written knowledge through English will write their

answers in their mother tongue. They will be the persons who will, when they become lecturers, professors, journalists, etc., write books and other literature in their own language. Thus over a period of 30 to 40 years, every language will develop and become rich in knowledge as all other languages have developed over the last hundred years. We want the mother tongue as medium; we also want the student to acquire adequate knowledge. Thus we want the mother tongue as well as knowledge. The dilemma can be resolved only by some such compromise as I have suggested and not by maintaining the current dichotomy between the media of instruction at school and university stages.

As regards national integration, we have no escape from Hindi as the link language of India that will bring together not only the classes but also the masses of India into inter-communication. The three-language formula accepted by the nation gives us both the political and the educational answer to India's language problem. Mother tongue as the medium of instruction at all stages of education, adequate competence in Hindi as a language of communication at the middle and secondary levels, and adequate competence and comprehensive use of English as a means of access to modern knowledge at the higher stages of education—these constitute the triple foundations on which I believe we can resolve our language tangle and build up both our nation and our educational system on modern, progressive and enduring lines.

Too often mine has been a lone voice in the wilderness, especially on the subject of the medium of instruction. But I have not stopped speaking on this nor do I propose to do so. I am not without hope that some day, I hope sooner than later, we will reach the goal we all aim at, namely a nation that is united through understanding and dialogue between its masses through the common link language of Hindi and our educational system that will release the creative energies of our students and scholars, bring the classes and the masses together, and make available modern knowledge at its best to the masses of our peasants and workers through the languages they speak in their own homes.

—From address to the convocation of Osmania University.

QUOTATION BOX

In India one starts with a committee and ends with a ministry.

—Mr Frank Moraes

It was she who had also encouraged her son to introduce the marriage of the child-widow

—From an English textbook of West Bengal

Mr M. Ananthasayanam Ayyangar, Governor of Bihar, today wanted a code of life evolved for women during the period from puberty and menopause to help them to avoid errors.

—News agency report

To me every woman is beautiful, some are just a little prettier.

—Dr Ram Manohar Lohia, M. P.

For if more Indians are speaking worse English than ever before, it is equally true that more Indians are speaking better English than ever before. The ratio of both has increased proportionately simply because ten times as many students attend college now as did before 1947.

—Mr P. Lal

The General Manager said that the reception given (in the Central Ministries) to Indian executives differs markedly from that extended to British and other European executives working for firms with collaboration arrangements. The Indian executive is brusquely asked by the Government officials to be available for discussions at the time that suits the officials. But they are most ingratiating to the foreign executive and ask him "What time will suit you, Mr...?"

—From a report in "The Hindu"

The proscription of Segal's book follows the pattern which has become fashion of late—Deputy Ministers, it seems, take nine months to read books .. Koestler's book had the same thing done to it.

—From a review in "The Century"

Mrs Vijayalakshmi Pandit, in a touching tribute, called Mr Shastri her "younger brother", and said that in just two years the nation had lost two Prime Ministers, and she, two brothers.

—A press report

Applications stating age, postal address, number of wives living, qualification, experience etc. addressed to the undersigned are invited for a number of posts of lecturers likely to fall vacant as for detail given below available in the...to reach him on or before...

—From an advertisement of the Government of Manipur

Another reason for not taking effective action to destroy monkeys is the reluctance of some State Ministers to risk their success in the next general election.

—From a letter in "The Hindustan Times"

According to Professor B. R. Seshachar (Professor of Zoology, Delhi University) only scientists who were not of recognised merit went abroad whereas eminent ones stayed back in our own country.

—From an article in "The Hindu"

It (India) has proved for the second time in less than two years that it could lose a leader and not lose its head.

—"Time" magazine

What has been often described as the 'link-language' of India, namely Hindi, is the most effective delinking instrument that could be chosen if one wanted to isolate State from State.

—C.R. in "Swarajya"

One should also note that Americans have never much liked reading. Only 50 per cent of our adult population ever reads a book of any kind after leaving school.

—Gore Vidal in the Quarterly Journal of the Library of Congress

Mr Nehru ruled our head. Mr Shastri ruled our heart. With both gone we enter an era of self-reliance.

—From a letter in "The Statesman"

Allahabad, the city which bears the Muslim name for God, is one of the foremost Hindu places of pilgrimage.

—Northern Railway Magazine

Bailadilla Iron

Ore Will Start Moving to Japan This Year: Railway and Port Facilities Are Ready

P. S. DORAISAMY, Deputy Director, Planning, Railway Board

In March 1958 an agreement was signed with Japan for an annual export of 2 million tonnes of iron ore from Kiriburu mines (Rourkela area) through the Visakhapatnam port, commencing from the latter part of 1964. The railway projects connected therewith were completed in April 1964 and export of iron ore under that project has been going on in a small way.

At the time of preparing the Rourkela-Visakhapatnam iron ore project, the proposal for the export of iron ore from the Bailadilla area in the Bastar district of Madhya Pradesh was also considered at the instance of the Japanese but it was accorded a lower priority because of its greater time-consuming feature. The Japanese were anxious to develop the Bailadilla deposits as a source of long-term supply of ore to them and they wanted to receive a vast quantity of iron ore as 'basic ore' from India. A specific mention of this project, as also of the Sukinda-Paradip project, was made under the agreement between India and Japan. India was to arrange, as soon as practicable, the necessary surveys for the development of Bailadilla and Sukinda areas.

Japan's Requirements

In March 1959, a Japanese goodwill mission visited India and negotiated an agreement for the development of mines at Bailadilla for export of iron ore to Japan. They made it clear that they proposed to buy from 1966 four million tonnes of iron ore from Bailadilla over and above their then annual purchase of 1.7 million tonnes from the State Trading Corporation and 2 million tonnes already committed to be taken from Kiriburu. It was also visualised at that time when the public sector steel industry would require more of the Kiriburu ore, the 2 million tonnes scheduled to be exported to Japan from Kiriburu mines might also be taken over by the Bailadilla project, thus making in all a quantum of 6 million tonnes per annum from the Bailadilla deposits.

The project was carefully considered by various ministries and agencies of the Government and it was decided to undertake it mainly on the consideration that, if large-scale exports of ore were to be undertaken on a long-term basis from the east coast, Bailadilla appeared to be more remunerative than other deposits owing to the high grade of the ore, the enormous size of the deposits (over 600 million tonnes) and the relatively short lead over which ore would be required to move for export. It was also visualised that the commitment to take ore from these deposits by the Japanese would be for a minimum 10-year period, and hence it would be worthwhile undertaking the project especially as (i) substantial port facilities already existed at Visakhapatnam and could be increased to the extent necessary at relatively small cost; and (ii) a railway line opening up this area would probably have to be built in any case in connection with the Dandakaranya resettlement scheme.

The project was accepted by the Government and an agreement was signed with the Japanese Steel Mission on March 8, 1960, which among other things provided for Japan's purchasing and India's supplying, on terms and conditions to be agreed upon between the two parties, approximately 4 million tonnes of iron ore per annum from mines to be developed in the Bailadilla area on a long-term basis commencing from the middle of 1966, in addition to Japan's purchases of iron ore from Kiriburu mines under the relevant agreement and other sources in India. It was agreed that before the commencement of first shipment of iron ore from the Bailadilla area, India should develop the mines completely, construct railway lines between the mines and Visakhapatnam and mechanise the facilities at the port suitably for loading this additional quantity (20,000 tonnes per day).

The price of iron ore was to be negotiated between the two parties and payment of the price of iron ore FOBT was to be made in pounds sterling. The anticipated earnings in foreign exchange in pounds sterling for 4 million tonnes was envisaged at over Rs 20 crore at the then prevailing prices. The period of purchase by Japan was laid down as 15 years in the first instance. Indian shipping was to be used for carriage of iron ore cargoes to the maximum extent practicable.

The concerned departments of the Government of India worked out their total requirements of funds for this project at about Rs 77 crore—Rs 55 crore (including Rs 17 crore foreign exchange) for construction of

a broad guage railway line of about 450 kms; Rs 9.5 crore (Rs 2 crore foreign exchange—this will now be substantially higher) for rolling stock, and Rs 13 crore for mining (this rising to Rs 15 crore when the 2 million tonnes from Kiriburu were also diverted to this source)—exclusive of operating capital estimated at Rs 2 crore. The Ministry of Transport estimated Rs 25 lakh as the cost for improving the ore loading facilities at Visakhapatnam port for handling an additional quantity of 4 million tonnes. The total foreign exchange requirement for the project was tentatively estimated at Rs 10 crore at prevailing prices.

India was to provide funds to buy machinery, equipment and other materials and services available in India, and Japan was to assist India financially in the purchase of machinery, equipment and materials not available in India to the extent of 21 million dollars.

The agreement with the Japanese provided that during the construction period of the project, India should notify Japan every six months of the progress of development of the project.

Progress of Work

The progress made until now in regard to the mines, railway and port works is given below.

Mining: The development of iron ore deposits in the Bailadilla area was entrusted to the National Mineral Development Corporation (N.M.D.C.). The Indian Bureau of Mines started the investigation of the deposits in the latter half of 1960 and completed the movement of equipment and personnel. The construction of approach roads was also concurrently taken up and the investigation of the 14 deposits in the area was arranged in well-defined phases.

By the middle of 1963, the Indian Bureau of Mines had completed the exploratory work on deposit No. 5 with work on deposit No. 14 well in progress. At that time, a Japanese Survey Mission arrived at Bailadilla area and held discussion with the N.M.D.C. survey team. As a result, the financial assistance to be given by Japan for procurement of plant and machinery for the Bailadilla mining project was fixed and an Indian mine survey team visited Japan to study some of the mining methods advocated by the Japanese for application in the Bailadilla project.

At the end of 1963, on the basis of a preliminary appraisal report on deposit No. 14 by the Indian Bureau of Mines, the N.M.D.C. prepared a scheme for the production of 4 million tonnes of iron ore per annum from this deposit. By early 1964, location of the plant, services and township and construction of roads, in connection with the development of deposit No. 14, were well in progress.

By the end of 1964, the Indian Bureau of Mines had completed investigations of deposit Nos. 5, 10, 11, 12, 13 and 14. The project report for deposit No. 14 which was to be exploited first (for production of 5.5 million tonnes of raw ore or 4 million tonnes of sized ore per annum) has undergone some changes in the light of the comments offered by the Japanese experts. The revised capital cost of the mining project is now estimated at Rs. 16.83 crore, inclusive of working capital of Rs. 1 crore.

Action has been taken for procuring equipment needed for exploitation of deposit No. 14 such as dumpers, crawler tractors, bull-dozers, air-compressors, 2-tonne fork lift trucks, tractor mounted cranes, electric shovels, air-operated drills, crushing, screening and wagon loading plant and so on. Construction of staff quarters and civil engineering works for crushing and screening plant and the water supply scheme are on hand. The benches have been laid and the work on the preparation of mining benches is under way.

The N.M.D.C. has stated that the mines are likely to be commissioned only after the monsoon of 1966 and full 4 million tonnes capacity may be developed only after the monsoon of 1967. Movement of ore from the crushing plants (which are being installed) will begin only from October 1966, although the quantity which will be offered for movement cannot be specified right now by N.M.D.C.

Port : By early 1961, plans, designs and estimates for the construction of four additional berths at the Visakhapatnam Port for handling Bailadilla ore had been sanctioned. Schemes for providing a belt conveyor, railway sidings and other ancillary facilities were also revised to handle the export of 4 million tonnes as originally contemplated. By October 1961 the work order for the construction of four berths and the lighterage wharf had been issued. The additional ore berths at Visakhapatnam had been completed by June 1965. The berths can take 32 feet draft with dredging.

The ore handling plant, which has been just completed, will begin to handle the Kiriburu ore about which there are some initial difficulties such as the problem of fines and measures. It is anticipated that regular production at the rate of 2 million tonnes of sized ore per annum from Kiriburu, keeping the percentage of fines within mutually agreed limits, will commence any time now.

Railways : The railway project consists of the construction of about 450 kms of broad guage line from Kottavalasa to Bailadilla (cost Rs 56.28 crore) and the provision of a third line (17 kms) between Simhachalam North and Kottavalasa (cost Rs 96 lakh) besides ancillary facilities at the port end and junction arrangements and siding facilities at the mine end. These works were authorised in the 1960-61 Railway Budget.

The rolling-stock required for this project—57 B. G. diesel locos and 935 BOX/BOI bogie wagons—have already been fully programmed for the initial movement of 4 million tonnes of iron ore per annum.

Engineering and final location surveys for this line were immediately taken up and as and when portions of the alignment had been finally located, actual construction commenced.

The construction of the broad guage line was taken up in four sections: Section I: Kottavalasa—South Kota (27 kms); Section II: South Kota—end of Korapur (182 kms); Section III: end of Korapur—Kuper (203 kms); Section IV: Kuper—Kidendul railway terminus (36 kms).

The work is well advanced and it is expected that the line from Kottavalasa to Kuper (410 kms) will be ready for departmental train working by January 1966. The target date of opening the line for ore and other goods traffic is October 1966 as only by then is the iron ore mine expected to be brought into commission.

ASSAM COAL AND BAMBOO CAN SERVE NATION

Regional Laboratory's Work: Research also on Petroleum and Cement

M. S. IYENGAR
Director, Regional Research Laboratory, Jorhat (Assam)

THE present national emergency has brought out the need for integrating scientific efforts to nation-building activity. All our planning has so far been done by placing greater reliance on foreign technical know-how and imports, and research in the National Laboratories has developed on independent lines. But with the acute shortage in the foreign exchange and diversion of funds towards defence, it becomes extremely important to develop self-reliance and to integrate the scientific efforts in the National Laboratories in a manner that would best meet the country's immediate requirements.

The Regional Research Laboratory, Jorhat, one of the National Laboratories under the Council of Scientific and Industrial Research, is keenly aware of the emergency and its implications. It has been concentrating its efforts during the one year of its existence on selected projects in the field of paper, cement, coal, petroleum, medicinal plants and general engineering. The present paper describes some of the work under progress in the Laboratory.

During the period April 1964 to March 1965, the country imported about Rs 35 crore worth of paper and paper products. During the Fourth Plan period the following imports are envisaged :

Rayon grade pulp	Rs 26.0 crore
Pulp	Rs 9.0 crore
Paper and paper boards	Rs 18.0 crore
Newsprint	Rs 26.0 crore
Total	Rs 79.0 crore

The investment foreseen in the expansion of the paper and paper board industry is about Rs 150 crore, of which the foreign exchange component is likely to be of the order of Rs 55 crore. That on newsprint will be Rs 32 crore, with a foreign exchange component of Rs 20 crore. One of the difficulties encountered in the expansion of the paper industry has been the lack of raw material. Nearly all the paper plants in India are based on bamboo which is in short supply. Assam has the largest bamboo resources in India and it is estimated that the annual yield can be as much as 463,000 tonnes. The comparative figures for all the States are :

Assam	463,000 tonnes
Maharashtra and Gujarat	293,000 tonnes
Mysore	140,000 tonnes
Madhya Pradesh	124,000 tonnes
Uttar Pradesh	48,000 tonnes
West Bengal	13,000 tonnes

However, only 50,000 tonnes of bamboo are extracted every year in Assam at present and practically the whole quantity extracted is sent to other States as raw material for the manufacture of pulp. The Muli variety of bamboo, which is supposed to give the highest quality pulp, forms 64 per cent of the entire bamboo resources of the State. Secondly, most of the paper plants in India are based on the sulphite process and their sulphur consumption is met almost wholly from imports. On the other hand, Assam coals are very rich in sulphur, some of them containing as much as 5 to 10 per cent. The sulphur can be recovered from the coals and used for the paper industry. The Regional Research Laboratory, Jorhat, is engaged in studying the pulping characteristics of the raw materials found in Assam from the point of view of obtaining both the specified type of low-grade pulp and the design data for large-scale installation of the pulping and paper mills. It has already designed a paper plant of half a tonne per day capacity and is proposing to set up a plant of a bigger capacity for obtaining the necessary design data.

The basic process of paper-making remains almost the same today as it was when it was developed in A.D. 150. There is scope for innovation in paper-making for improvement in chemical pulping technology. The Institute has been working on the fundamental aspects of cellulosic materials and on pulping and paper-making characteristics. It has found that the functional groups present in the cellulosic materials play a very significant role in determining not only the pulping characteristics but also the quality of paper.

By controlling judiciously the functional groups it would be possible to obtain the desired type of pulp or paper.

Hard Board

The functional groups and their capacity for hydrogen bonding has already led to a break-through in the development of a process for the manufacture of hard board from saw-dust. The normal hard board industry uses firewood chipped and fibred by an elaborate method and then impregnated with urea formaldehyde resin which is imported. It is then hot-pressed to give the desired shapes. The new process developed by the Laboratory saves on the use of resin. In this case water, being polar, acts as the binder. Saw-dust is admixed with water and a dehydrating agent and subjected to suitable temperature and pressure in a hydraulic press to give the desired shape of material. The boards obtained by this method have a tensile strength which is more than five times that of cement and are completely water resistant. The cost of production is estimated to be 15 paise per square foot. The boards obtained can find application as roofing material, as flooring tiles and for panelling. Apart from the saving in the machinery and the resin, the process opens up possibilities of using our forest wealth more efficiently. In the present methods of timber felling only 40 per cent of the plant is utilised. The process developed at the laboratory will increase the utilisation factor for timber to 80 per cent.

Cement Technology

There has been considerable shortfall in the Third Plan targets of cement production. At the end of the Third Plan period we shall only be attaining the target aimed for the Second Plan. The present production of cement is expected to be 10.5 million tonnes as against the targeted production of 15 million tonnes. During the Fourth Plan period, it is proposed to increase the production to 25 million tonnes at an investment of Rs 160 crore, the foreign exchange component of which is Rs. 30 crore.

Various reasons have been suggested for the short-fall. One is the lack of sufficient incentive on the part of the authorities brought about mainly by price controls on cement price. These have been removed from January 1, 1966. But it is doubtful, if even by this, the production target envisaged will be achieved. At the present moment, about six firms in India are given licences for the manufacture of cement. Their total production capacity is expected to be about 1.2 million tonnes a year. At this rate, they would be able to increase the production to only 6 million tonnes or so by the end of the Fourth Plan and the targeted production is 25 million tonnes.

The conventional methods envisage the import of at least 10 per cent of the machinery. The Regional Research Laboratory has developed the design and technical know-how for the vertical shaft kiln of 30 tonnes a day capacity. The plant is now under installation in the Laboratory.

The Laboratory is also in a position to provide the design for a 200 tonne-a-day capacity kiln. The vertical kiln process is fairly well-established in other countries but it is comparatively new to India. Nearly all of our cement kilns are of the rotary type mostly based on the wet process which is outdated. The vertical kiln has several special features. Its investment cost is lower—about Rs. 80-100 per tonne against the conventional process of Rs. 150 per tonne. It is also simpler and easier to build. Its fabrication can be undertaken without involving any foreign exchange and a kiln of 200 tonnes a day or above could be installed in much lesser time than the conventional process. The cement obtained from the vertical kiln is comparable with that from rotary kilns.

The Laboratory has also shown that in the normal construction as much as 40 per cent of cement is wasted. This is due to the fact that only 60 per cent of the cement has an opportunity in normal use to hydrate with water and hence contribute to the strength. The rest of the cement, being coarser in size, is only partially hydrated. It is only the outer layers of the coarser particles which react with water to form an impervious layer preventing the water from entering the core. This could be overcome if the cement clinker is ground to further fineness.

Normally the industry does not resort to this as the advantage gained by fine crushing is lost owing to the agglomerating tendency of the fine particles. But the Laboratory has shown that this tendency develops in the particle only after an optimum time and that, if within this period the finely divided clinker is blended with a suitable material like limestone, the agglomerating tendency could be retarded. The practical implication of this observation is that whereas today we are producing 110 lakh tonnes of cement in the country, in actual fact we are utilising only 66 lakh tonnes. Thus the country is wasting each year Rs. 66 crore.

Better Use of Capacity

The Laboratory has carried out a detailed survey of the surplus capacities available for crushing the raw material as well as the cement clinker in the existing factories in India and has studied the influence of decrease in the particle sizes on the capacity of grinding as well as in power consumption. It has shown that there is a surplus capacity in the cement mills to an extent of about 30 per cent and that in the primary crushers to an extent of 100—200 per cent. Increase in the fineness of grinding would mean decrease in the capacity of the mill by about 20 per cent and an increase in power consumption by 15 per cent. If the special cement is to be manufactured in the existing factories, the raw meal capacity has to be increased to an extent of 40 per cent by addition of extra tube mills.

The increase on account of power consumption and operating costs would not exceed Rs. 3 to 4 per tonne. It would be more than counter-balanced by the increase in the production capacity to an extent of 40 per cent. The overall economic implication in the national context would be an increase in the production capacity by 44 lakh tonnes. The extra capital required for this would not be more than Rs. 2 crore and this extra capacity could be achieved in all the existing factories within a period of a year or so. On the other hand, if new cement plants were installed to obtain this extra capacity, the capital investment would be of the order of Rs. 40-45 crore and the foreign exchange component would be of the order of Rs 8 to 10 crore and the time involved would be three to four years.

Sulphur from Coal

At the present time, nearly 3,00,000 tonnes of sulphur are being imported each year. Sulphur is required mainly for fertiliser and paper plants. The Pyrites and Chemical Development Corporation, which is a public sector concern, is already engaged in the exploitation of Amjore pyrites, but even after the enterprise achieves the targeted production, the country would have to import large quantities of sulphur.

As already stated, Assam coals are rich in sulphur. They have the peculiar nature of exhibiting the dual characteristics of both low ranking and high ranking coal. Further, they have only about 5 per cent of ash and this ash is rich in rare elements like gallium and germanium, both of which are needed in the electronics industry. These coals, on processing, yield as much as 40-50 gallons of low temperature tar per tonne of coal, compared to the all-India average of 8 to 10 gallons, and more than 50 per cent of this tar could be converted into diesel oil and kerosene fractions of which there is a shortage in the country.

The sulphur in Assam coal can be recovered as a by-product by adopting either of the following three processes :

1. By burning coal or low temperature char in a thermal power station and recovering sulphur as sulphur dioxide or as sodium sulphite from the flue gases. Germanium and gallium also could be recovered from the flue dust.

2. By blending the coal with sodium sulphate and then subjecting it to fluidised carbonisation. The char obtained could be processed to yield phenols and middle distillates and the tar could be leached with water to yield sulphur in the form of sodium sulphide. The char could then be burnt in the pulverised thermal power station for the supply of power and further quantities of sulphur dioxide could be recovered from the flue gases. Part of the char could be converted into domestic fuel.

3. By hydrogenating the coal to liquefy it into petroleum-like products and recovering the sulphur in the form of H_2S.

The Laboratory is investigating all the three processes. Laboratory-scale investigations on processes (1) and (2) have already given encouraging results. This Laboratory has designed and set up a 2 to 3 tonne-a-day capacity fluidised carbonisation plant which is in operation. The char could be burnt in a suitably designed pulverised fuel burner and from the flue gases sulphur dioxide could be absorbed either in Iomex which is a waste product from the petroleum industry, or by scrubbing in sodium hydroxide.

Another process which is engaging the attention of the Laboratory is the utilisation of Iomex. For every gallon of purified kerosene obtained nearly a gallon of Iomex is also produced, which does not at present have any off-take. Utilisation of Iomex is therefore very important. The Laboratory is investigating the possibilities of de-alkylating the Iomex to yield benzene and naphthalene, for which there is a great demand in the country. It would appear that by de-alkylation nearly 60 per cent of the Iomex could be converted into benzene and 40 per cent to naphthalene.

Benzene is needed as a solvent. By the end of the Fourth Plan, the demand for benzene is expected to increase from 80,000 tonnes to about 170,000 tonnes per year. It was anticipated that by 1965-66 about 40 per cent of benzene would be utilised for the manufacture of styrene and its derivatives, 23 per cent in the manufacture of phenol and its derivatives and 37 per cent for pecticides and detergents. The demand for naphthalene in 1965 was expected to be about 10,000 tonnes. Naphthalene is required for conversion into phthalic anhydride which is at present imported.

Protein from Petroleum Wax

The Laboratory has also developed a biochemical method for processing the waxy components in the petroleum hydrocarbons into protein. The process holds out possibilities of making available a cheap edible protein. The process would also provide an efficient method for preconditioning the crude. The micro-crystalline wax present in the crude increases the viscosity and hampers the pumpability of oil in the pipeline. At present the crude is conditioned by an elaborate and expensive technique. By the method of biosynthesis of petroleum hydrocarbons it should be possible to de-wax the crude and at the same time facilitate its flow through the pipeline.

The Laboratory is also developing suitable processes for preconditioning the water for use in the secondary recovery of oil from the wells. Nearly all the oil at present recovered is from the primary recovery and by this process only 20 per cent of the oil is recovered. If during the Fourth Plan period the indigenous production of oil is to be increased by 45 million tonnes, it is necessary to resort to secondary recovery, and this is normally done by flooding the oil wells with water to increase the pressure but the water used has to be completely free from bacteria as their presence might choke the seepage of oil from the wells.

Asbestos Roofing

During the period April 1964—March 1965, nearly Rs 5 crore worth of asbestos was imported and during the Fourth Plan period a total import of Rs 25 crore is envisaged. Indigenous asbestos is not preferred by industries on the ground that it does not have the necessary fibre characteristics. The Regional Laboratory is exploring the possibility of substituting asbestos by cellulosic pulp and preliminary investigations have already given encouraging results. The cellulosic cement boards obtained are comparable in strength to those of the asbestos boards. Detailed investigations are under way.

The other problems tackled in the Laboratory are lime-soil stabilisation, clay-lime bricks, the cultivation of medicinal plants like Dioscorea, Rauwolfia Serpentina, Solanum Khasianum and other plants like mentha and citronella. There is a section on earthquake engineering also, intended to assess the seismic factors in designing buildings and dams.

The work under investigation at the Laboratory is expected to bring about a foreign exchange saving of Rs 200 crore during the Fourth Plan. This can be done provided the necessary grant for developmental work is made available to the Laboratory.

A SEGREGATION THAT HAS TO END

LEADERSHIP IN SCIENCE

Need to Challenge Existing Assumptions

VIKRAM A. SARABHAI

CLEARLY the development of a nation is intimately linked with the understanding and application of science and technology by its people. It has sometimes been argued that the application of technology by itself can contribute to growth. This is certainly true as an abstract proposition, but fails in practice. Witness the state of development and social structure of countries of the Middle East, where for decades resources of oil have been exploited with the most sophisticated technology. History has demonstrated that the real social and economic fruits of technology go to those who apply them through understanding. Therefore a significant number of citizens of every developing country must understand the ways of modern science and of the technology that flows from it.

An ability to question basic assumptions in any situation is fostered by probing the frontiers of science, whatever field one may be engaged in, whether it is Biology, Genetics, Atomic Science or Space Research. It is this ability rather than an empirical hit and miss approach which proves most effective in tackling the day-to-day problems of the world. It follows from this that countries have to provide facilities for its nationals to do front-rank research within the resources which are available. It is equally necessary, having produced the men who can do research, to organise task-oriented projects for the nation's practical problems.

One of the inevitable consequences of the introduction of modern technology is a gradual erosion of existing values—a drift towards a man-centred world substituting another in which man is only one element in all of nature. What can replace ethics born out of a religion and a faith which no longer holds us? You may be surprised that I bring in faith. It implies on my part primarily a recognition that an individual does not exist in isolation. Almost any action that he takes affects the outside world and he has to be aware of how the outside world is likely to react to his action. In other words, he has to have faith and confidence in the type of reaction which he may expect before he can take even the smallest action. If he has to cross the street the must have faith that the driver of a motor car understands the high-way code.

It seems to me that a broad understanding of the physical and social environment in which man lives is the most urgent task which faces all humanity. When we come to think of it, lack of insight concerning the environment in which man operates has posed a problem at all times. Just as superstition took hold of an unlightened man who received solace from religion, so can prejudice and a feeling of omnipotence permeate the minds of those who, without bothering to understand science, enjoy the rich rewards flowing from the application of technology. When gimmicks substitute magic, we have produced no essential change in the enlightenment of the total socio-political system. On the other hand, today, the consequences of failure to raise the level of enlightenment are more serious to the security of the world than they were ever before. The task of promoting an understanding of science is of course at the core of the problem of education and becomes increasingly more difficult in the context of a population explosion. Acquisition of technology by itself does not contribute to this understanding. One is forced to the regretful conclusion that no society has tackled this problem effectively.

Hinduism has a substratum of philosophy which is fascinating to the modern scientist. The life of the common man reflects many of the values related to this philosophy, unconsciously imbibed through literature, the arts and social traditions. We recognise that perception involves the outside object as well as the observer. We appreciate the subjective character of personal experience. We accept that there are a thousand paths to enlightenment. In relativity we learn of the importance of the frame of reference of the observer and how the results of observation depend on the relative state of his frame with respect to that which he observes. Absolute right and wrong do not exist in the values of those who have understood the Upanishads or those who have followed the concepts of relativity.

When I talk of the scientist in this vein, it is perhaps necessary to point out that I distinguish between one who has merely gone through a formalistic training in science from another whose scientific experience is reflected in his personal values. I think the discussion is meaningful only in regard to the latter.

SCIENCE AND NATIONAL SOVEREIGNTY

I can illustrate my point concerning science and human values by citing an example which is related to the implications of science and technology to modern warfare and how these affect national sovereignty. As soon as hydrogen bombs could be delivered with inter-continental ballistic missiles capable of hitting a target to an accuracy of a few miles at a distance of six to eight thousand miles, the implications of a war between adversaries possessing such weapons were too grave for anyone to contemplate armed conflict as a means of solving international disputes. If coexistence between nations formed a part of the "Panch Sheel" adopted by Asians from Buddhism, it was also advocated by Premier Khrushchev from an appraisal of the consequences of the balance of terror that exists between the East and the West.

At all times social change has been related to technological developments and in each era new constraints, social and political, are imposed on those who partake of the change. Just as an individual who chooses to live in a community voluntarily renounces the right of throwing a stone anywhere he pleases, which he undoubtedly could exercise in the jungle, so in the atomic age, nations are forced to accept a self-discipline where the freedom of settling disputes through the use of force on a grand scale is no longer meaningful.

But if there are disputes between nations, how are they to be settled? Recourse to negotiations or, if necessary, arbitration through a third party or reference to an outside tribunal are the only courses open to us. The provisions of the United Nations Charter referring to collective security imply an acceptance of this. The leaders of the nations who founded the world organisation appreciated what sovereign states could no longer do. These provisions, like many others, have never been effectively implemented. The security of the world and the political settlement of international disputes would be very much assisted if the common man of all nations understood the constraints of the environment in which he lives. In the context of an otherwise bleak international situation, the recent settlement negotiated by our Government on the border issue stands out as a most positive contribution to world peace. In the sniping that has followed from some quarters, we have a remarkable demonstration of the problems of a society which loses faith in Panch Sheel and has not yet accepted the ethics growing from modern science.

Perhaps by now you have realised that I am beating about the bush, that I have not talked about leadership in Science. You are right; but I am afraid this fairly long preamble on the significance of science is necessary before I can come to the point. I suggest that we consider leadership in science to achieve the following: First, to foster creativity and an interest in getting to the core of problems, relegating for the moment an empirical approach. Secondly, to provide experience on a wide scale, whereby man can understand the back-drop in front of which he operates and can evolve values and ethics consistent with the real constraints imposed by his environment. Thirdly, to provide the application of science and scientists to the diverse practical tasks of society, that of building the economy, of creating a desirable social environment and to problems of fields such as national policy, security and defence.

Leadership for the development of creative, disciplined individuals, highly motivated to ask basic questions, is not leadership of the type that we normally understand. There is no leader and there are no led. A leader, if one chooses to identify one, has to be a cultivator rather than a manufacturer. He has to provide the soil and the overall climate and the environment in which the seed can grow. One wants permissive individuals who do not have a compelling need to reassure themselves that they are leaders through issuing instructions to others; rather they set an example through their own creativity, love of nature and dedication to what one may call the "scientific method". These are the leaders we need in the field of education and research. It is they who continually challenge existing assumptions on the objectives and methods of education, who concern themselves with providing experiences from which individuals build values and frames of reference, realising the subjective character of perception.

APPLICATION TO REAL PROBLEMS

When we come to the application of science to the real tasks of a nation, it is again the interactive type of leader, rather than a boss, who is most effective. He is required to relate himself to the work of others, to give as well as to receive. In our society, scientists encounter a curious difficulty in accomplishing useful tangible results. We place intellectual endeavour on a very high social scale, but believe that those who are engaged in it are unfaithful if they should be interested and concerned with day-to-day practical affairs including their own standard of life and personal security. We look down on our research scientists in national laboratories or our academics in universities, if they engage themselves in outside consultation or if they choose to augment their income from projects of a practical nature. We implicitly promote the ivory tower, the alienation of the persons of insight from those who do things. As I have said earlier, I believe that those who can pose basic questions are the one who can best do applied work. For, in most things, locating the real problem goes a long way towards its solution.

To create conditions for the application of science and scientists to the real problems of society, we have to encourage scientists to interest themselves in problems outside their fields of specialisation. Sure enough, one does not expect to give to the opinion of a scientist special weight in fields other than his own. But a person who has imbibed the ways of science injects into a situation a new way of looking at it, hopefully perhaps, a degree of enlightenment with regard to the approach to problems and thus provides leadership which is very valuable.

I am not advocating the getting of scientists into diverse committees. We have plenty of it. I do advocate that we make it possible for them to work in their own fields of specialisation in addition to undertake or collaborate in specific jobs. There are innumerable situations

where this is possible at the doorstep of every individual. These could arise in improving curricula and methods of education, in setting up local industry or promoting the productivity of farms, in local and regional planning, in implementing programmes for population control or community development.

IMPROVEMENT OF SCIENCE EDUCATION

In Ahmedabad, for instance, was started two years ago a Group for the Improvement of Science Education. This Group consists of teachers drawn from schools, colleges and research institutions and some gifted students from these institutions. What brings them together is a strong personal motivation to improve understanding of science and the standard of education. They are ready to question, to innovate, and to share experiences. At each level, wherever they work, they provide the type of leadership which we are considering here.

Through experience we know that conditions of work in India within our own specialised scientific fields rarely match the facilities available in several other countries. Some of us get frustrated striving against heavy odds. Others leave the country. But those that can apply their insights to the problems of the community and of the nation discover an exciting area of activity where effort is rewarding even while the results come slowly.

What should we do to provide opportunity for such leadership? I do not expect attitudes which segregate scientists and intellectuals from the real world to change quickly. I do not believe that in the near future we are likely to provide to scientists and educationists job opportunities and service conditions which are on par with those enjoyed by administrators. But I have a dream, a fantasy may be, that we can provide encouragement to those who will accept responsibilities for real tasks, big and small, even while they continue to do their own work. Moreover that we can secure acceptance of the notion that such task-oriented activity, seriously undertaken and with a well-defined objective to be realised in a given period, should receive financial reward which will ameliorate the total situation in at least one important aspect. Leadership in science may then arise out of a new climate for growth.

Courtesy: A.I.R.

HAMARA HINDUSTAN

O & M

ANOTHER of his stories—this a little different from the others, and demonstrating convincingly his remarkable talent for organisation and management, that very important branch of governmental activity these days.

Actually, a good working knowledge of organisation and management is rather useful, he started. For it can be applied to all sorts of problems, problems that one encounters even outside the field of government. Like the time my friend wished to ring up his girl on the eve of his departure for Germany. The girl had one of those frightfully strict mothers who frowned—that's a mild word really—well, who positively refused to countenance her daughter's boy friends. She particularly detested my friend. To the extent she wouldn't tolerate any phone calls or other forms of communication with her daughter. So here was my friend in this desperate situation, wanting to ring up his girl to say good-bye, and the ogre of a mother at the other end waiting to snap if she so much as heard his voice. How was he to talk to his girl, say good-bye to her?

My offering to telephone on his behalf was of no use. I didn't know the girl enough to distinguish her voice from her mother's. Suppose I got the ogre, mistook her for her daughter and passed the phone on to my friend? And if I asked who it was at the other end, the ogre—if she took up the phone—would at once become suspicious. Quite a problem...a problem requiring careful analysis. One that I solved quite neatly too (let me say here that modesty has never been his strong point) although it seemed to bristle with difficulties.

This was where we put our heads together, joined forces, and found that two heads were better than one—in a literal sense. My friend held the phone but occupied only one-half, the ear-piece. I squeezed into the other half, ready to speak into the mouth-piece. We arranged it all rather cleverly, I must say. My friend was to dial and I was to say 'Hullo'. If it was the ogre he would pinch me and I would immediately ask for Sridhar. If it was the girl he would just push off me and take over from there.

I asked for Sridhar thrice. An infuriated voice at the other end, in mounting anger, denied any knowledge of Sridhar. But isn't this Club 66? I asked innocently, the impulse being too strong to resist. Isn't this where Sridhar lives? No, screamed the voice and slam went the phone. A performance that was repeated thrice and I could almost see the ogre, red in the face with rage, so vividly did her anger come through. I was beginning to enjoy myself.

The fourth time we were lucky. I was pushed away so violently that I stumbled and fell and found twenty-two pairs of eyes fastened on me in uncomprehending wonder. Oh, didn't I tell you? We were calling from an Irani hotel. Don't ask me what they thought of the two of us together at the phone, crowding our heads into the short span of the receiver!

Reflective, he rubbed a neck that was still a little stiff from being held at that odd angle and from that sudden, violent push. It was worth it, he said. Neck, fall, being stared at—all for a noble cause, friendship and love.

And more than compensated by the splendid dinner with which he was rewarded, added his wife.

NEELA D'SOUZA

Mr Shastri's Stick

MR SHASTRI did not live long enough to share with Gandhiji and Jawaharlal Nehru the luck of having good biographies written in their life-time. The life by Mr Mankekar, published in December 1964, was hastily written. But Mr Mankekar had the privilege of putting questions to that remarkable man and drawing him out. One anecdote narrated by Mr Mankekar sticks in our mind. Years ago, Mr Shastri was angry with his son, who was then eight or ten. But he could not bring himself to the point of giving the young fellow the thrashing he probably deserved. He took a stick in his hand, and, chased the boy from one room to another, admonishing him to hide somewhere so as to escape beating.

Bhabha

THIS was twenty-five years ago. Homi Bhabha had just joined the Institute of Science in Bangalore and he gave his first public lecture in that city. Dr C.V. Raman presided. Bangalore was accustomed to hearing from Dr Raman the most engaging lectures on a wide variety of subjects—music and the specialities of the Southern drums, the chemistry of cooking and the meaning of beauty. So Bangalore assumed that all physicists were light-hearted public speakers.

Dr Bhabha that evening was not. He was a little nervous and he spoke on some of the newest findings of the time on the structure of the atom. He wrote numerous equations on the blackboard and every minute he went deeper into the subject. He talked about meson and neutrino and of the marvellous symmetry of the atom.

The hall did not even have a microphone. The lecture was a success but the audience, as the saying goes, was a failure. The 300-odd listeners sat with great deference. Even Dr C.V. Raman in his remarks from the chair was subdued. He thanked Dr Bhabha on behalf of the three people for whom the lecture had been a treat—the lecturer, the chairman and one other noted mathematician that was present.

The real Dr Bhabha was a very different man from that shy lecturer. Soon his dynamism found full play. It is for his leadership in science even more than for his individual distinction as scientist that the nation is grateful to him. He was as responsible as Jawaharlal Nehru for bringing this bullock-cart country to the atomic age. He built up a great organisation noted for its brilliance, its daring and its solid achievement. Time and again Mr Nehru spoke of the new administrative methods tried out at the Atomic Energy Establishment where youth and talent found opportunity and the mere play-safe civil servant was not boss. Dr Bhabha was also a great connoisseur of the arts and a friend of artists. Not surprisingly the committee which went into the working of the three Akademis was headed by him.

He was clear in what he wanted to do and did not allow himself to be lured from his work. It is well known that he said no to an invitation to join the Cabinet. Very few people, in India at any rate, withstand such a temptation.

Two outstanding virtues of Dr Bhabha's work were his insistence on excellence and his belief in self-reliance. He believed, and showed to the world, that Indian scientists can find, make and build the most difficult of scientific and technlogical apparatus.

Torment of Truth

WE praise sages for calmness of spirit, little realising that saints and seekers, authors and artists are rarely blessed with calmness. There may be vouchsafed moments of surpassing peace, but their daily portion is really spiritual turmoil. This was so with Gandhiji. The storm in Tagore's heart suggested by those disturbing paintings is in many ways more authentic than the tranquillity of *The Gardener*. This was true also of that Indian from across the seas, Romain Rolland, whom we remember in his centenary year. He brought peace to many tortured seekers of the truth, like Mirabehn, but he himself was never spared of the agony. His *Jean Christophe* is a great testament to the torment that truth confers.



IGNORAMAN
Wants to Know

Whether Our Food Statistics
Can't be Called
State Sticks ?

Jis Desh Mein Ganga

SOME Governmental appeals can be pathetic. No other word describes the appeal of the Uttar Pradesh Government to people not to visit Allahabad for the Kumbh Mela. The State even brought out a booklet under the title "Aapki Aangan hi Teerth Hai" (your own courtyard is a holy place), but nothing deterred the people. Five million people—or seven million, depending on the newspaper one reads — went there for the holy dip. Only that familiar phrase "Jis desh mein Ganga bahti hai" explains this ancient urge.

Fortunately there was not that hideous crush this time of the kind that took place twelve years ago. A visitor to the Kumbh told us that there was not a single fly in the camp there.

This India

WE gather that M.P.s from the Adivasi classes refused to vote for Mrs. Indira Gandhi on the ground of principles: they told her, we gather, that under their social code they could not be ruled by a woman.

THE INDIAN GIRL, 1966

Her Problems of Work and Marriage



by USHA CHETTUR

IN the eighteen years since Independence the working girl has become a very definite phenomenon and force in our country.

Of course the working girl in India has taken much longer to bid for acceptance, for her counterparts in most of the other countries have already established themselves for well over four decades. With the various fields open to women today, the young Indian woman has begun to view her future as revolving around a career, as, say, her forebears did, marriage. The emphasis laid on higher education and the readiness of most parents to let their daughters secure university degrees have had the effect of causing the young woman, at the end of her college career, think for herself and question the pre-planned future laid out before her. She thinks of putting her knowledge to use and tries for a job which may or may not have a bearing on the degree she acquired at the university.

Quite a few girls today start working soon after school. They are naturally very much younger than the other working girls, and their reasons for deciding on a career may often have to be due to the family's economic necessity.

As far as individual backgrounds of the girls concerned go, they are as varied as the number of fields open to women today. Families in which the female head is working often treat it as a matter of course to allow their daughters to work also. But even among the more orthodox families and communities, women with careers are as common as in homes that are supposedly modern.

The working girl takes up a new standing in her family once she starts earning her own living. She has now blossomed into an earning member of the family and this necessitates a renovation of her status in the family. Her old ties with her family which were essentially based on a dependency have to be readjusted.

In most cases this readjustment is not smoothly achieved. It is difficult for the parent to accept the fact that the daughter of the house has now gained a foot-hold for herself and the shelter and protection which he had till now deemed his right to provide, is not now indispensable in the daughter's eyes. Sometimes there are factions and dissensions, with the daughter being driven completely to sever relationship with the family.

But most families seem to adjust to the situation in time. As one parent put it : "It is I who instilled in her the desire to fend for herself by putting her through B.A. and M.A. At the end of it she is old enough to realise that she need not accept all that is thrust on her. She is in a position to plan her future herself. My role in her life now becomes that of an adviser or consultant and she is in no way obliged to take my advice. I know it is difficult to reconcile myself to my new role but with a little effort we can strike a happy medium."

This 'sensible' reasoning is what most girls ask for as well. Says a well-adjusted young lady announcer working in All India Radio : "I find that my relationship with my family has become much more interesting now. My parents treat me as an individual capable of my own opinions, and my own attitude towards them is one of respect—not to be mistaken with mute subjection. I am no longer a piece of furniture to be moved around at will."

In the wider periphery of her community the working girl is slowly being regarded as a very real personality. The idea of the working girl being viewed as a self-willed, head-strong individual, best left unnoticed, is giving way to her favourable recognition by the elders of the community. Once it was realised that the working girl cut herself away from the essentials of her tradition, she has gained a more elevated place in the eyes of the community.

MARRIAGE MARKET

It is around the question of marriage that the working girl seems to assert herself in a positive way. The average parent envisages for his daughter a happy early marriage as the ultimate happiness from a responsibility well carried out. In most such instances the partner is chosen by the family in strict adherence to traditional requirements. Where such a match is agreed to by the girl, all goes well. But more often than not, in her meeting with a larger number of people in her work and through her colleagues, she begins to form a very firm idea of what she considers an 'ideal match'. She is, therefore, in no mood to accept mutely what is sponsored by her parents.

It is this coming in contact with various types of people that is frowned upon by certain sections of society. "Our daughter is after all quite young and has led a fairly protected life and may not know how to act with discretion", says a worried mother.

Working girls, unfortunately, are not very much in demand in the formal marriage market. Her taste of independence, both economic and intellectual, is not viewed with favour by her prospective in-laws. "For ourselves, we are quite pleased with our daughter's career, but for how much longer ? It gets more and more difficult to get a groom for a working girl and she is not getting any younger", says one ; and another declares more vehemently: "We should never have let her work. Now she is so choosy and uncompromising with anything we have to offer. Things were far better before."

However, most of the youngmen and women realise that the time is not far off when both partners will have to earn to keep a marriage on a steady economic balance. But even so, there are some men who nurture the role of the sole provider, and are unwilling to allow their wives to work.

And how does the working girl herself view marriage ? A young receptionist in an airline office says: "I feel disinclined to thrust myself on someone whom I regard unsuitable. My attitude may cause despair to my parents, but I do not believe that marriage is merely a shifting of responsibility from parents to husband."

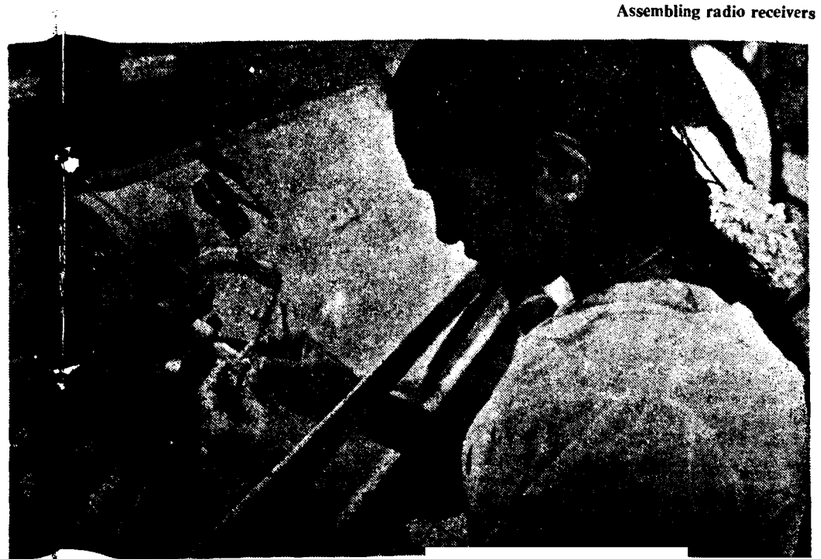
Most of the girls have a very definite and mature appreciation of the question. Marriage, they feel, will come 'in time,' and meanwhile they have their jobs to keep them busy and occupied. Says a girl about to get married: "I am glad of my experience of working. It has given me the confidence to face any eventuality. I know I will be able to stand on my own feet again, if ever the need arises."

IN MAN'S WORLD

Much though the working girl seems to cherish the idea of working and her job itself, there is still not a small proportion that works merely to supplement an inadequate family income. Whether the girl is happy in her job or not, she knows that she is working because 'she has to'. One hears instances where the girl,

(*Continued on Page 21*)

Assembling radio receivers



ANNUAL PLAN, 1966-67

Maximum use of local resources. Stress on import substitution and higher exports. Priority to quick-yielding schemes in agriculture and industry

WORK on the formulation of the Fourth Plan is continuing. The main objective will be to secure urgent increase in the supply of goods and services required for defence, including civil defence. Essential requirements of civil population will be met and foreign exchange will be saved by import substitution and increased exports. The basic infra-structure will be developed with a view to strengthening the economy and sustaining its continuous growth.

Detailed studies on the various aspects of the Fourth Plan will take some more time. But the Third Plan is coming to a close and the formulation of a short-term emergency Plan, pending the Fourth Plan, has thus become necessary. It was decided to formulate the Annual Plan for 1966-67, the first year of the Fourth Plan, on an emergency basis, so as not to delay the implementation of the Fourth Plan programmes.

The Annual Plan takes into account the specific exigencies of the present situation and consequently it will be a special Plan. It involves a rephasing of certain programmes and outlays.

Plan Strategy

In a recent article released on the occasion of the Republic Day, Mr. Asoka Mehta, Deputy Chairman, Planning Commission, has delineated the broad policies and programmes of the Annual Plan of the Centre as well as of the States and Union Territories. He says :

> The principal objective of defence-orientation in this year's emergency development plan was to secure early increases in the supply of goods and services which were required at the front and for civil defence measures, which would maintain the essential requirements of the population and which would ensure foreign exchange by import substitution and higher exports.
>
> The short-term problems in agricultural and industrial production were the first to be tackled. In addition to the maximum use of existing capacity, the major outlays in irrigation and power were diverted to the completion of quick-yielding schemes.
>
> Those likely to yield results after some years were slowed down as also those where the production process had a big import content of raw materials and components. The expenditure on construction work and on projects using scarce materials was also kept to the minimum. If greater effort was needed in defence and other fields, it was sought to be put through by mobilising additional resources and savings so that deficit financing could be kept back and the country's general economic stability maintained.

Mr Mehta explains that in the first year of each Five-Year Plan period, a good part of the outlay is incurred on continuing schemes. In 1966-67 Plan, the reallocations and adjustments which became necessary for the defence sector have been minor and in some cases almost nominal. "Our immediate difficulties can be sourced more to the drought and to the discontinuance of foreign aid inflow than to anything else." Effort has been made to substitute domestic resources for external assistance, wherever possible.

The reallocations and adjustments made in the Annual Plan might lead to certain distortions and imbalances when placed within the framework of the Fourth Plan. Such distortions, if any, will be readjusted next year to fit into the overall framework of the Fourth Plan. However, the new investments to be made in the Annual Plan, whether they affect manpower training or industrial growth, will govern and, in some cases, determine the contours of the Plan progress in the years to follow. "If we do decide that the 1966-67 Plan might be somewhat lower than the outlay for 1965-66, we are predetermining and also reducing our capacity to achieve all that we thought was desirable and possible of realisation over the years 1966-71," observes Mr Mehta.

Priorities and Targets

Indicating the priorities in the Annual Plan, Mr Mehta says allocations for agriculture, including minor irrigation, are being stepped up by anything from forty to fifty per cent over this (1965-66) year's allocations. The next highest priority has been given to irrigation and power, the emphasis being on completing the existing schemes. No power generation scheme will be held back for which foreign exchange has been already secured.

The targets for agricultural production for the year are :

Additional food grains	7.8	million tonnes
Oilseeds	9.7	,, ,,
Sugarcane	12.5	,, ,,
Cotton	6.4	,, bales
Jute	6.8	,, ,,

These targets will be achieved through the development of three million acres of irrigation under major and medium projects, 3.5 million acres through minor irrigation works, 4.2 million acres under soil conservation, 137 million acres under improved seeds and use of fertilisers to the extent of 5.1 million tonnes of ammonium sulphate and 2.2 million tonnes of superphosphate. An extra three million kilowatts of power will also be generated and an additional one lakh pumping sets and tubewells will be energised.

The Central Plan will include a number of vital schemes under

(*Continued on Page 28*)

Books

Agricultural Capital

Capital Formation In Indian Agriculture by Tara Shukla. Vora & Co. 261 pages. Rs 20.

Dharma Kumar

THIS study of capital formation in Indian agriculture from 1920 to 1960 consists of two parts: the first contains a theoretical analysis in general terms of the concept and problems of capital formation in agriculture, and the second contains statistical measurements of capital formation in India over this 40-year period. We shall concentrate in this review on the second part as it is more original.

Lack of data has confined the study to durable physical assets and in particular to land, buildings, irrigation, livestock and farm equipment. Even in dealing with these, the author faces two sets of problems. One set is common to all estimates of capital formation, particularly over a period of time, including the problems of definition of depreciation (no satisfactory solution was found to this problem), the problem of weighting for different types of capital and for varying changes in the quality of capital over time. In addition, the paucity of Indian data necessitates the usual heroic assumptions; of these the most striking difficulties have arisen in the estimation of investment in irrigation, where the author appears to have used a few isolated studies of changes in land values due to irrigation to arrive at all-India estimates.

If one accepts that in spite of these largely inevitable difficulties the estimates correctly represent at least the main trends in capital formation in agriculture, a number of interesting conclusions follow. In the first place, the overall rate of growth in agriculture has been very slow, amounting to less then one per cent per annum. Again, while capital per unit of land has increased fairly substantially over the period, mainly because the extension of land under cultivation has been slow, the capital-labour and capital-output ratios have hardly changed. In other words, the amount of equipment the average farmer uses has increased very slightly over the 40-year period, and the quantum of agricultural output obtained per unit of capital has also not changed very much. This would suggest that on the whole there has been little technological change in Indian agriculture, although there has been a fairly steady growth in the share of non-traditional implements in total implements. It is also a fairly hopeful sign that there appears to have been some improvement in the ratio of output to the various inputs in agriculture, and in particular to capital, during the decade of the '50s from which it may be inferred that improvements in technique are at last being brought about.

The author also measures regional variations in capital formation during the period, as well as in the composition of the different broad groups of assets. Doubtless, further research will uncover the various gaps and deficiencies in her estimates, but it is a valuable pioneer study. This is the first long-term series of capital formation in Indian agriculture, since prior to this only very few estimates for different points of time were available.

BOOKS RECEIVED

The Gazetteer o India. Volume One. Country and People. Central Gazetteers Unit. Government of India. The Director of Publications Division, Ministry of Information and Broadcasting. 652 pages. Rs 22.50 or 45s. or $ 6.75.

Economics: An Introduction by G.C. Jangir and Narindar Singh. National Publications, Delhi. 730 pages. Rs 16

Agricultural Officers' Guide Book, 1966. Government of Kerala. 198 pages & diary.

FERTILISER USE

Fertilisers and Their Use—A pocket guide for extension officers. FFHC Fertiliser Programme: Food and Agriculture Organisation of the United Nations, Rome, 1965. 54 pages. Price $ 1.00 or 5 sh.

S.P. Raychaudhuri

THE object of the publication is to help extension or village officer to understand and use fertilisers. The topics dealt with in the booklet include a wide range of subjects, e.g., why do we need fertilisers; what are the nutrients that plants need for growth; what is a soil and how does it hold nutrients; soil reaction on liming; the needs of different crops for different nutrients; nutrients balance and applying the correct amount of nutrients; how the fertilisers look and what is their analysis or grade; primary nutrient fertiliser grades; secondary and micro-nutrient fertilisers; how much fertiliser is needed to apply a given rate of nutrients per hectare; the ways of applying fertilisers, such as broadcasting, row or band placement, top dressing and side dressing; determination of fertiliser needs of the plants by hunger signs of plants, soil testing, plant testing, and fertiliser field trials and demonstrations; the factors other than fertilisers which may limit crop yields such as absence of sufficient moisture, inadequate soil tillage to prepare the seedbed, crop variety, seeding rate; weeds, crop diseases, crop insect pests, inadequate drainage, bad soil structure and absence of soil organic matters. All these are fundamental problems and have been explained in a simple lucid manner.

The publication also suggests how to carry out fertiliser extension work which includes organising farmers' field days and meetings with the farmer to explain the fertiliser needs of crops. In the end, references have been given to a list of books or booklets that may be useful in fertiliser extension work.

The booklet has been written in a clear manner and the illustrations included are all informative and appropriate. This should be a very useful handy pocket book for the extension workers in our country.

JOYS AND JUDGEMENTS IN LITERATURE

A New Study of Indian Poetics

Sanskrit Poetics by Krishna Chaitanya. Asia Publishing House. Rs 40. 466 pages.

V. Sitaramiah

KRISHNA Chaitanya has been before us long enough as art critic, student of literature and photographer to need any introduction. After a book on Sanskrit literature which broke new ground, he is at work here in the same large way on Sanskrit poetics. He covers the ground expounding, analysing, comparing and interpreting terms and attitudes and illuminating aspects and points which seem to him stiff or opaque. His preface is a brave overture which presents the theme as well as the colour and character of his own will and way.

The usual subject matter of poetics consists of elements that go into literary composition, its nature and function, its genesis, process and fulfilment and *ad interim* considerations of fault and merit and aid and equipment. Questions of ethics and philosophy are also brought in. The frontiers are sometimes indicated. So are its categories and predicables, *i.e.*, the nature of vision and design. Aesthetic form and value and considerations connected therewith and the nature of freedom and the enjoyment of laughter or tears are fully gone into.

In the earlier English works on the subject only incidentally were comparisons made and parallels indicated. Here the whole field is treated comparatively and critically. Two thousand years of West and East are in encounter, jostling against each other in friendly rivalry triumphantly to establish the superior achievements of the Indian mind. The author's is an amazing feat. His memory—as indeed his notes—is prodigious, like almost an International Telephone Exchange linking up poets, critics and commentators over spaces and ages so as to yield discriminations in subtlety, depth and dimension. With them are aligned or deployed the latest researches in psychology, aesthetics and criticism.

His analysis of structure is more than the technical apparatus connected with the plot which to him is metaphor, myth and allegory. The nature of the poetic experience, the process of expression, and the mysteries involved in appreciation and the play of meaning leading up to significances far beyond the obvious and the accepted are all on view. The fire motif, *e.g.* in the *Mahabharata* (Page 99) and the Return of Tragedy in the *Uttararamacharita* (Page 186) are beautiful sensing. On the sudden we are led into the absolutism of a Mallarme dictum: "The world has been made for terminating in a good book" (Page 385) which is only matched by the Indian grammarian's statement: "One word, well used and well understood, becomes in heaven the all-giving milch cow."

As theory of literature and its special type of working and relish the book is good; but as to how this bears on single pieces of work, or the merit of any one person or form or time except in a technical way, it will be difficult to establish. That is a pedestrian job perhaps, but no less useful and necessary. *Ritusamhara* is not on the same level as the *Megha Duta*, or *Agnimitra* as *Sakuntalam*. The realisation of Existence, Knowledge and Bliss (Sacchidananda) cannot be involved in the literary enjoyment of a *gatha* or lyric of even a master : so that the tracing of poetic relish through beauty to bliss and thence to Sacchidananda will be disproportionate. Meanwhile we shall have robbed it of its human and humane validities and relevances. Terms for beauty like Chamatkara, Saundarya and Lavanya are not satisfactorily derived yet. The Bhavas (sentiments) have to be classified, redefined—in the light of modern psychology—and numbered. Samyoga (fusion) and Nishpatti (emergence) still can torment. The Rasas (feeling-flavours) are more clearly to be enounced. The *Gita* and the *Mahabharata* were best kept out of poetics and mere literary criticism. Far too many mixed factors riddle or bedevil a consideration of them. Transcendental excursions cloud counsel.

The *Sahridaya* (relisher) as concept and. factor in enjoyment, Dhvani (obliqueness) and Rasa are, by all accounts, our special contribution to poetics; but to literary criticism not we so much but the western writers have contributed most. That demands valuation and judgement. Taste and culture modify it. And is the mind of the Sahridaya like a mirror or like, say, the Tanpura as it links up pitch-relations in music while itself remaining steady and uniform and reminding us of the standard base? Is it not even more positive as a participant in the enjoyment actively contributing its own richness of sensing and wisdom of life and depths of sensibility and yet able at a minute's notice to change over to appreciate quite a different type of work and with the same gusto? Effort could be made to connect inherited sensibility, acquired taste, latent reactivity and possibly also the Collective Unconscious and the 'irruption of personality' ideas, as roots: when under a stimulus, in a mood, the creative imagination of a poet begins to work; the operative mood giving it colour-tone and purpose and enterprise setting it out on career. The whole is a synthetic act; but as elements can be placed in the process.

A moot question is whose sensibility (Sahridayata) is commensurate with that of the author in any piece of work and whether the same author over periods of time could be the perfect Sahridaya in judging his own work? We have only a work before us. Its meaning depends on grasping it through the words of the author or the understanding of the action-composite on the stage, modified by a director; consequently valuation and enjoyment will be different. Structure and intent, ensemble and movement, light and shade quite as much as the words themselves can indicate different feeling-tones in a stage play. Even meaning can be affected. Which reaction to it is valid: that which is literal or presented or interpreted as allegory or symbolism? And who vouches for its being the one only and true presentation of it? The whole field of literary criticism is littered with the illusions and the punctured claims to truth of, say, *The Divine Comedy or Hamlet* or the message of the *Gita*.

Each branch of sensing had better, one feels, analyse its field, indicate frontiers and retire to let readers have their joys and judgements. Frankly the field of art is a field of preference, taste and culture; it is one of value-hierarchies and personal responses. Terms like Alaukika or Lokottara (trans-mundane) can be driven beyond their range; made needlessly transcendental and spiritual : when they can mean anything to anybody. My feeling is that the critical and enjoying mind is taken during the time of reading, seeing and hearing to the world and time and feeling of the poem. That is all that is warranted—and one forgets one's immediate secular environment. The enjoyment itself partakes of the colour, tone and flavour of the work of art, and then comes back to current life. Anything beyond that is added by each experiencer from his history of culture. He may have his special beatitudes; not necessarily warranted by the work but induced in him because he is he.

Sadharanikarana (universalisation) and Avaranabhanga (unveiling) are beautiful terms where the poet and the experiencer are both led into more generalised levels of meaning and feeling outside the particular man, into mankind in general and not the vagary of an idiosyncratic individual; from the brute particular to the contemplation of a generally valid human experience on hand. That should be enough.

Intuition and imitation are terms which have had a fairly long history. If Rilke's quotation (on p. 35) is like an inventory, why is not Bharata's that? Surely those of Dandi and Rajasekhara are worse? Rilke's items can be deemed elements in the poesis while these others are equipment and so external.

The chapter on structure is illuminating. The relationship between part and whole, the play of poetic excellence, ornament and suggestion in the realisation of poetic feeling can lead different competent tastes and even different judges to different responses and valuations, all of which are valid to the extent they bear on a work.

Interpretation Is Forte

When is criticism complete and final?

All the study of our poetics even when it allows for the psychology and philosophy of the process in parts or in the analysis of the Ananda enjoyed leaves us high and dry for literary criticism. In the enjoyment, ecstasy or anguish values and the scales and criteria may not be heeded.

This must be said of the book. It is brave and full; takes us into the heart of many processes and controversies; illumines many points that formerly were half clear or were merely a bloodless category. Whether one accepts the author's explanation or not, one is the better for the light he throws on it. Interpretation is his forte and in his most wilful mood his point of view deserves to be considered.

The same English words, *e.g.*, Detachment, may not be used as equivalent to different Sanskrit words like Nirveda and Sama. Colour words like Resonance, Interface, Orchestration, Epiphany, Donate, Transitive, can hurt communication. Poor Shankara comes off like a scapegrace for no fault of his. Vyasa and Shankara are not equal weights or protagonists in the same field of reference. Discussing him for Maya against a Vyasa, who gave us an epic and many other things as well, is the supreme exercise of what he would call Vivarta or Adhyasa (phenomenalising fantasy) and therefore not valid at all. The whole of the *Mahabharata* would appear to a contemplater of eternity as a passing show and Vyasa is a portmanteau name for all this show-up. Our author is uncompromising about his being the only true meaning, though the *Gita* could be, and has been, the Bible of a hundred conflicting creeds through the ages.

If the substantive doctrine only could figure in the body of the exposition and the rest was printed for names, quotations, history and campaigning as ancillary matter and covered in footnote or annotation later in the Reference, the exposition would gain greater strength and not hold up and tantalise. Now the argument tends to get choked and cluttered and goes off often into forays which are exhilarating in themselves but which leave us unsatisfied and stuck.

The task is how to organise this knowledge and use it for discriminations in modern literature in East and West. New types of work in fiction and drama which are more mixed and composite in character have come into the world and the old ordering and direction need to be geared to a perhaps cruder if more inclusive purposes. We may have to do with less than the finesses and beatitudes unless we should dismiss the new work dealing with a chaos, a boredom, a loneliness, a disenchantment, a hunger, as not literature at all.

The late Kuppuswamy Sastriar did not perhaps add substantively to poetics; but he summarised the position well in diagrammatic presentation. The Auchitya concept will include more of life and reason and experience and will help in the placing of works of literature; for criticism and life, and morality and philosophy, are aspects of the same phenomenon.

For its size and erudition the book is fairly free from typographic errors and is very good as production.

TRAFFIC PLANNING

An Urgent Need of Urban Areas

N.S. SRINIVASAN

Central Road Research Institute

THE prevailing characteristics of industrial economy have led to a high degree of urbanisation. As a result of this, there has been a tendency on the part of the people to gravitate towards towns and cities. The trend is increasing every year and has resulted in the rapid increase in the number of vehicles in urban areas.

The present road systems in towns and cities, which were designed to serve slow traffic, are now hopelessly inadequate to cope with the needs of modern transport and increasing vehicular movement. As the vehicles are increasing in number and speed, the roads clog up with dreary frequency causing loss of money, time and energy. Besides, there has been an alarming increase in the number of accidents resulting in serious human and economic losses. For example in Delhi, during the year 1958-1964, motor vehicles increased by 181 per cent and the population by 32 per cent whereas the road accidents increased by 186 per cent indicating an average increase of 31 per cent a year.

The urban traffic problem is further intensified by other causes such as (1) haphazard growth of urban areas and ribbon development, (2) increasing demand of transport with rising socio-economic conditions, (3) varieties of transport vehicles plying on the roads, for instance in Delhi there are at least 13 different types of vehicles, (4) the unsuitability of existing roads to cater for mixed traffic, (5) concentration of employment centres in certain areas, (6) lack of road sense on the part of users and (7) absence of an organisation to deal with the problem comprehensively.

The increasing rate of population and vehicle growth is expected to further aggravate the urban traffic problem. It is feared that unless steps are taken with the help of traffic engineering techniques, this problem is bound to become serious. The function of traffic engineering is to fit the roads to the traffic by planning and design, and the traffic to the roads by regulation and control in order to obtain maximum capacity without impairing safety.

Before planning any new roads these techniques should be applied to make effective use of existing roads and streets in urban areas. To increase capacity of the existing roads it is necessary to improve geometrics of roads and road intersections and also instal traffic control devices. These design features, along with proper traffic regulations and provision of road lighting, parking places, etc., will ensure safe and efficient flow of traffic.

Janpath-Connaught Circus intersection in New Delhi can be cited as an example for such improvement. This intersection carrying a heavy volume of vehicular and pedestrian traffic was previously controlled by a two-phase signal which was not suitable to eliminate crossing conflicts. This created unsafe conditions resulting in 20 accidents a year, besides traffic delay. The Central Road Research Institute, after carrying out a detailed study of road accidents and traffic conditions, worked out an improvement plan consisting of flaring of approaches, right-turn pocket lanes, zebra pedestrian crossing, a four-phase signal, etc. The new signal eliminates all vehicular and pedestrian conflict points, and so far there has been practically no accident at this intersection since the improvement was effected about a year and a half ago. Further, there is better discipline on the waiting queues of traffic, as each movement of traffic has a separate lane now.

Analysis of Road Accidents

Systematic analysis of accidents can help in finding out remedial measures to reduce the accidents. The Central Road Research Institute, New Delhi, has prepared an accident spot map of Delhi for the years 1958 to 1962. From this study 21 worst-accident black spots have been selected. A micro-analysis of road accidents of these 21 black spots of Delhi has been carried out to find out the general characteristics of road accidents at these spots.

Some general conclusions were drawn from this study. Pedestrians were involved in about 71 per cent of fatal accidents, about 52 per cent of severe injury accidents and about 54 per cent of slight injury accidents. It is therefore necessary to provide at those black spots adequate facilities for pedestrians' safety, such as improved side-walks, properly marked pedestrian-crossings at suitable places, railing-barriers to control the movement of pedestrians, flashing amber signals at pedestrian crossings, separate signals for pedestrians in traffic signals, subways and overhead bridges, etc. Since the pedestrians do not use facilities provided for their safety, there is need for traffic education and enforcement.

Cyclists were involved in about 25 per cent of fatal, severe injury and slight injury accidents. To ensure cyclists' safety, continuous stretches of cycle tracks of good surface, limited openings for side-bungalows, level of cycle tracks not affected by openings from bungalows, proper segregation of cycle traffic at intersections etc., are some of the facilities recommended.

Since about 60 per cent of fatal accidents are caused by heavy vehicles such as trucks and buses, it is recommended that drivers of these vehicles must be tested for eye-sight, knowledge of traffic rules, driving aptitute etc., before the renewal of their driving licenses. A well-planned traffic education programme regarding safe and efficient use of roads should be arranged for these drivers. It is recommended that drivers of other vehicles, whose driving records have not been satisfactory, should also be given a fresh test before renewal of their driving licenses. To keep an impersonal check on drivers, "point system of control" is extremely essential.

About 48 per cent of fatal accidents were caused due to rash and negligent driving. To control this, there is a need for traffic safety drives. Their aim should not be mainly punishment for violations, but to impress upon road users the importance of traffic sense.

Micro-analysis of accidents at each location is being carried out with a view to suggest remedial measures for each location. In the meantime a new warning sign has been suggested for installation at each of these sites to warn the road users about the existence of high accident frequency spots.

Such a micro-analysis was also carried out by the Central Road Research Institute for Indraprastha Estate-Mathura Road-Rouse Avenue inter-section, which has on an average 50 accidents a year. After a thorough study of existing conditions an improvement plan has been prepared, which also provides for segregation of heavy cycle traffic at this intersection.

In fact the metropolitan cities have now reached a stage where spot improvements alone will not suffice. To ensure safe and efficient flow of traffic in the cities, it is necessary to visualise the problems comprehensively and work out improvements to meet the demands of the present as well as future traffic. While working out such schemes the financial capacity of the community should be studied carefully. Priorities and stages for improvements should be worked out with the financial and traffic aspects in view.

Of late highway and traffic authorities in a few metropolitan cities of the country have realised the importance of comprehensive traffic planning and have taken up such work. On the request of the Mysore Government the Central Road Research Institute has taken up such planning work for Bangalore metropolitan area. Studies have been undertaken to assess the facilities available and also traffic and transportation demands. The present demands will be projected to the design year 1981 and facilities will be designed to meet this. It is proposed to take up such work for Bhilai in the near future. Such planning work provides for better utilisation of research results. At present the Central Road Research Institute is carrying out this work in addition to research work on road traffic problems only when it can be fitted in. In view of the urgent demand for carrying out such work in big cities, there is a proposal to start a self-supporting Traffic Consultancy Cell in this Institute.

THE INDIAN GIRL, 1966

(*Continued from Page 15*)

helping to ease the financial situation at home, is at the same time saving a small portion of it, and on collecting a reasonable sum, asks the father to get her married off on the sum.

Within the boundary of the office world, the entry of the working girl has created diverse effects. Initially this female intrusion was viewed as a nuisance. Frictions were many, and led sometimes to unpleasant results. It was difficult at first to accept her on the same level, in a wholly man's world. She was often regarded as a passing joke by her seniors and with unveiled bitterness by her subordinates.

But time has changed the male attitude towards the career girl. He now realises that she is 'here to stay' and once accepted for her worth as an able colleague, she has settled into the framework most comfortably. There are, in fact, many men in senior posts today who prefer women to hold responsible posts under them. "They are usually more conscientious and aware of their responsibilities," says one. But even so, there are a few who regard women in the office as merely a point of distraction.

However one may view it, it is a fact that the working girl community is one that has become an accepted feature of our society. The working girl community has evolved into an established aspect of the social structure, and the numbers within its fold are increasing every year. The working girl is today a very balanced entity—one that has gained a new-found independence and is confident of her ability to use it.

Yojana Bhavan Diary

Mr Asoka Mehta, Deputy Chairman, Planning Commission, was sworn in as Minister for Planning in the Union Cabinet on January 24.

Mr D.R. Chavan, Deputy Minister for Food in the previous Council of Ministers, has been appointed as Deputy Minister for Planning.

The Members and staff of the Planning Commission gave a farewell party on January 27 to Mr B.R. Bhagat who relinquished charge as Minister of State for Planning.

Mr T.T. Krishnamachari relinquished charge as Member, Planning Commission, on December 31, 1965.

Mr N.K. Bhojwani has taken over as Chief (Food) in the Planning Commission.

Mr K. P. Khushalani has taken over as Senior Specialist in the Irrigation and Power Study Team of the National Planning Council on January 1.

Mr. V.M. Bhide, former Commissioner and Secretary, Finance, U.P. Government, has been appointed as Planning Adviser for U.P. from January 5 with headquarters at Lucknow.

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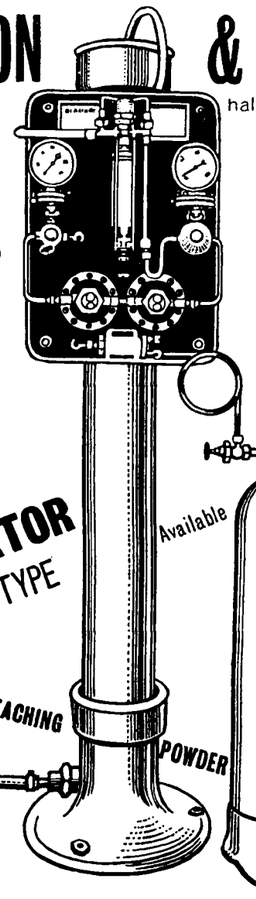
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Three Times More Ragi

B. P. Nagarajamurthy

RAGI is one of the important food crops of South India. It is grown on nearly two million acres in Mysore, an area almost equal to that under paddy in the State. The annual production of grain is 7.5 lakh tonnes in the State, which is nearly 30 per cent of the national total for the crop. Increase in ragi production is an important item in the package programme in the district of Mandya.

A concerted effort was made by the package authorities in the State Department of Agriculture during the rabi season of 1964-65. Having participated in the programme as registered seed grower and having been supplied with 10 kg of foundation Annapurna ragi through the package authorities I might record what agronomic practices I followed on five acres of my land at Ragibommanahalli in the Malavalli Taluk to obtain higher yields.

Soil: The sandy loam soil of my land is good for ragi as it can be grown on all types of soils except alkaline.

Fall Ploughing: Ploughed the land once with iron plough as soon as the harvest of 1964-65 kharif paddy was over.

Nursery: Measured 10 *guntas* area, ploughed them well to bring the soil to powdery texture and prepared raised beds of the dimension of 6 inches in height, 4 feet in width and 15 feet in length. Applied two baskets of well decomposed compost on each of the raised beds, sowed the treated Annapurna ragi, covered it with a thin layer of sand just to cover the seed and sprinkled water on March 14, 1965. Healthy and vigorous seedlings came up. Sprayed with Blitax on April 6, before planting, as a precautionary measure.

Preparation of Field: Prepared the main field by ploughing with iron plough four times and once with cultivator.

Manuring: Applied ten cart-loads of poultry manure and 20 pounds of nitrogen, 30 pounds of $P_2 0_5$ and 30 pounds of $K_2 0$ per acre as basal dose and ploughed with wooden plough and wooden cultivator.

Planting: Irrigated the land on April 8, and planted two ragi seedlings of 9 inches in height per hill in lines having the spacing of 9″×5″. The seedlings were 24 days old by that time.

Intercultivation: Two intercultivations were undertaken—one with wooden plough and the other with two-tooth harrow after application of 20 pounds of nitrogen as top dressing and also hand-hoeing in the lines.

Irrigation: Four irrigations were given. The water requirement of ragi is far less than that of paddy.

Maturity: The Annapurna ragi is not season-bound and can be grown all through the year wherever water is available. The crop is mostly uniform in maturity and proportionately high yielding. This variety has a very good tillering capacity ranging from 4 to 16 tillers per hill with well-grown ear-heads having 6 to 14 spikelets per ear-head of 5 inches in length and half-an-inch in width. The ear-heads are closed type with spikelets bending inside and not spreading out like other varieties. Some ear-heads are of coxcomb type. The height of the crop is 5 feet. It does not lodge.

Economics of the operations: The cost of cultivation per acre is as follows:

	Rs.
Ploughing	40
Intercultivation	10
Seed and Chemicals	1
Poultry manure	80
Raising nursery	10
Fertilisers	80
Labour for weeding and top dressing	20
Labour for transplanting and irrigating	20
Labour for harvest and threshing	50
Miscellaneous	19
Total ...	330

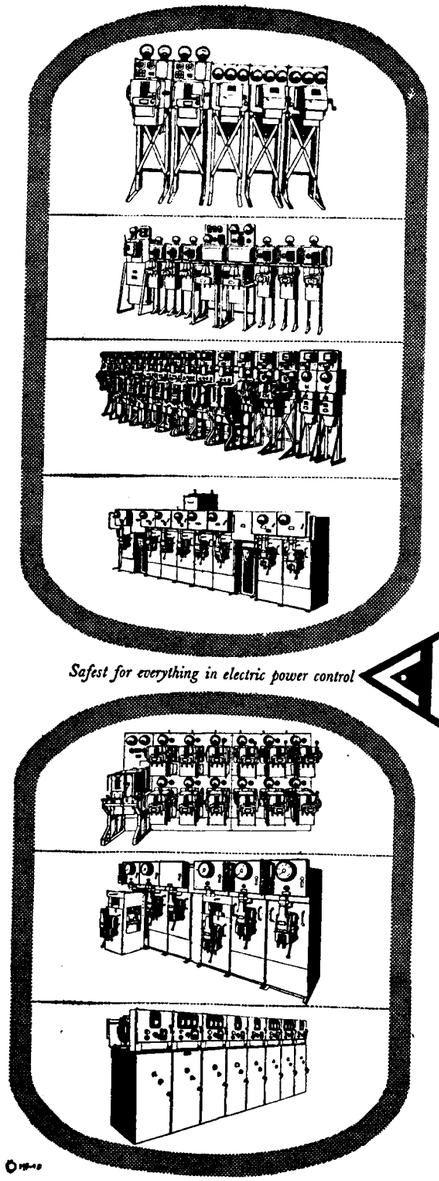
The normal cost of cultivation per acre would be as follows:

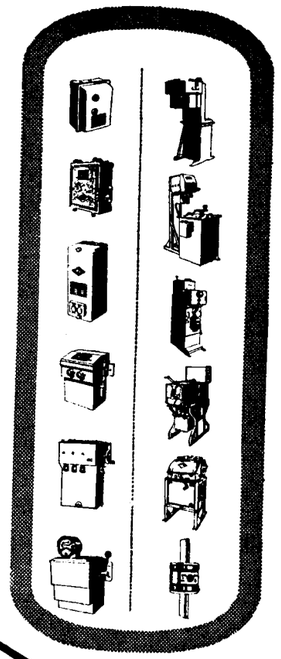
	Rs.
Seed	1
Fertilisers	63
Spraying	9
Chemicals	10
Agricultural operations	25
Cattleyard manure	50
Harvesting and threshing	50
Total ...	208

Yield Result: The crop was selected for the crop competition. The committee of judges measured 10×5 metres area in one-acre plot and picked up the ear-heads. The green weight of the ear-heads on July 19 was 68 kg. Dry weight on July 24 was 52½ kg. The ear-heads were kept in sealed gunny bags in the office and thrashed before the committee and other officials on July 24, resulting in 41½ kg. of ragi.

The total area of five acres in all gave a yield of 130 quintals. The one-acre competition plot yielded 28.80 quintals. The average yield in the district is 8 to 10 quintals an acre.

I am sure that if a sustained effort is made to finish every operation in good time, all farmers will be able to show better results.





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High-Yielding Paddy and Wheat for Farmers

As The PLAN Moves

SEEDS of two high-yielding varieties of wheat and paddy have been released for cultivation. The Mexican dwarf variety of Sonora-64 wheat will be distributed in Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, West Bengal and Orissa, and the non-lodging, fertiliser-responsive Taichung Native-I variety of paddy will be cultivated in Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Orissa, Maharashtra, Gujarat and Punjab.

CRASH PROGRAMME IN MYSORE

A crash programme to increase the food production has been launched in Mysore State. The Oxfam, a British relief organisation, is supplying 5,300 tonnes of fertilisers, valued at £ 103,000 (Rs. 13.73 lakh), for the programme.

Under the programme 1,000 acres of land will be irrigated by the Tungabhadra dam in Northern Mysore and sown with high-yielding hybrid maize.

NEW RECORDS

Rourkela Exceeds Capacity

THE Rourkela steel works produced 10.77 lakh tonnes of steel ingots in 1965, an increase of 1.87 lakh tonnes over that in 1964. The rated capacity is 10 lakh tonnes. The production of hot metal also increased by 1.81 lakh tonnes to 10.74 lakh tonnes, and coke production increased by 1.83 lakh tonnes to 12.20 lakh tonnes.

The Sindri Fertiliser Factory produced 1,37,800 tonnes of ammonia in 1965, a record production.

Nepa Mills produced 30,500 tonnes of paper during the year, exceeding the rated capacity by 500 tonnes and setting up a new record.

FIVE LAKH VILLAGERS INSURED IN A YEAR

THE Life Insurance Corporation insured the life of 5.20 lakh persons living in villages for Rs. 197 crore, which was 36.2 per cent of the total business transacted by the Corporation in India in 1964-65. The total business for the year was Rs. 701 crore under 14.44 lakh policies, of which 1042 policies were taken by persons insuring for the first time.

At the end of the year, the Corporation's business stood at Rs 3887 crore under 108.68 lakh policies.

The Corporation released Rs 15 crore for spending on housing schemes in 1965-66 to ten States—Andhra Pradesh, Madhya Pradesh, Madras, Maharashtra, Mysore, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal.

AID FROM WEST GERMANY

West Germany will give India a credit of 18 million Deutsche marks for developing Indian railways. The agreement was signed on January 26.

India has also signed two other loan agreements with West Germany, one for 7.25 million Deutsche marks to improve facilities at the Tata Engineering and Locomotive Company's plant and the other for 23.5 million D.M. for general purchases.

INDIA HELPS TANZANIA

INDIA has signed a trade agreement with Tanzania under which the trade between the two countries will rise to Rs. 16.6 crore from the present level of Rs. 10 crore annually.

India will help Tanzania in setting up an industrial estate and an industrial training centre will be given as India's gift. India will also help in conducting techno-economic studies for various projects and collaborate in industries for fertilisers, caustic soda, agricultural implements, vegetable oil processing and paper board.

SNIPPETS

The increase in industrial production in 1965 is expected to be 8 per cent over that of the preceding year. The increase in 1964 was 7 per cent... The production of minerals in 1965 is expected to have reached Rs 2,25 crore which would be 10 per cent more than that in 1964. (The production excludes petroleum, minor minerals and minerals declared as prescribed substances under the Atomic Energy Act)....The co-operative sugar factories produced 8.06 lakh tonnes of sugar in 1964-65, about a fourth of the total sugar production in the year...The Defence Research Laboratory (Materials), Kanpur, has evolved a chemical which can arrest corrosion of guns due to water contamination...The Bihar Government has sanctioned a lakh of rupees to supply contraceptives to people free of cost this year... The Cochin refinery will be commissioned in March. It will have a capacity of 2.5 million tonnes...The Minerals and Metals Trading Corporation will sell 3.2 lakh long tonnes of iron ore to Yugoslavia in 1966-67 under a contract signed recently... The astronomical laboratory at Nainital will soon instal a one-metre reflecting telescope by 1969 to enlarge its area of studies of stellar positions...Eleven lakh children in primary schools in Rajasthan will be fed with eight ounces of milk each on every working day in the school. The milk will be supplied by CARE.

CASTINGS FROM STEEL SCRAP

Industry Needs Facilities

K. S. RAMACHANDRAN

RECENTLY a series of meetings were held in Calcutta among officials of the Union Ministry of Steel and Mines and representatives of steel producers to explore the avenues of production of steels required for defence.

The steel furnace and foundry industry in the country is by its very nature a special industry. It is engaged in the transformation of steel scrap or pig iron or iron ore into valuable steel castings.

There is a general lack of appreciation of the industry's requirements of good qualities of steel scrap. Steel scrap, to most of us, is only waste material. But the Government of India has never failed to appreciate the uses of scrap and has established the Metal Scrap Trade Corporation Limited in order to regulate movement of steel scrap in such a manner that neither the supplies of it to furnaces nor exports are adversely affected.

The step that Government has taken is proper and timely. Steel scrap is an item of export and scrap traders are lured to improving their export prospects by the import entitlement on such exports. In spite of this, furnaces continue to experience difficulties in the procurement of required items and qualities of scrap at reasonable prices. The Government should, particularly when the defence-oriented industries require more and more steel castings, give greater attention to the problem and ensure that the furnace and foundry industry gets its scrap requirements at economic prices.

In addition to scrap, the industry also requires other materials like graphite electrodes, which transmit electricity into the furnaces, and fluorspar which is used in oxidising the liquid metal. These two items are now imported and, owing to delays in the issue of import licences, are not available to furnaces in required quantities. The Government should guarantee regular imports of these materials to the industry. Graphite electrodes can be had from Japan which imports large quantities of Indian steel scrap. Under the import entitlement scheme for ferrous exports recently announced by the Union Ministry of Commerce, the items of import permitted against import entitlement include graphite electrodes. The Government should endeavour to arrange for supplies of this item either from Japan or from Hungary.

The furnace and foundry industry requires an expanding market for its products. Owing to the creation of new capacity for steel castings, however, this has been adversely affected. The Government may be right in issuing letters of intent and licences for steel foundries, since the resultant creation of steel castings capacity leads to creation of new employment and generates income just as any new project would. But, since this dims the demand of an existing industry, the Government should, if it is justified in creating new foundry capacity, take steps to improve the internal and external market for steel castings.

There is still scope for

EXTENSIVE CULTIVATION

G. RAMA MURTI

THE problem of increasing food production is generally considered from the narrow point of view of intensive cultivation. While intensive cultivation has its own merits, it has also its limits. For instance, intensive cultivation depends to such a large extent on chemical fertilisers the supply of which is so inadequate to the needs that it is time extensive cultivation is given more consideration.

By extensive cultivation is meant extending the *area* of cultivation. The view that all available cultivable land is being cultivated at present and that there is really no more land to be brought under cultivation seems to be held by the authorities.

This may be right so far as delta lands are concerned. But anyone who has travelled in the dry areas can see for himself that there are vast tracts of virgin land waiting to be cultivated. There are even larger tracts of land covered by forest growth although they are not strictly forests. There are again large, sandy stretches of land along the eastern coast. All these lands are cultivable. For instance, in the upland areas cholam, ragi and other crops can be cultivated. In the sandy areas coconuts, mangoes and, more important, cashewnut, can be cultivated.

There is no need to gather any details about such lands now. In 1955-56 every State Government collected the data at the instance of the Central Tractor Organisation. Even otherwise, these details have been collected several times over and should all be available in the old files of every State Government.

What is necessary in the context of the present emergency is that Government should be willing to allow any competent agriculturist to cultivate as much of such land as he can on a long-lease basis. The usual red-tape should be eliminated altogether. Government will not lose on this venture although it might not gain appreciably by way of land revenue or other taxes. The nation's wealth will increase, the land hunger of the people will decrease and the dependence on foreign imports will cease to the extent of additional production achieved by the cultivation of such additional area. In any case, it will provide employment to agricultural workers.

There are also private lands in dry areas which are left uncultivated by the owners owing to lack of resources. Such lands can be taken over by Government after issuing a notice to the land-owner and leased out to farmers who are prepared to cultivate them. If at any place the existing laws come in the way the Defence of India rules can be invoked.

There is need for quick action. Failure of monsoon, slow-down of P. L. 480 aid, and the crisis in foreign exchange are sufficient reasons for such action. If the farmer is a soldier on the home-front, he deserves prompt attention.

Does Panchayati Raj Need B. D. O. s?

Haripad

R. Subramania Iyer

PANCHAYATI Raj has been ushered in with the express intention that they should be the people's own agency to work the Community Development programme. Before the introduction of Panchayati Raj, both planning and implementation of the Community Development programmes were the responsibility of the Block Development Officer and his staff. Most BDOs for this very reason have viewed Panchayati Raj with disfavour, feeling it would adversely affect their power and status.

It is no exaggeration to say that the Community Development programme itself failed to achieve the expected results owing to lack of cordial relationship between non-officials and the block staff. The position has become worse under Panchayati Raj. The relations between the Pradhan and the BDO is one of the crucial problems of Panchayati Raj.

In the absence of enough people imbued with a spirit of service to the rural community, most BDOs in the initial stages were drawn from revenue and other departments. It was thought that they could be trained to adjust themselves to the changed conditions. Such orientation was strenuously attempted, but most BDOs still have the bureaucratic outlook.

Let us examine the functions and powers of the BDO. He is the executive charged with implementation of the development programme in a block. He has to co-operate with the chairman and members of the Panchayat Samiti and lead the team of extension officers subordinate to him. He is also secretary and executive officer of the Panchayat Samiti.

In actual practice, a great many of the BDOs do little development work. They rue the absence of recreational and medical facilities in rural areas. They are urbanised in their mode of dress, behaviour and attitude towards the rural people. Staying in headquarters they lose touch with field work. They continue to be outsiders as regards local needs and problems. They have opted to the posts of BDOs not because they were imbued with a spirit of service, but because of economic considerations.

Now let us examine the relationship between the officials and non-officials in the block set-up. The Pradhan and members of Panchayat Samiti take the policy decisions and the BDO and his staff are entrusted with the execution of the programmes. But there are instances when the Pradhans interfere with the day-to-day administration owing to lack of proper demarcation between the deliberative functions and the executive functions. In the present block set-up both the Pradhan and the BDO enjoy more or less equal status. Although the extension officers are under the administrative control of the BDO, he cannot take disciplinary action against them without the Samiti coming in. Besides, the BDO's own confidential report is written by the Pradhan. This power of the Pradhan acts as the Democles' sword over the head of BDO. Thus BDOs are in an anomalous position.

It is not uncommon for extension officers to receive conflicting instructions from the Pradhan and the BDO. It is impossible for a BDO to keep aloof from party politics. There are instances where the BDO takes active part in election work. It is also not uncommon for the Pradhan to assume the power and functions of the BDO, since the BDO, unlike extension officers, is not a technical specialist.

SUPERFLUOUS WORKER

The question arises whether there is need for both the Pradhan and the BDO. If the implementation of Community Development is entrusted to the hands of the Pradhan and members of Panchayat Samiti, the BDO would become unnecessary. Each member can be put in charge of a functional sub-committee to which should be attached the concerned extension officer, and the Pradhan could act as administrator, co-ordinator, supervisor, executive officer and captain of the block team.

The principle of separation of powers between the legislative organ and the executive organ in administration is valid. But it is doubtful whether it need be applied at the block level. By continuing with this theory, we shall only be confirming the belief that Community Development is only a government programme and not a people's programme.

The separation of powers would also mean that the Government is in reality reluctant to entrust power and authority to the people's representatives. If rural people are intelligent enough to elect their representatives to State legislatures and Parliament, why cannot the rural people be entrusted with power and authority to implement CD programmes involving a few lakh of rupees? People's participation is indispensable to the success of Community Development: the doctrine of self-reliance, to which we are paying so much attention these days, would dictate that the Panchayat Samiti be squarely asked to do its own work. Most rural people still regard the BDO as an agent of Government and do not accept him as friend, guide and leader. By combining the functions of both planning and implementation of CD programmes in the hands of people's representatives, most of the problems of Panchayati Raj can be solved. The BDO is a negation of the spirit of Panchayati Raj. He must go.

ANNUAL PLAN, 1966-67

(*Continued from Page 16*)

industry, transport and communications. The continuing schemes will be carried forward and reoriented for the purpose of defence. Bulk of the provision will be allocated to those projects in the fields of industry, minerals and transport for which foreign aid has already been agreed to. The three public sector steel works will be expanded and work begun on the fourth at Bokaro. Fertiliser and oil projects will also be adequately provided. The production of coal will be raised to 73 million tonnes (from 66 million tonnes in 1965-66), and the Railways will carry 221 million tonnes of originating traffic against 206 million tonnes in the current year.

General Features

Details of the Annual Plan are being finalised. According to Mr Mehta, the country's total outlay for the 1966-67 Plan "will be slightly less than the current year's level", and is likely to be Rs 2,000 crore (as against Rs 2,250 crore for 1965-66). The outlay on State Plans will total up to about Rs 930 crore of which the Central assistance will be about Rs 500 crore (as against Rs 670 crore in 1965-66). The existing resources of the States have been estimated at Rs 280 crore and, during the discussions with the Planning Commission, the States had agreed to raise resources by another Rs 110 crore. The States will have to tap additional resources to fill the gap of about Rs 50 crore.

State Governments were given guidelines to prepare their Annual Plans for 1966-67. They were asked to take into account the limitations of internal and external resources; to provide for the completion of continuing schemes; to give priority to agricultural production and especially to quick-yielding schemes; and to utilise to the maximum the capacities created in the fields of industry, irrigation and power. Expenditure on new construction was to be kept to the minimum.

The main common features of the Plans are :

1. Priority to schemes which will help in increasing agricultural production quickly.
2. No new projects of irrigation and power will be undertaken.
3. Major part of outlay will be spent on continuing schemes.
4. Emphasis on utilising domestic resources to the maximum and substituting them for external resources.

State Outlays

The Planning Commission has held discussions with State representatives on the Annual Plan of each State since November 4. The Deputy Chairman notes, "This year's experience of discussions with the States has been both heartening and revealing. It became clear at a very early stage that faced with the choice between further development by taxation and lesser development with a tax holiday, the representatives of the people in the States would clearly and unequivocally choose additional taxes and more development."

The Plan outlays (along with Central assistance) for the different States and Union Territories as approved by the Planning Commission are as follows :

State	*Approved Outlay* (*Rs Crore*)	*Central Assistance* (*Rs Crore*)
Andhra Pradesh	79.25	50.00
Assam	26.45	23.40
Bihar	71.83	42.50
Gujarat	49.69	19.40
Jammu & Kashmir	19.04	*
Kerala	40.55	28.30
Madhya Pradesh	58.10	33.60
Madras	75.33	33.30
Maharashtra	120.34	23.00
Mysore	50.72	34.00
Nagaland	5.11	4.40
Orissa	45.77	24.70
Punjab	59.93	33.00
U.P.	133.95	79.50
Andaman Islands	1.58	*
Delhi	26.17	*
Goa	8.60	*
Himachal Pradesh	9.20	*
Laccadive Islands	0.62	*
Manipur	3.86	*
NEFA	2.67	*
Pondicherry	3.50	*
Tripura	5.02	*

* The outlay will be financed by the Centre.

Discussions on the Plans for Rajasthan and West Bengal were inconclusive. Rajasthan has proposed an outlay of Rs 48 crore, while its resources including Central assistance of Rs 26 crore amount to Rs 38 crore. In the case of West Bengal, the outlay proposed by the State is Rs. 76.47 crore as against the estimated resources of Rs. 57.30 crore including Central assistance of Rs 27.50 crore. Both the States have been asked by the Planning Commission to revise their proposals or to find additional resources.

Main Proposals

Some of the main proposals in the State Plans are:

Andhra Pradesh proposes to complete the Nagarjunasagar dam in 1966-67 creating an irrigation potential for 5.79 lakh acres of land in the Nagarjunasagar ayacut area by June 1966, and for an additional 4 lakh acres for second crop in the Krishna delta by June 1967. Besides, other major and medium schemes will provide irrigation for one lakh acres. The State also expects to switch on three units of the Kothagudam thermal power project and two units of the Upper Sileru project, each unit having a capacity of 60 MW, by 1967, so that 300 MW of power are added.

Orissa expects to create irrigation potential for additional 4 lakh acres of paddy land on the Mahanadi delta irrigation scheme.

U.P. provides for the electrification of tubewells and pumping sets in the State.

In addition to its approved outlay of Rs 49.69 crore, Gujarat will find another one crore rupees for agricultural programmes, and for the electrification of tubewells and pumping sets. There is also a special provision for the economic development of the border areas.

Jammu and Kashmir will get an additional Rs 4 crore for development schemes undertaken in the Third Plan. For increasing food production, a crash programme will be launched to bring 15,000 acres under intensive cultivation.

Maharashtra (and other drought affected States) will undertake minor irrigation and soil conservation works costing Rs 11 crore.

The Punjab is to raise additional resources of Rs 2.2 crore after which the Central assistance will be enhanced by a matching amount.

LETTERS

From Cover ii

Lastly persons working in administrative and executive fields have to give up their habit of giving assurances only. They should organise timely supply and distribution of goods at various levels. The time has now come that demands work from one and all. If we do not realise our responsibility, our freedom is in danger. Let us prove that our democracy can face all difficulties to safeguard its sovereignty.

Bagalkot (Mysore) C. G. MATH

Salary by Cheque

I THINK payment of salary by cheque will encourage small savings to a considerable extent, especially in Government establishments, and employees should be persuaded to open savings bank accounts in banks. I have discussed this idea with class I, class II and class III officers. As I expected they were almost always opposed. Most of the reasons advanced by them, however, are untenable; for example "The money will not be available to me till the 4th or 5th...I would have to go to the bank at least twice, and it does not suit me...The bank will raise objections about the i's not being dotted and the t's not being crossed properly."

A solution can be to endorse the cheque in such a way that, though crossed, cash would be paid to the drawee on demand, who is presumed to be easily identified in the bank. It would be better if such accounts are opened in 'residential area' branches which open at 8 A.M.

Another solution could be to get the name of the bank and the account number, and send the cheque on the 25th of each month with a note that actual payment would not be made before the first of the ensuing month.

The advantages, to the office, of not paying hard cash, are obvious. The risk of bringing tens of thousands of rupees from the bank on the pay day is averted. The nerve-racking experience of paying the staff correctly is eliminated. The staff have the bad habit of not doing any serious work on the afternoon of the pay-day; that wastage, which is considerable when the whole country is taken into account, is checked. Pickpockets in the office and in the bazar on the way home are thwarted—at least on that 'fat' day.

I am told that there are high officers who, soon after receiving the cheque, start pestering the cashier for encashment. They do not deserve to hold responsible positions.

If every Government servant (even of class IV) could be persuaded to open a bank account. his natural tendency would be to see the balance grow from two to three digits, and possibly to four, when a fixed deposit could be thought of. (Insurance and similar payments could also be made from the bank account). May I cite my own experience? I have had opportunity to advice many (at the time unpromising) young men. I always succeeded in persuading them to open an account on their first pay day. With one exception, they are all doing well.

M. S. KALYANASUNDARAM

Kodaikanal

Dwarf Bananas

ON the Trivandrum-Shenkotta road near Peringammala in Kerala there is a "Government Banana Station". The huge signboard of the plantation stands two miles away.

A huge building is nearing completion at the centre of the plantation. A correspondent of *Malayala Manorama*, a leading Malayalam daily, who visited the place, has reported that the whole plantation appears to be an orphan. The climate and soil are good, but there is none to nurse it properly.

Bunches of all the varieties grown here are dwarfish. Nearly 50 per cent of the plants are afflicted with banana diseases.

The Gros Michel banana suckers got from the West Indies by air at a cost of Rs 200 by the Plant Introduction Officer, New Delhi, were planted here and those suckers would have met with the same fate as the other varieties of bananas grown here.

While the condition of the Government banana plantation is so bad, the banana bunches produced by the growers of the locality attract attention.

In my note published in *Yojana* in January 1963 I said that nothing was going to be gained by having a plantation for the I.C.A.R. scheme on bananas in Kerala.

If this station in Kerala is meant for the study of banana diseases, it may be pointed out that both the major diseases of banana, namely the Bunchy Top disease and the Panama disease, have been thoroughly investigated and the results are given in my book, 'Madras Bananas'.

My suggestion is that this station might be handed over to a responsible society which can undertake large scale cultivation of only Dwarf Cavendish (Pacha Vazhai, Morris, Basrai) and Gros Michel bananas which are in demand for export.

Coimbatore K.C. CHERIAN JACOB

No Private Trade in Grains

THE views of Mr T.K. Bhattacharya on nationalising food trade (*Yojana*, December 19, 1965) are appealing. I am also of the opinion that Government should take up state trading in foodgrains very soon. Government should purchase all the grains produced in the country directly from the farmers and distribute them to the ration shops for sale. There should be no profit-making. The present high price level, caused by the hoarding of foodgrains by the businessmen, can come down only by the nationalisation of food trade. Sale and purchase of grains in the open market should be banned.

Mr Bhattacharya also suggests: "The Government should sell the rationed foodgrains to the lower income bracket at a price lower than the purchase price. The loss could be compensated by charging higher price to the higher income bracket." I do not think it practicable. It may lead to malpractices and favouritism. It will also be difficult for a seller to extract different prices from different people for the same grain. The buyers should all be treated equally. If the aim is to remove disparities of income, it can be done by other methods such as progressive taxation

Balrampur (U.P.) A.K. SRIVASTAVA

Regd. No. D-876

PRIDE OF PLACE 118



Silver Craft of Nagpur

THE traditional goldsmithy and silversmithy of Nagpur and Vidarbha region comprised not only in making jewellery but also articles of domestic use, particularly presentation and decoration pieces. A section of silversmiths and goldsmiths specialised in this trade which flourished for centuries, specially during the rule of Bhonslas.

These articles include trays, boxes, caskets, tea sets, tumblers and other utensils, cups, trophies and other presentations, idols and images. With the Gold Control Order the craft has come to be restricted to silver.

The raw materials for the craft are silver and lac and its equipment the usual tools of a smith. The processing is simple. A lump of lac is given the required shape by heating and a silver sheet fixed on it. The sheet is cast to the required size and thickness after melting the metal in the oven in the usual manner.



An image of Ganesh in his mother's lap

Top: A silver tray with Radha-Krishna motif

The value of a piece lies in the skill of the craftsman in engraving and embossing intricate designs on the silver sheet and turning out a work of art. Then the piece is given finish and polish.

The entire processing is done by the smith, right from melting the metal up to inlaying the design. He is helped by members of his family in the work.

Today the craft is in a disorganised and helpless state. There are very few traditional craftsmen left who follow the trade. None of them has the money to run this costly trade independently and most of them do job work on poor wages for dealers. Also, there is no certainty of regular work.

A silver tray weighing about two kilograms is priced Rs 400 to Rs 500. A smith takes about two weeks to do the job for which he gets hardly a hundred rupees.

—V. S. GARGE

Readers Suggest

YOUR invitation in the journal of January 2 to the readers for suggestions for improvement.

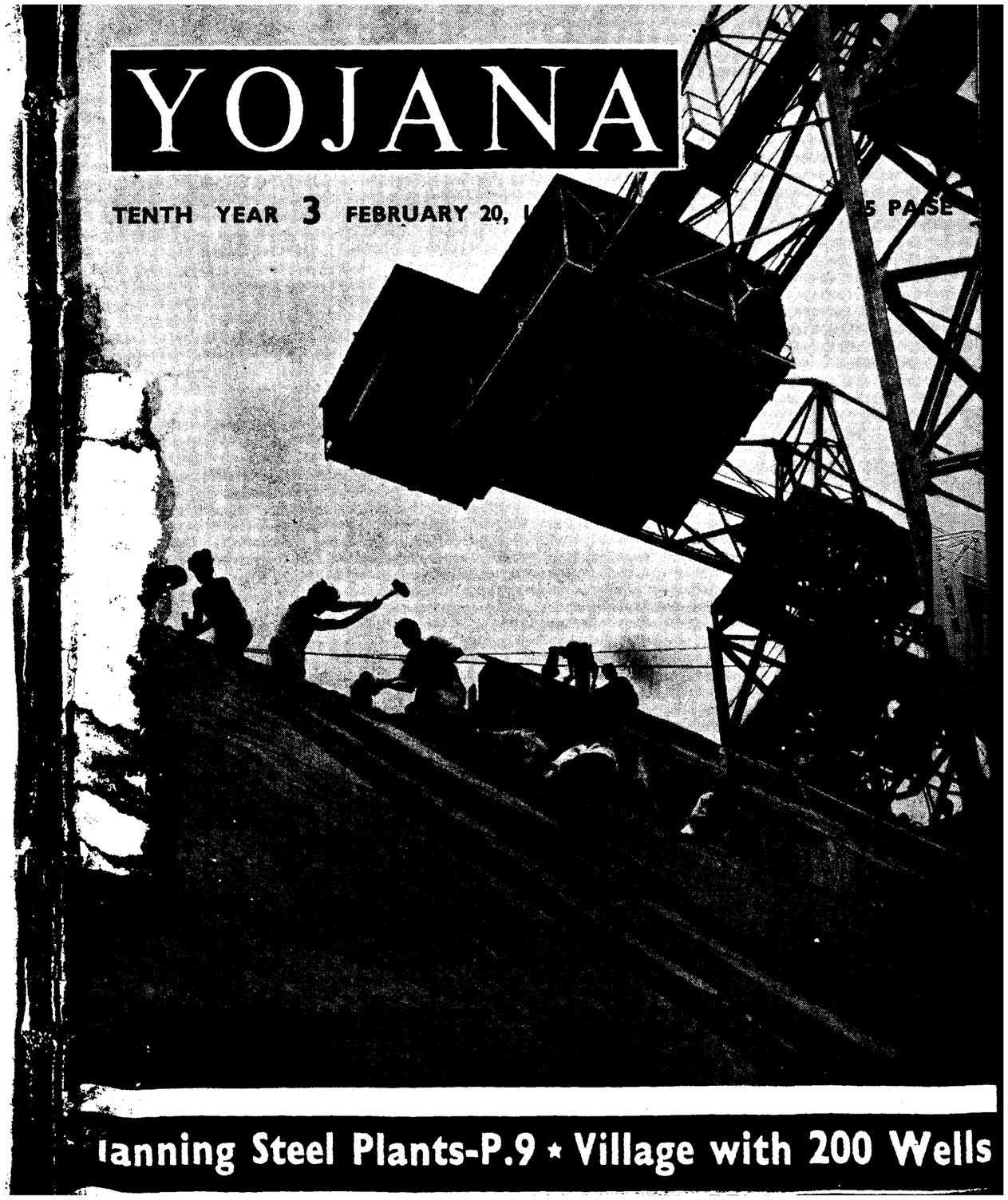
1. There should be more news about the working of good rural and urban co-operative societies.

2. Let us have more information about successful work going on in various regions and villages and also the names and photographs of the most progressive farmers. There should be more information about successful animal husbandry activity in the country. This will act as a necessary corrective as there is too much depressing propaganda in the Press about shortages of foodgrains and milk etc.

Simbhooli, Meerut SAJJAN SINGH

More suggestions from readers are welcome—*Editor*

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ABOUT YOJANA

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Cover: A crane at work at the Nagarjunasagar Project. Picture by T.S. Nagarajan (also see Page 2)

Letters

Neither Desirable Nor Feasible

DR S.N. Agarwala in his article "A New Family Planning Strategy For Rural India" (Yojana Annual Number, 1966) has rightly pointed out that the family planning programme should be "action-oriented", devised from the bottom and directed to the most responsive sections in the beginning. But the institutions of "mobile family planning workers' teams" and "mobile family clinics" which he has suggested for the programme are neither desirable nor feasible in the present circumstances.

There are two aspects of any successful family planning programme in rural areas: (1) diffusion of information about the different family planning methods and a continuous attempt at motivation, (2) provision of adequate facilities for supply of contraceptives, and for performing operations or fitting IUCDs on willing couples. These facilities must be available to the people constantly. These objectives cannot be achieved by mobile teams and clinics. Being on the move, they cannot undertake revisits. They will not therefore be able to induce people to make use of them.

It is also doubtful whether, as has been assumed by Dr Agarwala, between 80 to 90 per cent of couples with four children and more would be ready to adopt these methods. In the beginning only a tiny fraction consisting of "enterprising couples" would come forward. After seeing the advantages and effectiveness of these methods, others would be tempted. And if adequate facilities are not available at that time, there would be frustration. Therefore the right policy should be to have permanent family planning clinics in the midst of people. These clinics may be established at a moderate scale in the initial stage and expanded later on.

There is reason to doubt the readiness even of so-called "enterprising couples" to repose confidence in mobile clinics. In fact the very mobility of the mobile vans, as noted above, would defeat the purpose.

The unsatisfactory state of communications in the villages, lack of experienced technical staff ready to move on wheels, difficulties in accommodating all equipment in vans, the very cost of the vans—all these would render the proposal unrealistic.

Delhi H.S. GUPTA

Confusion by Name

THERE are two offices dealing in sale of Government publications in Delhi. One is the 'Publications Division', Delhi-6 and the other 'Publications Branch', Delhi-8. The two nomenclatures are so synonymous that letters addressed to one office get delivered to another, involving confusion, delay and protracted correspondence.

I have myself been a victim of this confusion. I sent a M.O. to the Business Manager, Publications Division, on 7-9-1965 for the book 'Control of Expenditure in a Welfare State' advertised in *Yojana*. Failing to receive the book I sent reminders. But these reminders have been delivered to the Publications Branch. And it is not the only occasion (which has prompted me to write to you). There have been a few more in my case and I feel such confusion can be avoided by changing the present nomenclatures of either of these offices.

Dharwar S.P.K.

NEXT FORTNIGHT

EXPORT OF SALT
G.C. Jain

NAGALAND
M.V. Desai

REGISTRATION OF BUILDERS
H.J. Shah

RURAL WORKS PROJECTS
Sunil Guha

YOJANA

Vol. X No. 3 **Fortnightly Journal Published on behalf of the Planning Commission** **Phalguna 1, 1887**

THE FOOD CRISIS

THE economic situation in the country was examined at length at the Jaipur session of the Congress. Since the decisions of the ruling party get reflected in the policies of Government, the resolutions of the Jaipur session deserve close study.

The main concern of the session was with the food problem. The debate brought out the difficulties and distress experienced in many parts of the country. Several delegates spoke with anger that within the same country people in some regions got much less food than people in other regions. There was a general demand that supplies and sacrifices should be shared evenly by the people.

The food problem consists of a supply aspect and a distribution aspect. Ours is a country where agriculture is a private sector operation. The market takes care of the bulk of distribution, and in times of plentiful supply prices are kept reasonably well under control. But agricultural production in India is a kind of see-saw. One year we are at the top; another we are in the dip. This is one of the dip years, for the rains have been barely 50 or 60 per cent of the normal over large areas. Production has fallen. The drought and the lean harvest have caused considerable misgivings. The market is incapable of taking care of a situation like this. Government must step in, since to find food for the people is one of the first duties of a Government. So we have gone in for larger imports of grain and taken up a programme of procurement. Only by having large enough supplies in its hands can Government fulfil its responsibility of providing food for people at fair prices and in equitable quantities.

In the calendar year 1965, Government procured 3.1 million tonnes of grain within the country and imported 7.5 million tonnes from outside. Distribution of grain at regulated price has kept speculation under check. In the coming year, imports will be even larger. A big inflow has been made possible because of U.S. sympathy.

Limited supplies make rationing inevitable. In 1964, when we had passed through a third stagnant year, Mr Lal Bahadur Shastri had urged that rationing be introduced by the State Government in all urban areas in the country. It was done only in a few cities. A record harvest intervened to give us the feeling that we had crossed the hump. But we are down again and there is a widespread demand for rationing which the State Governments have recognised. Rationing will be extended, but rationing can be a full success only if internal procurement is stepped up; a rationing policy cannot be built only on imports. The bulk of people in India are rice-eaters; but nine-tenths of imports consist of wheat, since rice is hard to buy abroad for love or money.

We shall not have solved the problem of food distribution, however, by assuring adequate supplies to urban areas. Rural people, too, have to be taken care of. Not all rural people are food-growers. In a drought-hit year even all growers may not have grown enough. Less self-grown food to consume, and less income to buy any from the market—the way out of this dilemma is to take up works that will provide employment to a large number of villagers, especially in the scarcity areas and have a network of co-operative and other fair price shops.

The resolution on food adopted at Jaipur calls on State Governments to take a national view of the crisis so that there can be equity in the matter of distribution among regions and among people. It rightly stresses the need to look beyond imports. Through scientific agriculture and a dynamic policy of supply of credit, water, fertiliser and seed, it wants much more to be grown in the country to enable us to take such crises in our stride.

The second resolution at Jaipur touched the total economic situation. It took note of the fall in agricultural production, the slow growth in the industrial sector, the shortage of foreign exchange, and the inadequate progress in enlarging welfare and justice. Under the terms of the resolution a committee will scrutinise the causes of these many-sided shortcomings. But the recital of the shortcomings should not be taken to mean that the resolution is a confession of failure; rather, it is a call for action. An essential first step in overcoming our problems is to remind ourselves that we are more capable today of solving our problems than we were until some years ago. In the words of the Jaipur resolution, our country possesses a basically sound and progressive economy and noteworthy progress has been made in all directions since independence, as a result of which "it is within the power of the nation to remove quickly the imbalances and obstructions in the way of sustained economic progress".

NAGARJUNASAGAR Fights ANDHRA DROUGHT

Article overleaf

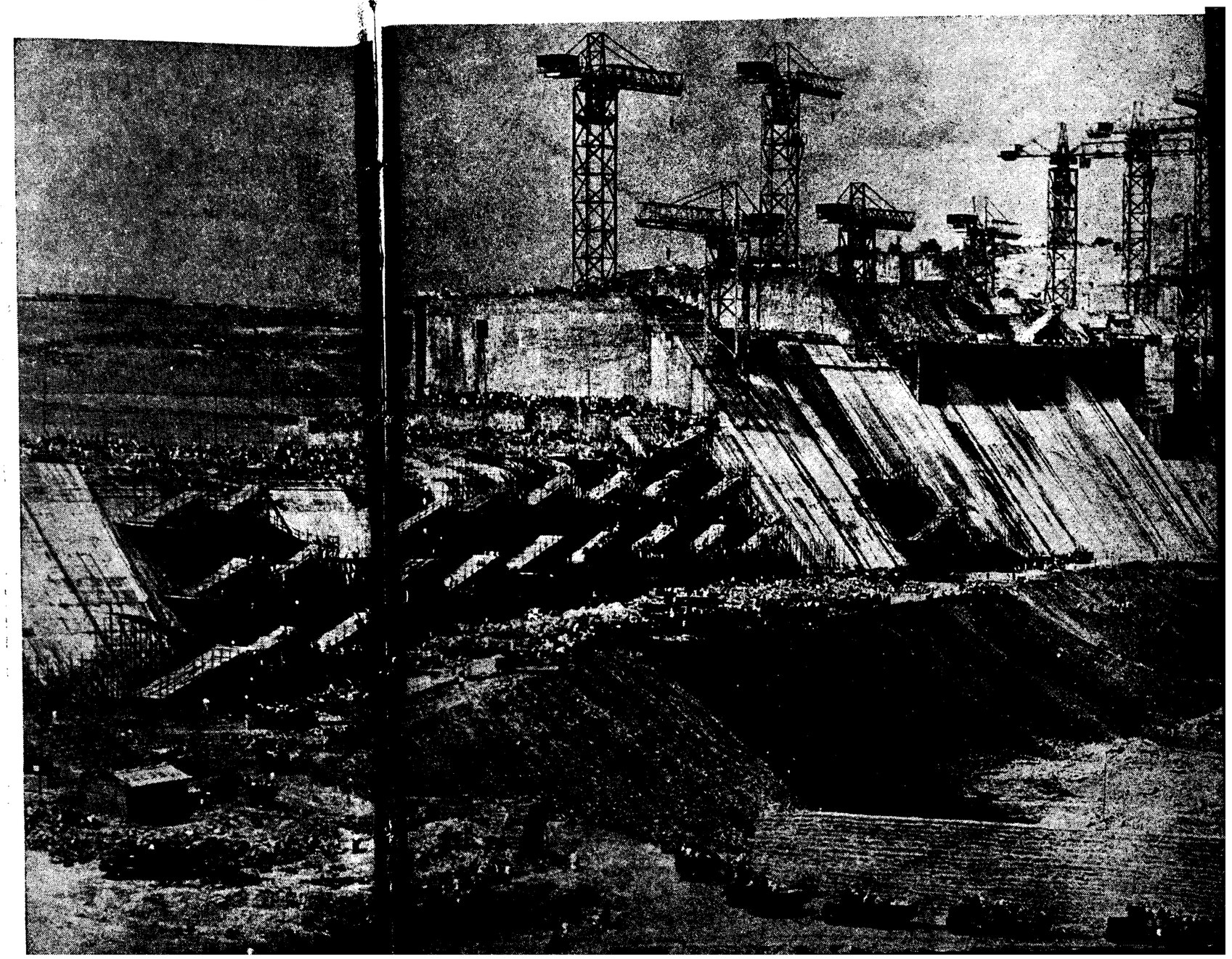
Benefits Flow as Dam Rises

Report : Rosscote Krishna Pillai

Photographs : T. S. Nagarajan



50,000 Build a Rock Barrier Across the Krishna



"It is not nature but Nagarjunasagar that has saved the Krishna delta from famine this year", Mr P.V. Rao, the Superintending Engineer of the Nagarjunasagar project, told me when I went there two months ago.

With the failure of rains over the Deccan and East Coast, fields in the delta of River Krishna, granary of Andhra Pradesh, should have dried up, but the paddy was still green there.

The dam itself has not been completed. Still it has been able to fulfil one of its purposes. This has become possible because of a tunnel that has been bored in order to divert the waters of the river to enable more of masonry work to be done.

The tunnel was bored through 780 metres of thick granite in a record time of three months, March to May 1965.

I saw the waters of Krishna which has ebbed due to lack of rains rollicking forth from the diversion tunnel.

"See the surging waters. But for this, farmers of Krishna delta would have suffered." Mr Rao explained.

"Failure of the monsoon has hit the farmers but in a way it has helped engineers of the project. In this part of the year, because of the volume of the water, work goes on only on the flanks of the dam. But this year, because of no rain, we are able to work even on the main dam. Look at the new scaffoldings that have been erected", he added.

Nagarjunasagar is one of the largest projects undertaken anywhere, and the first phase is due to be completed in 1970. On completion it will consist of a dam 4.8 kilometres (or three miles) long and 120 metres high. Through two canals it will irrigate 14 lakh hectares (35 lakh acres)

When I visited the spot the dam stood 50 metres high in the river portion and nearly 65 metres on the left bank and 90 metres on the right.



Stone, cement, sand was being carried to the top of the dam by thousands of workers upon bamboo ramps, hundreds of which zigzagged to the top. Huge blocks of stone travelled up. Suspended in chains from two poles carried on the shoulders of teams of four people. The men wore the dress of the place, short dhotis, a turban and studs in the ears. Women, with pans of cement mix on their heads, rings in the ears, and a song on their lips, with the jingle of silver anklets keeping time, went up the scaffolding as though they were climbing a sacred hill. Since husbands and wives worked there, children were there too, pretending to help their parents or playing on the earthen gradient of the dam.

Sea of Workers

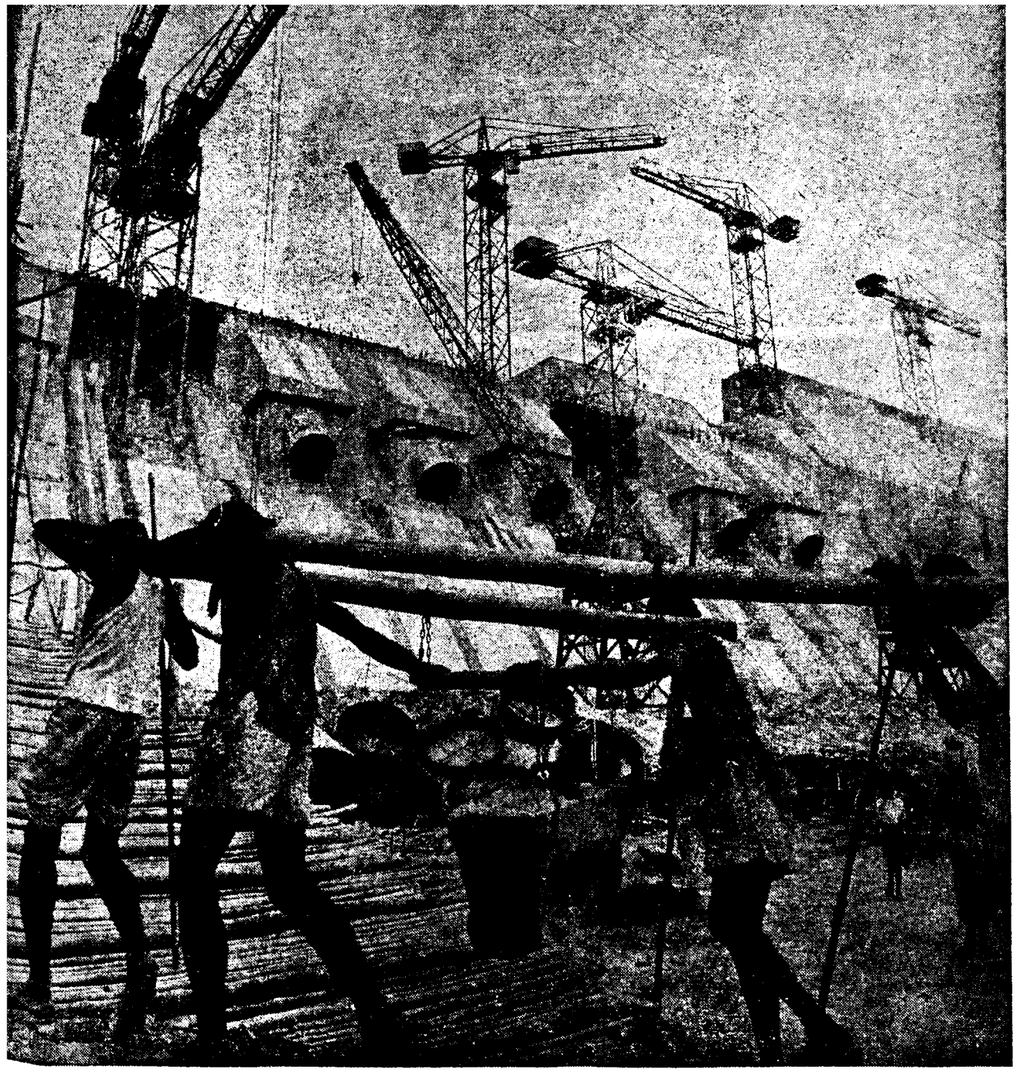
The place was a sea of human beings in perpetual movement, carrying loads up and down, breaking builders, driving giant cranes, cementing, sweeping, and washing the cemented surfaces. The hum and drone of thousands of men at work echoed in the air with the 'tang-tang' of stone crushing and the grinding noise of the cranes. The people are mainly from Andhra Pradesh but the skilled workers are from everywhere. They include Sikhs from Punjab and Moplas from Kerala.

"Now I really know what is meant by a labour intensive project. But is it economical to have so many workers?" I asked Mr Rao.

"We are building a masonry dam here, and not a concrete dam. Stone is available in plenty here. The area is also known for hard working people and labour is plenty. It is more economical to build a masonry dam and give employment to a large number of people. In the West they go in for concrete dams because labour is costly and concrete is comparatively cheap", he said.

"But Bhakra is also a concrete dam, isn't it?"

"In Bhakra rock had to be dug out from 100 to 150 feet below the surface, whereas here in Nagarjunasagar, as you see, the whole area is rocky. Rock is available here 10 to 12 feet below and other materials which go into the making of masonry are also easily available."



"What are the other materials?"

"Masonry consists of stone, cement to the extent of 20 per cent, and sand. A cement factory that has come up at Macherla, 25 kilometres away, supplies 500 to 600 tonnes a day. Sand is taken from the Hallia river bank about 25 kilometres away. And above everything else we are able to give employment to 40,000 or 50,000 workers. Shouldn't that be a major consideration?" Mr Rao asked.

"Certainly", I said. "But if you had used machines, wouldn't it have helped you to complete the project long ago?"

"No", said Mr Rao categorically. "Slocum told us in the beginning that it could be completed in seven years provided we were prepared to wait for three or four years to import the machinery required. Why should we wait if we could start straight away by employing thousands of our people and complete it in almost the same period? And here, please note, we are not using much foreign exchange—anyway not more than Rs 7 crore. In Bhakra we had to import a lot of machinery but it could not be avoided because con-

Workers carrying stones to the top of the dam. Monotower cranes and penstock openings are seen in the background.

Picture on the left page shows the sea of workers at the dam site.

crete was used there. Concrete had to be used because the hills in Bhakra are not of very hard rock."

"But will masonry be strong enough?"

"Of course. Our own research station at Hirakud and the U.S. Bureau of Investigation at Denver have worked out the constitution of masonry that can withstand the pressures."

"Are you getting all the cement you need?"

"No, that's why we have substituted surki for cement. Surki is burnt clay broken into powder. It is found to be more impervious to water than cement. It is also cheaper. While cement costs Rs 6 to 8 per bag, surki costs only Re 1."

"Of all places, why was this site selected? It seems to be such a forlorn place!" I said.

"Well, well, it was not always so forlorn. You know the place has the imprint of history on it. That apart, this site was selected exactly for the topography of its terrain. Let me tell you a little history of the project.

"In 1915 investigations began for a project to use the Krishna waters for irrigation. They were abandoned when the Krishna-Pennar Project was taken up. Again the idea came up a few years later. Two places were selected for investigation, Yelleswaram and Nagarjunakonda. The first was in fact the hot favourite but soon it was found that among the hill ranges at Nagarjunakonda there was a gap called the Nekkrakalu gap through which Krishna waters could be taken to the right side of the river and thus more than 8 lakh hectares of land could be benefited. So this place was chosen. Had it not been for the gap, the choice would have fallen on Yelleswaram. That is how we came to have two, the left and right, canals."

"Has the work gone according to schedule?"

"Yes, more or less, Nagarjunasagar has been planned to be a *multipurpose project* but at present it is purely *an irrigation project*. You know, it will have the longest irrigation canal in the world—Our Right Canal will be 440 kilometres. The Left Canal will be 320 kilometres. In the first phase we hope to complete 215 kilometres on the right and 172 kilometres on the left. Together they will irrigate in the first phase about 8.5 lakh hectares in Guntur, Kurnool, Nellore, Nalgonda, Khammam, Krishna and West Godavari districts."

I had earlier seen a pamphlet issued by the Project authorities giving comparative figures for various well-known irrigation projects in India and abroad.

So I asked the engineer: "How is it that the 172 km long Bhakra main canal is able to irrigate more than 14 lakh hectares while the 440 km long right canal will be able to irrigate less than 8 lakh hectares?"

"Well, that is a good question. You know the Bhakra waters irrigate wheat fields, while Nagarjunasagar canals will be irrigating rice fields. Rice requires much more water than wheat. Again, wheat requires water only seasonally. In Andhra area, where rice and sugarcane are cultivated, water is perennially required. So the *ayacut* of Nagarjunasagar canals which are longer than that of Bhakra is smaller in area."

No Foreign Help

"Did any foreigner help in the design or construction of the project?" I asked.

"None at all. The specification drawings of the project were drawn up by the Central Water and Power Commission. Detailed drawings were drawn up right here. And we employed in our construction work a number of engineering graduates straight from college. In ten years they have gathered a great deal of experience. The Chief Engineer of the dam, Mr B. P. Ranganathaswamy, has been here right from its inception. He was Superintending Engineer at the start. Actually most of us here have grown up with the dam."

"When will the dam rise to its full height?"

"In about two years. Then the height of the dam will be 130 metres and the full reservoir level will be 170 metres. But we have planned to have 26 gates on the crest of the spillway. With the gates the height will go up further by 14 metres. They will cost not more than Rs 2 crore. The Central Government has not yet given sanction for these gates. And by spending Rs 2 crore more, we get enormous benefits. With the installation of the gates we shall be able to help nearly two and a half lakh hectares in Krishna delta to raise a second crop. We can raise nearly 3 lakh tonnes more of rice. At least in view of this we hope the gates would be sanctioned."

"And what are those huge pipes jutting out from the upper portion of the dam?" I asked.

"Those are the starting points of penstocks and are part of the power generating system that we propose to have. There are eight of them of 16 feet diameter which will let the water fall from a great height for generating electricity. We have planned to have 400 MW of power ultimately. But the Planning Commission has not yet given its sanction for this."

There were 16 towering cranes on the masonry dam at various points each lifting up from the bottom of the dam cart-loads of granite blocks. I asked Mr Rao if the cranes had not laid off workers.

"No. You see, it is difficult for workers to take all the construction materials on their head to the higher portions of the dam, especially beyond 60 metres. So we had to import 16 mono-tower cranes from West Germany. These are among the very few machines we had to import. But they have not affected the workers."

"Do the workers work at night also?" I asked.

"No. Masonry work requires close supervision and at night it is difficult. Concreting alone is done at night. One layer of 25 cms' height is done in a day. Unless it is well-packed with rubble, sand and cement in proper proportions, water will seep through and cracks develop. That is why it has to be scrutinised closely. Then again the layer requires 10 to 12 hours to set. But in the case of concrete, work is done mostly by machine and so can be done at night. Supervision is also easier.

"Here we have divided our work into two sections, construction and inspection. While construction engineers aim at quickness and speed of work, inspection engineers assure quality control at every point and thus ensure safety of the dam. This is going to be the tallest masonry

(*Continued on Page 14*)

Scope for developing an active role in three directions

TRADE UNIONS AND NATIONAL PLANNING

TARLOK SINGH

THE economic and industrial changes under way through the Five-Year Plans involve also significant changes in the character of the industrial working force, the functions of trade unions and their role in national life. As the country moves to higher levels of industrialisation, the proportion of those with advanced skills and training will increase. Correspondingly, their expectations and the contribution they can themselves make will be greater. It is against this perspective that the leading national trade union organisations could lay out their plans for the future.

A democracy develops in the measure in which its roots are strengthened from different sources. Among these, the trade union movement, the co-operative movement, Panchayati Raj institutions and voluntary organisations are the most vital. The role of trade unions is in no sense limited only to securing for their members fair wages and proper conditions of work and living. For the fulfilment of the country's economic and social goals and building up a social order based on freedom and justice and elimination of marked disparities, trade unions constitute a major sanction. However, in the present-day scene, this role does not appear to be receiving sufficient attention either from the national organisations or in the framing of economic and social policy by the Central and State Governments and by Parliament. Broadly, along three different directions, it should be possible to develop a new and a more active role for the trade union movement.

When the Industries (Development & Regulation) Act was enacted in 1951, it was hoped that Development Councils for different industries proposed under this legislation would bring together the best leadership within each industry on the part of labour and management and thus facilitate a great deal of autonomous action. Important functions were assigned to Development Councils which would have enabled them to carry the approach of planning, raising of productivity, introduction of scientific methods and intensive training into each unit within the industry. These tasks could only be undertaken on the basis of close co-operation and a sense of joint responsibility between labour and management. Effective participation by representatives of labour would have helped Development Councils to function in a forward-looking manner as agents of technological and social progress. Perhaps, the representation of labour has been too meagre. In any event, there is not enough evidence that those appointed to Development Councils to represent labour have always recognised the potential that lay in this institution or have insisted on the positive aims which Development Councils were intended to fulfil. Besides these Councils, there are many other institutions in which trade unions are represented at the top management level as, for instance, in Port Trusts, Dock Labour Boards, Industrial Committees, Labour Welfare Boards, Productivity Councils, etc. In all these, to an even greater measure than representatives of other interests, trade unions should be able to press the interest of the community as a whole. This would require trade unions to equip themselves to influence policy and planning in a large way and not merely in relation to limited objectives such as wages and conditions of work. The social interest has to be jealously guarded and this is a task which trade unions have to take upon themselves in every forum and at each level at which they operate.

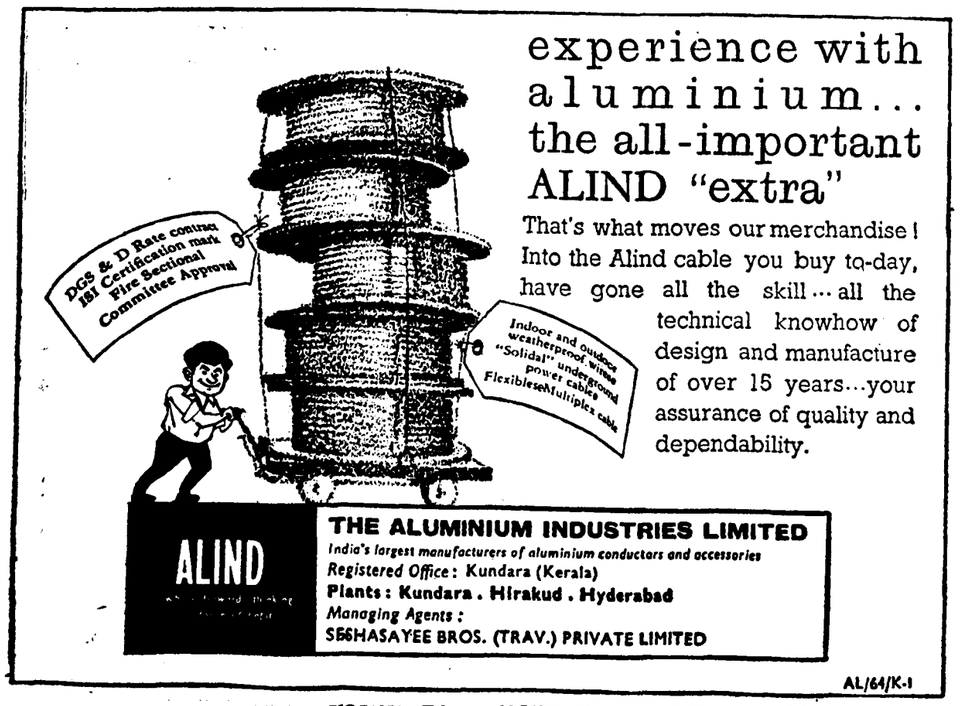
When the Industrial Policy Resolution of 1956 envisaged rapid growth of the public sector, it was thought that industrial relations in public undertakings would partake of the character of a partnership between labour and management. An industrial dispute in a public sector undertaking is a confession of failure on both sides. The irony of the situation, however, is that a view has come to prevail widely that managements of public sector undertakings feel themselves less bound by the declared labour policies. At the same time, possibly trade union organisations do not give sufficient weight to the continuous and smooth working of public undertakings as a necessary condition for the success of the public sector and, therefore, of the socialist way. There seems to be need for some degree of reorientation of outlook on both sides. The code of conduct and discipline and of industrial relations in the public sector should be based on a scheme of co-operative working, of trust and of participation in matters of policy, management and welfare between labour and management. In such a code, it should be possible

to eliminate rigidities arising from conflicts of interest which are associated with the working of the private sector.

The third direction in which trade unions could and, indeed, must assume a larger role is in advancing the training and capabilities of workers, creating better living conditions among them, promoting genuine leadership and bringing the movement for labour welfare within the primary field of responsibility of the workers themselves. The doors of economic opportunity should open far more widely for the mass of industrial workers than they do at present. Trade unions could take an increasing share in the workers' education movement and, indeed, enlarge its scope to include higher vocational, technical and general education. Is there any reason why, over a period of years, a significant proportion of managers and higher level personnel in industry should not come from amongst the ranks of workers themselves? However, to achieve this will call for a great deal of preparation and organisation on the part of trade unions at the grass-roots and some measure of redifinition of goals. Universities and leading educational institutions should extend their activities among workers and should, thus, come within their reach. Workers' organisations should have a functional role in all training programmes affecting workers, including apprenticeship, training of skilled craftsmen and development of special facilities to enable workers to attain higher standards of education and competence.

Two obstacles seem to come in the way of workers' organisations assuming a bigger role in relation to the life and activities of workers. The first arises from lack of resources. Just as co-operative institutions and voluntary organisations are being enabled as a matter of State policy to take up new tasks, in the same manner public policy and national planning should aim at finding ways in which adequate resources can be made available to trade union organisations for undertaking specific constructive activities. This might be done through a National Labour Foundation established jointly by leading workers' organisations which could be supported increasingly by the community as well as from the Five Year Plans. Such a Foundation should function in an independent manner and help trade union organisations to enlarge their constructive role.

The second obstacle comes from the fact that we do not have in India unified trade union movement. In the field of labour organisation unity has to grow from within and cannot be forced. The larger the area of common interest and common action the greater the extent to which unity of action can be achieved. Each national trade union organisation has to recognise that the labour movement as a whole and the interests of workers as a body are wider than the activities in which the organisations are themselves able to participate at the present stage of development. Trade unions have to serve both their members and the larger interests of the labour movement as a whole. In seeking wider avenues for co-operation among themselves they can serve their own members as well as the community as a whole to greater purpose. Every step in this direction will take the nation nearer to its cherished social goal.



PLANNING OF NEW STEEL PLANTS

R. RAMASESHIAH
Central Engineering and Design Bureau, Hindustan Steel Limited

The location of a steel plant is based on many considerations. By applying the computing technique of linear programming the location, the capacity and the product pattern of any new steel plant can be determined which will be of great help in the final decisions made.

The iron and steel industry in India is on the threshold of another leap forward. With the Bokaro contract signed and negotiations underway for the fifth public sector steel plant, there will be at least two greenfield steel plants in the Fourth Plan besides expansion of almost all the existing ones. This trend is likely to continue in the future Five-Year Plans also.

There are few instances in the world where such massive additions to steel producing capacity were planned at one stroke. This situation poses tremendous problems to the men charged with planning the industry. But at the same time it also presents an unrivalled opportunity for co-ordinated planning with the attendant long range benefits to the nation.

Three fundamental questions need to be answered by the planners in the first instance:

1. Where should the new plants be located?
2. What should be the planned capacity of each of the new as well as existing plants?
3. What should be the product mix at each of these new as well as existing plants?

The considerations on which these questions are answered are many—economic, technical and others.

Among the most important is the overall transportation cost. For every tonne of ingot steel produced in a steel plant nearly 3 tonnes of raw materials have to be brought into it and 0.75 tonne of finished steel sent to the point where it is consumed.

In the ideal distribution pattern the total cost of transporting the raw materials to the various steelworks and the finished steel to the various consuming centres will be the minimum. However this ideal pattern needs to be compromised to accommodate the other considerations. Based on this premise a method is developed in this article by the systematic application of which answers to the three fundamental questions posed can be scientifically evaluated.

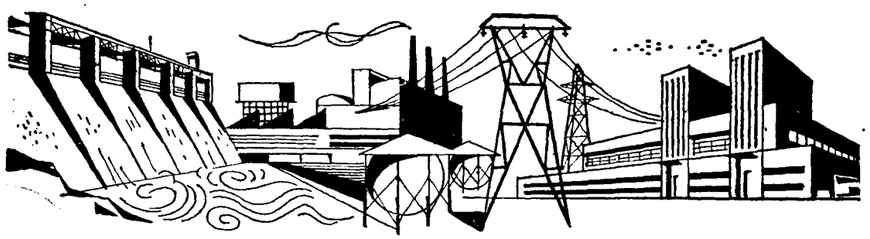
Customer Demand

Like every other enterprise, a steel plant exists for the purpose of meeting a customer demand and to the extent it meets this customer demand efficiently and cheaply, it justifies its existance not only from the narrow point of view of profit for the management but also from the point of view of the overall national economies. The final price paid by the customer is a function of the costs of all the preceding operations necessary in producing the steel that he needs.

The various cost components can be identified as (i) cost of mining the requisite raw materials; (ii) cost of transporting the raw materials to the steelworks; (iii) cost of processing the raw materials into finished steel; and (iv) cost of transporting the finished steel to the consuming point.

It will be noted that two of these operations are simple transportation operations which are purely dependent on the relative locations of the raw material sources, steel plant, and the consuming point. Unlike the other cost components, these transportation costs cannot be reduced significantly by operating economies achieved within the steel plant. They are fixed, once the plant location, its raw material sources, its product pattern and its markets are decided upon. There is scope to reduce these costs only at the time of the initial planning of a steel works. The location and product pattern of a steel industry must be so decided that for the raw material sources and markets available for it, the overall transportation cost turns out to be the minimum.

Whenever a new steel plant location is under discussion it is usual to indicate the relative merit of the particular location by such terms as 'raw material assembly cost', 'tonne kilometers of transport per ingot tonne' etc. Steel plants have tended to be 'ore-based' or 'coal-based' or even 'market-based', reflecting the efforts to reduce the transportation cost of the principal raw materials, ore and coal, or the finished steel.



The Changing Face of India

The face of India is changing and the change is being brought about by economic progress promoted through the Five Year Plans.

Steel was the core of the Second Five Year Plan; three new million-tonne steel plants came into being on greenfield sites at Durgapur, Rourkela and Bhilai. With 3 million tonnes of steel from these plants under public ownership and 3 million tonnes from old established steelworks of the private sector, Indian steel output has risen from 1.5 million tonnes to 6 million tonnes.

The achievement, which highlights India's rate of steel expansion that has few parallels in the world, is as much a tribute to India's determination to industrialise as it is to international goodwill towards India's aspirations. Rourkela was built with the help of West Germany, Bhilai with that of the U.S.S.R. and Durgapur with British collaboration.

Hindustan Steel Limited, the company which owns these steel plants has its own iron ore mines, limestone and dolomite quarries. To conserve India's limited resources of metallurgical coal, HSL has built four coal washeries with a potential to wash 10 million tonnes of coal annually. Now an Alloy Steels Plant with an initial capacity of 100,000 tonnes is added to an unrivalled record of construction on this part of the globe.

Pioneers in India in introducing the basic oxygen process and new flat products, slag granulation and sintering, HSL looks forward to keeping pace with the newest techniques, such as, continuous casting and vacuum degassing. Fuel injections and high top pressure in the blast furnace operation have already been introduced effectively.

Hindustan Steel's Engineering and Design Bureau took full responsibility for the Third Plan expansion of Durgapur and Rourkela and the Project Report for the Fourth Plan expansion of Durgapur has already been submitted. Excepting a few foreign specialists the plants are almost entirely run by Indian technicians—a striking success of the Company's sustained and large scale training programme.

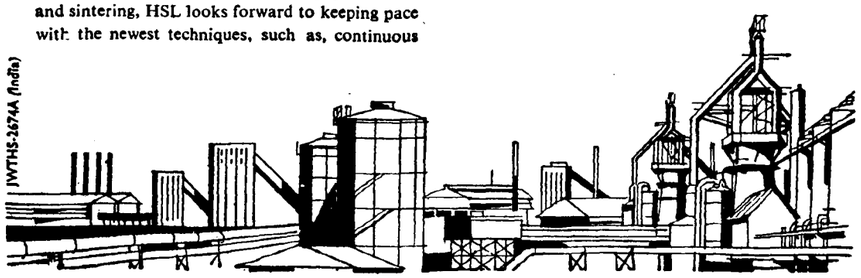
The capacity of these three steel plants is being doubled to 6 millon tonnes and preliminaries for the expansion in the Fourth Five Year Plan to 9 million tonnes—out of the 16 million tonnes national target—are being completed.

Hindustan Steel must grow fast, faster than any, to bring the country nearer to self-sufficiency in steel.

HINDUSTAN STEEL

Head Office : Ranchi.

Works : Rourkela, Bhilai, Durgapur.



[WTHS-2674A (India)]

But it is obvious that none of these indices are adequate by themselves. Only by taking into account the total transportation cost, both of the raw materials as well as the finished products, can meaningful comparisons be made among different locations. Any analysis involving these two different transportation costs is difficult for two reasons. The first is the uncertainty associated with markets. The second is the involved calculations such an analysis has to cope with.

In many countries, it is difficult to determine the markets available for any steel plant, partly because of the changeable nature of market demand and partly because of competitive conditions. In our country of planned economy the uncertainty associated with markets is least and with the present day digital computers, involved calculations are no longer a problem.

The basic premise of our analysis is that the steel industry in this country should be so planned that the total transportation cost associated with the industry as a whole is minimum. Problems of this type are capable of solution by what are called the *linear programming techniques.*

Simplex Technique

Of the different techniques available in linear programming *the simplex technique* is the more general, accepting restrictions of any kind, but the calculations involved are so complex that the problem is capable of solution only with the aid of a digital computer.

The transportation technique on the other hand is simple and capable of manual calculations. But it cannot accept restrictions of any kind and it will be necessary to make many simplifying assumptions before a solution can be attempted by this technique.

Let us first try the simplex technique for solving the problem:

The first step is to identify the various essential factors of the problem like (i) the producing centres, (ii) the consuming centres, (iii) the cost matrix, (iv) the optimising function, and (v) the restrictions.

(i) *Producing Centres:* All steel plants existing and proposed are producing centres. While there is no difficulty in dealing with the existing plants, a word of clarification is necessary in regard to the proposed ones. Since a steel plant location is decided not only by proximity to raw materials or markets but by such other factors like water supply, power supply etc., only those sites at which the location of a steel plant has been found feasible will be considered. We will designate such possible locations by capital letters A, B, C, D, E.....

(ii) *Consuming Centres* are places at which finished steel is required. In a country like ours the number of such consuming centres is very large. But there are a few industrial centres where demand is concentrated. It is relatively simple to locate such centres. Besides these, the demand of a particular area like a State can be associated with a point centrally located with respect to that area.

In fact the present day estimates of steel demand are usually expressed in terms of each State. It will be quite realistic to associate these estimates with a location centrally situated with respect to the State. Thus a number of consuming centres in the country will be identified and the demand at each of them assessed. We will designate such consuming centres by the letters a, b, c, d.....

(iii) *Cost Matrix* represents the transportation cost involved in producing and sending a unit of the product from each of the producing centres to each of the consuming centres. These cost figures consist of two components: (a) the cost of bringing the raw materials necessary for the production of a tonne of finished steel to the steel works and (b) the cost of transporting a tonne of finished steel to the consuming centre. Both these cost components are linear functions of the finished steel under consideration.

However, because of the difference in yield rates of the various steel finishing processes, these cost figures will be different for different categories of finished steel. These cost figures will be designated by letters C'Aa, C'Ab.....etc., C' representing a particular category of finished steel. The cost matrix is as follows:

Consuming centre / Production centre	a	b	c	—	—
A	C'Aa	C'Ab	C'Ac	—	—
B	C'Ba	C'Bb	C'Bc	—	—
C	C'Ca	C'Cb	C'Cc	—	—

and so on

For other categories of finished steel C", C"', and so on may be used.

(iv) *The Distribution Matrix:* We designate the quantities of finished steel transported by the distribution matrix 'XAa'. As in the case of the cost matrix a prime (') will be used to designate each finished steel category. Such a distribution matrix is shown below:

Consuming centre / Production centre	a	b	c	d	—	—
A	X'Aa	X'Ab	X'Ac	X'Ad	—	—
B	X'Ba	X'Bb	X'Bc	X'Bd	—	—
C	X'Ca	X'Cb	X'Cc	X'Cd	—	—
D	X'Da	X'Db	X'Dc	X'Dd	—	—

and so on.

For other categories of finished steel X", X"', and so on may be used.

The Optimising Function: The total transport cost associated with the iron and steel industry is a product of the cost and distribution matrices as shown below:

(X'Aa C'Aa+X'Ab C'Ab...+X'Ba C'Ba+X'Bb· C'Bb +...)

(X"AaC"Aa+X"AbC"Ab...+ X"BaC"Ba +X"BbC"Bb+...)

(X"'Aa C"'Aa +.....)+

and so on.

From the basic premise of the problem, the distribution matrix XAa must be so defind as to make the above function a minimum. In linear programming this function is called the optimising function, that is, the function that has to be minimised subject to the various conditions inherent in the problem. These conditions are called restrictions.

(v) *The Restrictions* are of various kinds:

(a) Demand restriction denotes the condition that while arranging the distribution matrix the demand estimated at each of the consuming centres for each of the

Can I afford Life Insurance?

"When the Agent approached me about taking a Life Insurance policy, I told him that I couldn't afford it just now, but would like to think about it in a few years' time when I will be earning more.

He was, however, able to convince me that a young man with responsibilities, like myself, just could not afford to shelve the issue of Life Insurance...for a few years... a few months...or even a few days.

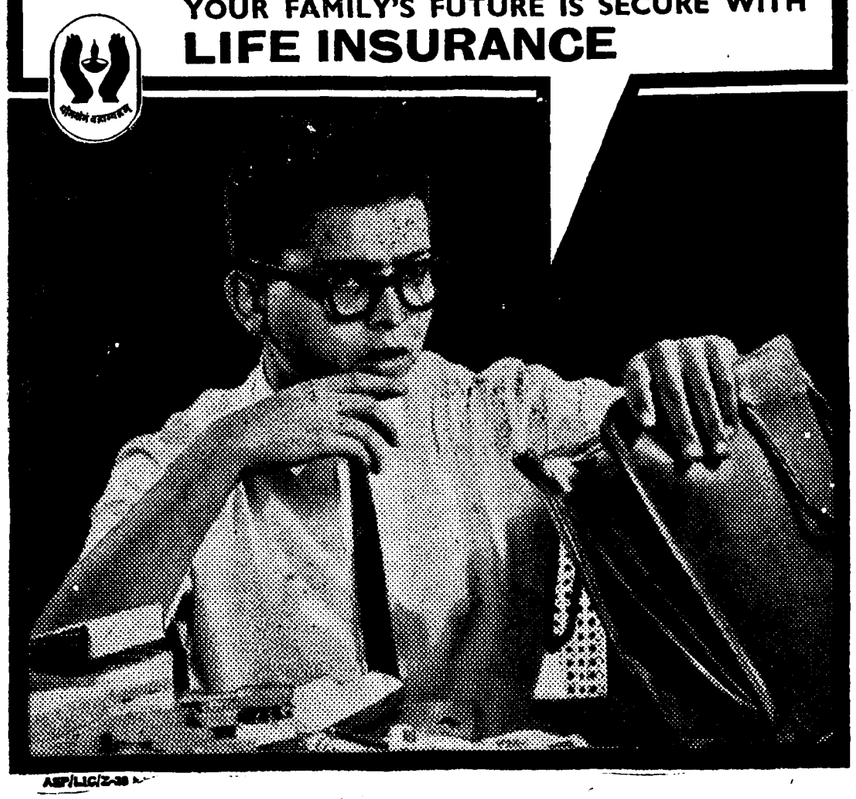
He said: '**The Convertible Whole Life Policy** is a wonderful scheme for a man in your position—it could have been made for you! Even though you are not doing so well now, you *can* afford the few rupees a month it costs to give your dependents at least the necessary *insurance protection*.'

'At the end of five years, when you will be doing decidedly better, you can convert the policy into an **Endowment Assurance Policy.** Your premiums will be a little higher, but you will be able to meet them then, and you will enjoy the money you've saved *in your own lifetime*.'

I was so happy to know that there was a policy I could afford, and that would make my loved ones secure. I took the policy then and there, and I've never regretted my decision."

YOUR FAMILY'S FUTURE IS SECURE WITH

LIFE INSURANCE



ASP/LIC/Z-38

finished steel categories must be met. With the terms defined above the demand at consuming centre 'a' for finished steel category X' will be X'Aa+X'Ba+X'Ca+.....=D'a where D'a is a constant. The demand at consuming centre 'a' for finished steel category X" will be X"Aa+X"Ba+X"Ca.....=D"a where D"a is a constant. The demand at consuming centre 'b' for finished steel X' will be X'Ab+X'Bb+X'cb+....=D'b. where D'b is a constant The demand at consuming centre 'b' for finished steel category X" will be X"Ab+X"Bb+X"Cb+.....=D"b where D"b is a constant.

(b) Supply restrictions refer to the capacity limitations at the steel plants. For technical and economic reasons the finishing processes at any steel plant have certain optimal capacities. For instance the capacity at steel plant 'A' for finished steel category X' may be a constant PA. Then X'Aa+X'Ab+X'Ac+...≤PA.

Similar equations can be set for other steel plants and steel categories.

These restrictions are generally more than the product of steel plants and finished steel categories, because the finishing process may not necessarily be the only possible capacity restriction. For example in the production of a product category like tinplate, the restrictions may be anywhere along the production process, tinning line, cold rolling mill, hot rolling mill, slabbing mill, steelmaking capacity, iron-making capacity. At each stage in the process a relatively large number of product categories are being processed and restriction equations may be set for any or all of the processes.

(c) Existing Plant restrictions: In the evaluation of the distribution matrix, it must be made sure that the existing capacity at any steel plant is not cut into. Otherwise the distribution matrix may prescribe the closing down of certain processes in the existing plants and installing the same at a new location which surely cannot be accepted. These restrictions will be defined to avoid such situations. If steel plant 'C' had a certain capacity to produce finished steel category X'" we will formulate the restrictive equation as follows:

X'"Ca+X'"Cb+X'" Cc+...≥R'"C where R'"C is the existing capacity of 'C for steel category X'".

Similarly equations will be defined for all the existing capacities.

Though only the usual restrictions are defined above, the method being developed is so comprehensive that any other restrictions that we may wish to impose on the system can also be taken into account.

After thus defining the various factors of the problem, it can be formulated as follows:

Given the cost matrix and subject to the various restriction equations enumerated, what is the distribution matrix that will minimise the optimising function?

This is a plain simplex problem. If we assume that there are about 10 production centres, 20 consuming centres and 10 finished steel categories, the total unknowns involved will be in the region of 2000. The number of equations are likely to be of the order of about 400. Thus the solution of this problem amounts to the solution of 400 equations containing 2,000 unknown elements. These can easily be programmed for solution by a digital computer.

Any problem set for solution by the simplex method can be solved only with the aid of a computer. If the problem has to be solved manually, the only possible way is to solve it by the transportation technique.

Transportation Technique

This technique tries to optimise the overall cost of distribution of a homogenous product between a number of production centres and a number of consuming centres. In mathematical terms it can be stated as follows:

Given a cost matrix CAa associated with a number of production centres A, B, C,...and a number of consuming centres a,b,c,..., the problem is to find a distribution matrix XAa so as to minimise the function CAaXAa satisfying at the same time the demand and supply restrictions.

If the transportation technique is applied, each product category has to be dealt with separately. The existing production capacity has first to be distributed optimally and then the remaining demand can be distributed optimally among all the plant locations. By this method it can be ensured that the solution does not cut into the existing capacity.

By whichever method the problem is tackled, the final solution yields the categories and quantities to be produced at each of the production centres with the minimum overall transportation cost. This solution will give the answer to the three questions posed at the beginning of the article, namely where to locate the new plants, what should be the planned capacity at each of the plants and what should be the product pattern at each of the plants.

Any such mathematical solutions will no doubt have to be adjusted to meet the practical conditions. For example the solution might recommend the setting up of three or four new plants whereas the national policy might be to have only one or two. In such a case the locations at which maximum capacity is recommended will be accepted and the calculations repeated to find out the product patterns.

As our steel industry grows, its planning is about to be more and more complex and correct decisions can only be reached on the basis of elaborate models like the one developed here.

LABOUR INSTITUTE

A Central Labour Institute has been set up in Bombay to function as a socio-economic laboratory and as a national institute dealing with the scientific study of the human factor in the industrial development. The Institute will conduct specialised courses in labour and allied problems and provide a common platform for all those concerned with the well-being of labour and industry.

The Institute will comprise: 1. an industrial safety, health and welfare centre; 2. an industrial hygiene laboratory; 3. a training-within industry centre; 4. a productivity centre; 5. an industrial physiology division; 6. an industrial psychology division; 7. a library and information centre, and 8. a training centre.

built at a cost of Rs 1.5 crore. Here the canal flows into a 6 kilometre long reservoir.

"We began supplying water to the farmers from here three years ago. Now they are having a second crop", said Mr Lakshmayya. "See the artificial lake. That was suggested by Dr K.L. Rao. By making this reservoir and then sending water from here to the fields, instead of taking it over the rocky hills, we saved Rs 35 lakh."

The Right Canal has been completed up to 80 kilometres. The entire distributary system of branch canals, major and minor distributaries and field channels have all been dug out simultaneously.

"We propose to givewater to about 2 lakh hectares by June 1966 and all arrangements are being made" said Mr Lakshmayya.

Unlike the Right Canal which takes off from the main dam, the Left Canal takes off from the foreshore of the 250 square kilometre reservoir at Nagarjunasagar. About 900 metres down-stream a 2-kilometre long tunnel has been completed which has no iron supports like the Right Canal tunnel, because there the rocks are strong and do not fall under pressure.

"By June 1966 we plan to supply water to 0.36 lakh hectares from this Canal", said Mr Hanumantha Rao, one of the Executive Engineers of the Left Bank. "And what a boon it will be to the Nalgonda district which has little rainfall and is very backward!"

The enthusiasm and drive of the Project engineers is infectious and it has caught every officer around them. Mr Y. Rama Rao, the Public Relations Officer, has very high hopes of the Nagarjunasagar area blossoming into one of the star attractions for the tourist.

"Even now 35,000 people come here every month. On Saturdays and Sundays, 5,000 come, most of them students. Among others are farmers, irrigation engineers, students and tourists from here and abroad."

The project site which 1,800 years ago was the flourishing capital of the Ikshvaku kings of Andhra, has again blossomed into a full-grown township. It has hundreds of tenements, a few good rest houses, hotels, and a luxury guest-house called VijayaVihar.

THE PROJECT IN BRIEF

Work started in 1955-56	
First phase to be completed—1970-71	
Total area to be irrigated ultimately	14.3 lakh hectares
Area to be irrigated in the first phase	8.3 lakh hectares
Area to be irrigated from June 1, 1966	2.35 lakh hectares
Cost of the first stage	Rs 150 crore
Dam	
Total length	4.8 km.
Masonry Section	
Length	1425 metres
Height	120 metres
Top width	8 metres
Quantity of masonry	51 million cubic metres
Cost	Rs 48 crore
Reservoir	
Area	250 sq. km.
Full reservoir level	177 metres
Canals	
Right Canal	
Length:	
(first phase) 203 km	
(ultimate) 442 km.	
Area to be irrigated:	
(first phase) 4.8 lakh hectares	
(ultimate) 8.3 lakh hectares	
Left Canal	
Length:	
(first phase) 177 km.	
(ultimate) 328 km.	
Area to be irrigated:	
(first phase) 3.6 lakh hectares	
(ultimate) 6 lakh hectares	

The township, Vijayapuri, named after the ancient capital and the project site take on an enchanting look at night. There are several hundred lights in cottages and houses, blue mercury lights on the streets, and red lights on the cranes. There is also the cool breeze and the vast stretch of water in the reservoir.

To the tourist and holiday-maker Nagarjunasagar will offer not only the biggest masonry dam of the world but a beautiful museum on an island, a museum that houses historic treasures.

These art treasures have been dug out from Nagarjunakonda which was the seat of an ancient civilisation. The Ikshvaku kings ruled here and Nagarjunacharya, a great Buddhist philosopher, lived here in the second century. Important structural remains of Buddhist stupas, inscribed pillars, sculptured slabs, and sculptures of stone and clay, shell ornaments and Roman gold coins have all been excavated from this region and kept in the museum. The museum itself has been newly built, and it is an exquisitely designed architectural creation with a Buddhistic facade.

When the project is complete and the reservoir is full, the hill with the museum on its top will become an island surrounded by the Nagarjunasagar waters. The spot will then be a delight to the student of art and the traveller.

Another dam at SRISAILAM

SRISAILAM, an ancient holy place in the Kurnool district of Andhra Pradesh, is going to have a power-house to help the development of the State. River Krishna will be harnessed to yield 440 MW of power. The site is some 98 kilometres upstream from the mighty Nagarjunasagar dam.

Srisailam has a temple dedicated to Mallikarjuna, one of the twelve *Jyotirlingas*—natural manifestations of Lord Siva. According to the legend, Lord Rama visited it during his fourteen-year stay in the Dandaka forest, as well as the Pandavas. In later history, as the tradition goes, Chandragupta, Pratapa Rudra, Krishnadevaraya and Chhatrapati Shivaji came to the temple and worshipped Siva. Every year, thousands of pilgrims from all parts of the country visit the place.

The hydro-electric project at Srisailam envisages the construction of a dam on the Krishna. The dam will be 505 metres long and 110 metres high (above the deepest bed) built in stone masonry. The power-house will be on the right side of the dam and will have 4 units of 110 MW each. Later three more units will be added. Power production is expected to begin in 1970.

Work on the project was formally inaugurated in July 1963. The cost of the project is estimated at Rs 45.75 crore including Rs 7.28 crore for transmission network. An expenditure of Rs 10 crore would have been incurred by the end of this year.

The Srisailam project will be connected with Nagarjunasagar project to irrigate 1.8 lakh hectares of land.

Population and Agricultural Development

A developing society with the help of existing technical knowledge can meet the challenge of food scarcity and increase production eight times. Population increase has no definite relationship with food production.

S. R. SEN

THE rate of economic growth (including agricultural growth) depends on the rate of development of the human as well as material factors and this in its turn is largely dependent on the rate of saving and investment in the economy. Other things remaining the same, if population grows at a fast rate, consumption increases correspondingly and therefore saving and investment are adversely affected and this tends to slow down economic growth. This has happened in certain underdeveloped parts of the world where the rate of growth of population has been high and technological progress slow.

On the other hand there have been other underdeveloped areas with relatively sparse and stagnant population and ample land resources where the rate of agricultural growth (and of economic growth) has been very slow because the manpower was not adequate, either in number or in efficiency, to exploit appropriately the land resources available and produce the saving needed. And there have also been areas where the fact that the rate of population growth was relatively high and density of population per hectare heavy prompted the people to strive for a high rate of economic growth. The challenge posed by population pressure led them to exercise all their ingenuity to develop the available land and other resources. The spread of education and the development of science and technology helped the development of the human factor by improving technical knowledge and skill and by controlling disease.

The problem of food shortage is faced today primarily by the underdeveloped countries especially those of the Far East and the Near East.

The difficulties posed by low productivity of land and shortage of food seem to be faced more by the underdeveloped countries which have failed to respond adequately to the challenge of development than by the developed countries where the density of population is high. Although there has been a sharp increase in population in recent years and there is today less than half a hectare of cultivated land per capita in the world, science and technology have already made it possible to step up food production from this limited area several times more than what was considered feasible earlier. Boyd-Orr estimates an eightfold increase in food production is possible on the basis of existing technical knowledge; Colin Clark's estimate is even higher, namely tenfold.

While science is opening up new vistas every day and there are hopeful predictions of further technological breakthrough, only if the level of productivity achieved in countries like Japan through the application of known techniques could be brought about in the underdeveloped regions of the world, there need not be any serious fear of food shortage as a result of growth of population for quite a long time to come. It is interesting to note that in Japan the improvement in agricultural productivity has been brought about more through improvement of technology than through the increase in inputs. Between 1880 and 1938 agricultural production in Japan rose by 150 per cent while inputs rose by only 30 per cent. This trend has not only been maintained but even improved upon in recent years.

The reason for the slow rate of agricultural growth (and for that matter of economic growth), which is being faced by most of the underdeveloped countries today, is then to be sought less in the high rate of growth of population or in the limited availability of land resources and more in the fact that on account of various constraints these countries have not been able to make effective use of science and technology for the development of their population as well as land resources. These constraints apply at different levels, family, village, district and State, and are of various kinds, operational, sociological, economic and political. The key to development lies in identifying these constraints at different levels and taking appropriate measures for removing or reducing them. Bulk of the effort has no doubt to be at the local and national level but international action can also be of considerable help. At least until these countries reach the so called

NAGARJUNASAGAR

Water for 2.5 Lakh Hectares from June

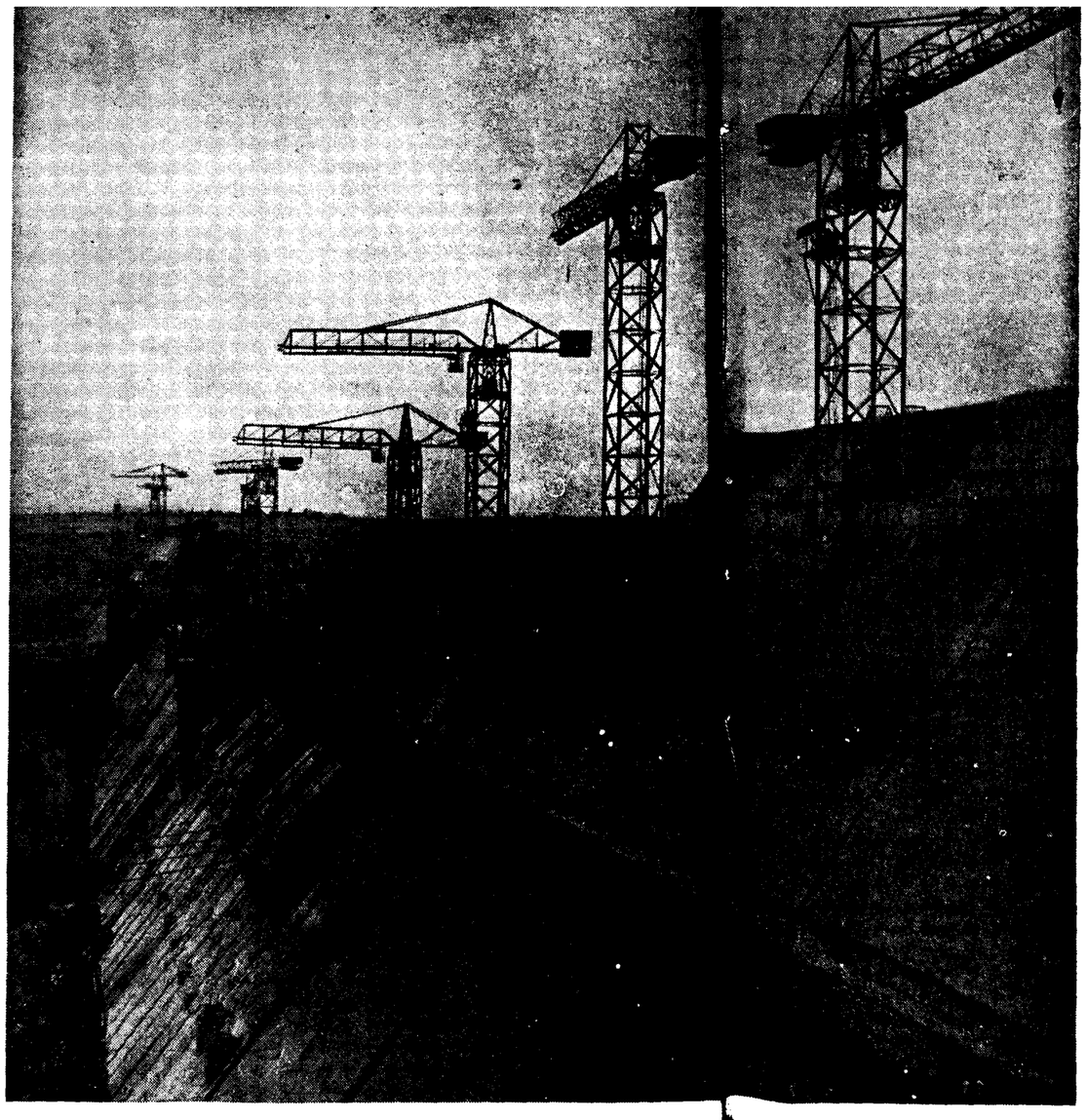
(*Continued from Page 6*)

dam in the world. So we are doubly cautious."

In ten years the dam has risen to a height of nearly 60 metres in the river portion and about 65 metres on the left flank and 90 metres on the right. It has two portions, the masonry portion in the middle and earthen portions on either side. The masonry portion is 1425 metres long and has a base width of 125 metres and top width of 8 metres. The entire dam will cost Rs 48 crore.

The masonry dam has been divided nto 79 blocks of 18 metre width which are filled with masonry and concrete. Already about 40 million cubic metre of masonry and concrete had been done when I visited the spot. The gap between the blocks is lined with copper strips on both sides and filled with asphalt. The lining is done only on the upstream side of the dam to prevent water from seeping through.

The arteries of the project are the canals on either side. A drive along both the canals up to some 25 to 30 kilometres was a heart-warming experience. Mr T. Viswanatha Rao, Mr S.K.S. Hussain, Mr P. Lakshmayya, and Mr C. Hanumantha Rao, all of them executive engineers, who took me with them, were looking forward to the day of fruition of their years of effort, the day when the canals will take water from the 250



square kilometre artificial reservoir of the dam to the paddy and sugarcane fields of Andhra.

"We are dead set on June 4, 1966, and we hope we will be able to keep the date," said Mr Viswanatha Rao while taking me in his jeep along the dust-and-rubble-laden banks of the right canal.

"I hope to finish my work long before that," Mr Hussain butted in. "In fact, we are months ahead of schedule." Meanwhile we had reached the sixth kilometre from the dam site where the dark hollow of a tunnel that would take the right canal through a hill was visible.

"Look at this tunnel. It is nearing completion five months earlier. By the first week of January it will be ready. And mind you, it is not an easy task."

"How was it possible?" I asked Mr Hussain.

"We set up two different organisations for the two halves of the tunnel. And we got the materials and the drills early. And we got skilled workmen from the Punjab and Kerala."

We entered the 1250 metre long, horse-shoe shaped tunnel with a diameter of 8 metres. Inside the tunnel was all nerves. Workers wearing gum boots. Supervisors with white metal hats. Dim light. The drip-drip of water-drops falling from the roof. The hissing of engines. A thick pall of cement-concrete dust. The atmosphere was eerie. I felt a deep debt of gratitude to the workers who earned a living by working inside such tunnels.

"Have there been many accidents in this work?" I asked.

"Yes. There have been several instances of roof-falling. Five people died."

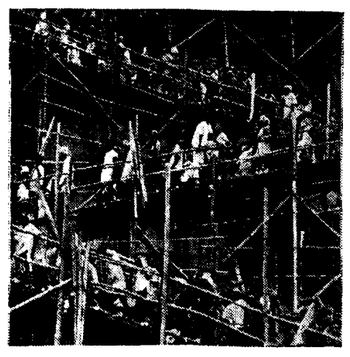
Sitting on a "jumbo", a platform for drilling rocks, J. Pappachar of Kerala explained to me how the tunnel was being concreted inside. From an agitator-car which can be taken inside the tunnel, cement-concrete mixture is poured into a mechanism called placy which then pumps it under pressure into the network of iron girders fixed on the roof at a little distance from each other. Thus roof-falling was being prevented.

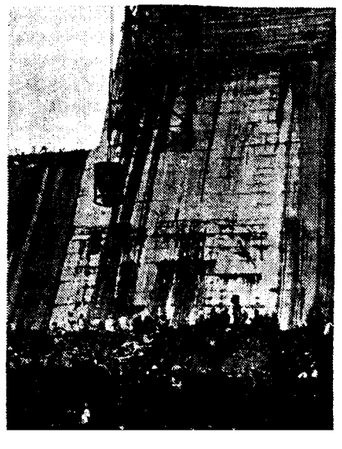
"But why a tunnel at all?" I asked.

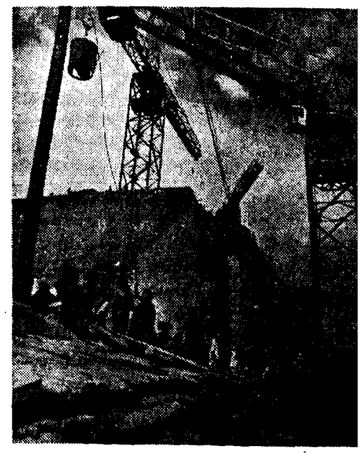
"The cost of the canal is considerably reduced by having the tunnel. Otherwise the canal would have to be dug girdling the hill," explained Mr Viswanatha Rao.

Standing on frames of iron rods in the 9-metre-deep canal were workers lining the walls with concrete. This was to prevent the water eroding the rocks which, if allowed to fall, would block up the canal gradually. The canal passes through vast areas of arid land, at some places above a hill stream by way of a concrete *aqueduct*, at other places below rivulets or hill streams by way of a *super passage*. At various points siphons joining two wells have been built to take off water from the canal to the fields by means of feeder channels. The canal passage, 18 metres wide at the start, widens into 75 metres at Idulavagu. From there it will go almost like a natural river with hills forming its walls.

At Buggawagu, 30 kilometres from Nagarjunasagar, a 30 metre high earth filled dam and a regulator have been







Far left: The cranes are flying on the top of the dam.

Near left: Workers on the bamboo ramps.

Above: A closer view of the cranes.

Left: Children at play on the earthen slope.

"take off" stage, international action, both for transfer of technical knowledge and capital from the developed to the underdeveloped countries and of food stuff from surplus to deficit areas, can help in overcoming or reducing many of these constraints.

Indian Experience

Some of the problems posed above may be illustrated from the experience of India. The population situation in the Indian Union since the beginning of the present century may be seen from Table I.

Rate of growth of population was relatively low, mortality rate relatively high and average expectation of life relatively short until 1951 when India launched her First Five-Year Plan for economic development. During the pre-Plan period the rate of saving in India was 5 per cent and the rate of increase in National Income was usually less than 1 per cent. Since the annual growth of population during the period happened to be no smaller, pre-Plan India had an essentially stagnant economy, if not worse. Before 1920, both population and agricultural production were growing at a very slow rate as may be seen from Table II. During the next thirty years, while population growth was considerably accelerated, agricultural growth tended to lag behind largely because no special effort was made to remove the constraints which were inhibiting agricultural production.

As a result, however, of the programme of economic development which India initiated in 1951, her net National Income increased at a compound rate of 3.56 per cent per annum and agricultural production at a compound rate of 3.52 per cent per annum between 1950-51 and 1960-61. The consequent improvement in health facilities and in standard of living led to an annual growth of population by 1.98 per cent during this decade as compared to 1.32 per cent in the previous decade. This sharp increase in the growth of population no doubt meant that the increase in per capita income was less than what it might have been otherwise. Nevertheless per capita income (at 1948-49 prices) went up from Rs 247.5 in 1950-51 to Rs 293.7 in 1960-61, i.e. by an annual compound rate of 1.74 per cent.

TABLE I

Total Population and Birth, Death, and Growth Rates, 1901-1961

Year	Population (millions)	Estimated rates in the following decennium		
		Birth rate (per thousand)	Death rate (per thousand)	Compound rate of growth per annum (per cent)
1901	238.4	52.4	46.8	0.52
1911	252.1	48.1	47.2	(—) 0.03
1921	251.3	50.8	40.4	1.05
1931	279.0	46.2	33.5	1.28
1941	316.7	43.1	30.0	1.32
1951	361.1	40.4	20.9	1.98
1961	439.2			

TABLE II

All-India Annual Compound Rates of Growth of Agricultural Production and Population, 1900-01 to 1960-61

Period	Increase in agricultural production (per cent)	Increase in cultivated area (per cent)	Increase in productivity (per cent)	Increase in population (per cent)
1900-01 to 1919-20*	0.53	0.29	0.24	0.25
1920-21 to 1939-40*	0.20	0.24	(—) 0.44	0.83
1940-41 to 1949-50@	(—) 0.97	0.66	(—) 1.63	1.32
1950-51 to 1960-61@	3.52	1.18	2.34	1.98

*Related to undivided India @Related to Indian Union

TABLE III

Annual Compound Rates of Growth of Agricultural Production, Cultivated Area, Productivity and Population during 1952-53 to 1961-62

(Average 1952-53 to 1960-61)

State	Increase in agricultural production (per cent)	Increase in cultivated area (per cent)	Increase in productivity (per cent)	Increase in population (per cent)	No. of persons per hectare of cultivated area (1952-53)
Andhra Pradesh	1.77	(—) 0.07	1.87	1.49	2.3
Assam	1.30	1.49	(—) 0.20	3.27	4.1
Bihar	3.22	1.07	2.07	2.04	4.1
Gujarat*	2.05 (2.56)	0.66 (0.27)	1.42 (2.30)	2.56	1.8
Kerala	2.26	1.11	1.14	2.24	7.9
Madhya Pradesh	3.27	1.31	1.93	2.53	1.8
Madras	4.20	0.71	3.50	1.05	4.7
Maharashtra	3.18	0.48	2.66	2.18	1.8
Mysore	3.15	1.19	1.97	1.97	1.9
Orissa	1.13	0.52	0.62	2.15	2.3
Punjab	4.89	2.32	2.46	2.40	2.2
Rajasthan	2.65	3.44	(—) 0.99	2.58	1.4
Uttar Pradesh	1.94	0.83	1.10	1.67	3.9
West Bengal*	0.85 (2.97)	0.17 (0.69)	0.51 (1.97)	3.01	3.3
All India	2.94	1.25	1.67	2.09	

* In the case of Gujarat and West Bengal, the first two years of the period under consideration were somewhat abnormal. Leaving out these two years, the growth rates for the period 1954-55 to 1961-62 are given in brackets.

Instead of a stagnant economy where the rate of economic growth was about the same as that of population growth, India has now reached a situation when the former is nearly twice the latter. The rate of growth of agricultural production is well ahead of that of population. Per capita foodgrains supply per day has gone up from 13.5 ounces in 1951 to 16.2 ounces in 1961. The expectation of life at birth has gone up from 32 years to 41 years and this has been both a result and a contributory factor of economic growth. The rate of saving, another indicator of economic growth, has gone up from 5 per cent in 1950-51 to 8 per cent in 1960-61.

India's plan of economic development included a massive programme for agricultural as well as industrial development. The programme for agriculture comprised, *inter alia*, irrigation, soil conservation, land reclamation, increased use of improved seeds, plant protection materials and chemical fertilisers and a number of ancillary measures like extension, education and research. The total outlay on the agricultural and irrigation programmes amounted to about Rs 1,000 crore during the first two Plans. As a result, during the ten-year period ending 1961-62, agricultural production increased at a compound rate of 2.94 per cent per annum at the all-India level. The area under crops increased at the rate of about 1.25 per cent per annum while agricultural productivity per hectare increased at the rate of 1.67 per cent.

Regional Disparities

Within this overall picture, however, there is considerable disparity from area to area and this has taken place in spite of the fact that the nature and magnitude of the development effort including the policies and programmes have been more or less similar all over the country.

The point may be illustrated by Table III which summarises the experience of 14 major States in the country for which comparable data are readily available. At the two extremes are Rajasthan and Kerala. In Rajasthan the pressure of population is the lowest and in Kerala it is the highest and in both the States production has just been able to keep pace with population. But in Rajasthan there has been an actual fall in productivity and the increase in production is entirely due to increase in area. In Kerala the increase in production is shared almost equally by increase in area and increase in productivity. In Punjab where the rate of growth of agricultural production is the highest, it is more than double that of population. Here area and productivity are almost equally responsible for the increase in production.

On the other hand, in Madras, where the rate of growth of productivity is the highest, the density of popultion is over double that of Punjab and the rate of growth of population is less than half of that of the latter, the rate of growth of production is four times as high as that of population. This shows that although these two States are at two extreme ends of the country and have the highest rates of agricultural growth, in one case the rate of growth of population is very high while in the other the density of population is very heavy, and yet both have done well in their own ways under the stimulus which the national plan of economic development has provided. Maharashtra, Gujarat and Madhya Pradesh have the same density of population and yet in the first, which is more industrialised, the rate of growth of productivity has been substantially higher.

In the three States—Bihar, West Bengal and Assam—which are in the Ganges-Brahmaputra basin and for which region a four-fold increase in agricultural production has been considered quite feasible by a detailed study made by an expert team appointed by the F.A.O., the rate of growth has been rather low. Of these three States, the performance of Bihar and West Bengal has been relatively better than that of less industrialised Assam, in spite of the fact that the latter has many modern and large-scale plantations. In Uttar Pradesh, Andhra Pradesh and Orissa, which are predominantly agricultural, growth of agricultural production has been very slow.

The main point that emerges from the above rather superficial comparison of the relationship between population, land resources and agricultural growth in different States of India indicates that there is no unique relationship between the three, even when the policies are the same and the effort for development is more or less uniform. In some cases the land area may appear to be sufficient and yet if it is subject to severe physical and socio-economic constraints it may not easily respond to efforts for development. In certain areas where land area is very limited, if the situation is such that more input and better human skill can be applied, it can yield much better results. The main point here is to what extent the physical and socio-economic constraints may be removed and the productivity of soil improved through the application of science and technology.

Similarly, the absolute number or density or rate of growth of population by itself may not influence production in the same way. Even if the population pressure is small and the rate of growth slow, if the people lack necessary skill, education, tools and incentive, they may not succeed in improving the rate of growth. On the other hand, a population with high density as well as high rate of growth may react to the challenge of development in a positive manner so as to make full use of the results of science and technology and wrest substantially larger yields from the limited land resource available to it. It is, therefore, important that the problems of each area should be studied carefully and specific measures taken to improve the quality of the land or the quality of the workers so that the rate of growth can be optimised.

No general pattern of development can be prescribed for all areas nor any general hypothesis formulated in regard to whether population growth by itself is a limiting or stimulating factor for agricultural and economic growth.

Rail Link with Upper Assam

A metre gauge railway line connecting Gogamukh with Silapathar, a distance of 48 kilometres, has been opened to traffic on the North East Frontier Railway. The line, built at a cost of Rs 5 crore, is part of the project providing the shortest rail route between upper Assam and the rest of the country.

Books

Better College Administration to Build "Educated Society"

College Administration—A Proposal. J.W. Airan. Asia Publishing House. 57 pages. Rs 5.

M. M. Begg

DR Airan puts forward a proposal which, if implemented by most of the colleges in India, should be a step towards achieving an 'Educated Society'. Such a society should enable its members to benefit from the new mode of thinking which the study of Natural Science has introduced and from the gains of technology as well as from the growing world contacts which have become possible through mass media and communications.

The proposal aims at streamlining college administration in India, securing increased student and faculty participation in the day-to-day administration of a college without disturbing the framework of university and Government rules and regulations under which the college functions. General education for responsible citizenship is a social enterprise and colleges should be so administered as to secure the personal and social development of every student on their rolls.

But a good college administration is not one which by itself tries to fulfil the objectives of the colleges; it is one which creates and maintains conditions which are conducive to their fulfilment. In order that these be guaranteed, it is necessary that those who are selected to administer or to strengthen the administration must be academic persons at the core; so, too, the principal, who presides over a college, must be a respected academician, capable of giving his colleagues the right kind of leadership in their corporate academic life. This corporate life includes maintaining a detailed record of every student; maintaining student counselling service; running programmes organised to encourage student leadership development; helping the student to find a suitable position in life; keeping in touch with him after he has left the college; and constantly studying areas for curricular changes and improvement. It also includes professional growth programmes for members of the faculty, evolving an apparatus for self-evaluation of the academic and social life of the college; sound financing to modernise buildings and equipment, introduction of newer courses of study, and institution of a public relations office.

It is in the light of this that the role of the principal of the college must always be analysed. He is appointed to lead and he must lead. But how? He must have an educational philosophy which prompts him to make innovations and which enables him to assess current opinions and to detect forces which shape the society in which his college operates. The public, his own colleagues and his governing board must feel the weight of his convictions as an educator and as an administrator. He must know to what extent he should get his colleagues interested in administration without getting everybody involved in the details of it. Rather than doing everything himself he must inspire in fulfilling the expressed aspirations of the college community. Above all he must take the faculty into complete confidence regarding administrative policies and financial matters lest they become victims of idle rumours.

While dealing with departmental matters through the heads of department, he must guard against the possible danger of his becoming inaccessible to junior members of the teaching staff in matters which are personal and even generally academic. His sense of dedication must pervade the general life of the institution; his drive must become an inspiration to all those who work for the institution in various capacities. The determined manner in which he pursues given objectives and projects must serve as an assurance to his colleagues and students that any idea rightly conceived and accepted as generally helpful for the academic progress of the institution will be carried out, whatever the cost.

It is a person of this type who is expected to head a college and lead an academic community. Like all administrations his administration may be pyramidical in structure. But the principal who is at the apex will not look upon the base as incidental to the authority of his office, but as something which makes his office more meaningful, and the delegation of his authority an act of faith in his colleagues.

Starting from these premises Dr Airan suggests committees and subcommittees of staff and students to administer the different spheres of college life under the general supervision of the principal, in the hope that through mutual trust and processes of democratic organisation the young people whom we admit in our colleges would leave the colleges as functioning and better adults and responsible citizens, and that the teachers too will have found greater pleasure in achieving this result.

Dr Airan, through his association with Wilson College, Bombay, as its principal, his recent participation in the survey team which was organised by Dr Frank T. Wilson, Education Secretary, Commission on the Ecumenical Mission and Relations, New York, to survey Church-related colleges and higher secondary schools in India, Thailand, Japan and South Korea, and his meeting with the presidents of some of the best known colleges in the United States, is well qualified to make this concrete proposal which, if implemented, should enable colleges in India to evolve that 'Educated Society' which is the goal of all democratic education.

Prof. M.M. Begg is Educational Adviser to the Government of Jammu and Kashmir and a former Principal of Delhi College.

The Many Lives of Gandhiji

Bahuroopee Gandhi by Anu Bandopadhyaya. Popular Prakashan, Bombay. 171 pages. Rs. 4

THE millions among whom Gandhiji moved knew that his legendary achievements were the work of a frail-looking, flesh-and-blood, all-too-human being. He talked, he laughed, he joked and he laboured. He laboured on many small things. He built things at his Ashram. He kept the premises clean. He looked after the health of its inmates. He wrote neat little masterpieces of homely advice on hand-made paper. He was scavenger, cook, nurse, journalist and farmer, besides being a barrister turned friend, philosopher and guide to a nation of 350 million people.

In the eighteen years since he died, he has passed into history and folklore. A new generation has come up that knows him not except from frequent mention of his superhuman influence and superhuman devotion to truth and non-violence. To many today Gandhi is the label for an incredible, near mythical, life of perfection.

It is an ideal which seems too remote to be emulated at all.

Anything that helps to dispel that sense of remoteness and makes Gandhiji live again in the minds of men is a service to the gospel of Gandhism; it is service to the cause of peace and non-violence which seem the only solution, however distant, to the ills that beset the world today.

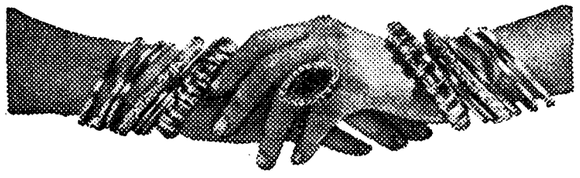
Anu Bandopadhyaya's little book is a valuable contribution in this direction. In simple, short sentences, directed at teenagers but likely to fascinate even adults, it tells in different chapters the story of the many facets of Gandhiji's day-to-day life. Gandhi as a barrister, as a tailor, barber, cobbler, teacher, beggar, jail-bird, printer-publisher, fashion-setter; these are only a few of the chapter-headings which tell their own tale.

To the unspoilt mind, the book makes absorbing reading. The language and presentation are somewhat unsophisticated at places for the more worldly readers. But every young student should be exposed to this healthy influence, for whatever it is worth. The book is neatly produced, with line sketches of Gandhiji by R.K. Laxman.

PUBLICATIONS RECEIVED

Economics : An Introduction by G.C. Jangir and Narindar Singh. National Publications, Delhi. 730 pages. Rs. 16.

Study of Utilization of Co-operative Loans. 185 pages + xvi pages of tables. *Interim Report on Evaluation of Consumer Co-operatives.* 52 pages + xvi tables. *Study on Forest Raw Meterials for Pulp, Paper and Newsprint.* 48 pages+v annexures. All published by Planning Commission.



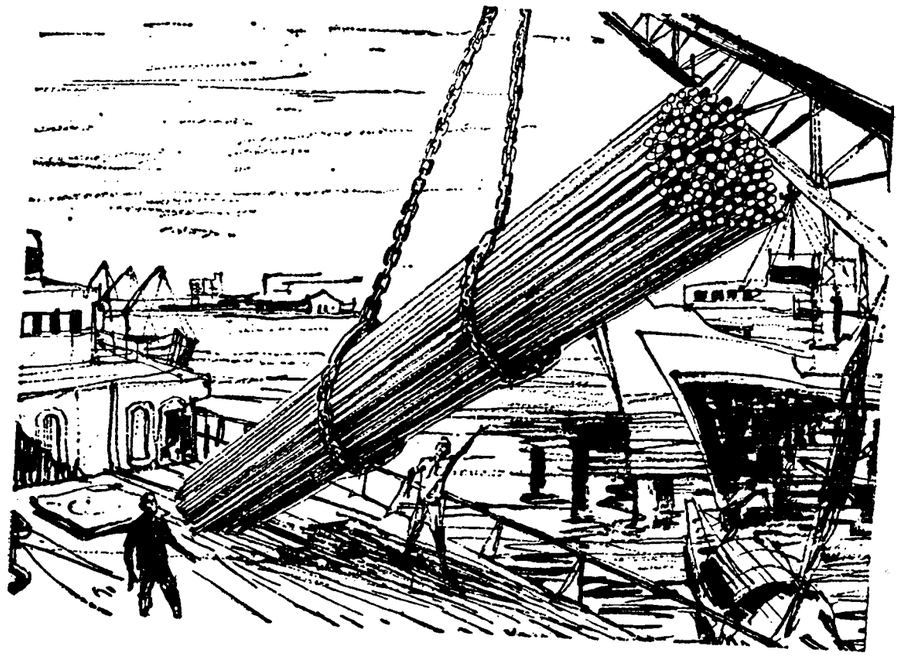
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The country needs gold—for industry, for agriculture, for defence. Your idle gold does not help the country, invest it in the nation's future—invest it in Gold Bonds. □ Your gold shines brighter as it serves the nation's needs. It becomes more precious in the form of GOLD BONDS.

STATE BANK FOR SERVICE



Tata Steel goes abroad

Several times a year, ships carrying, among other things, angles and channels, bars and joists, and other steel products made in Jamshedpur sail away from the Calcutta port...bound for East Africa, the Middle East and Far East. These steel products are of utmost importance to the importing countries for their economic development.

During the last two years, Tata Steel has exported through Commercial and Industrial Exports Limited (CIEL), the Government-recognised export house of the Tata group, over 30,000 tonnes of steel products and earned over Rs. 1.15 crores of foreign exchange for the country. The exports, which are steadily increasing, indicate Tata Steel's concern to do its bit to augment the country's foreign exchange earnings, so vital to the success of our national goal of planned industrialization.

TATA STEEL

The Tata Iron and Steel Company Limited

JWTTN 2[illegible]

VILLAGE WITH 200 WELLS

VAVARHIRE, a village in the Satara district of Maharashtra. has resolved to defy the perpetual scarcity conditions in the area. This year's drought intensified the urgency of the problem and the village took up an intensive programme of digging wells. Every other farmer, like a sparrow busy building its nest at the close of the winter, is busy at the well in his field. To a visitor, the entire village might seem to have gone crazy after wells. But, he will admit, it indeed impresses him as an oasis in the dreary tract of 'Maan' which is a chronic sufferer from scarcity of rains and unyielding land.

Pan-linga, Lord of Water, is the presiding deity of the village and the devout villagers do not care for the rains to irrigate their crops. There are two rivulets flowing by, and the villagers are bent on leaving no underground water resources untapped.

In this village of 2,900 people with an area of 4,900 acres, there were 177 wells with plenty of water before the last rainy season. Whipped by the disfavour of rains this year, they decided to have more wells and they were sure the village deity would bless their efforts. As a result, 21 new wells were dug in two months. More wells are being taken up for digging.

Twelve bunds with field channels have already been built on the two rivulets.

Before the last rainy season, there were 7 pumping sets in the village. In the two months after the failure of rains, the number rose to 27. The village panchayat is going to buy a few pumping sets for poorer farmers. This will be the first panchayat to own a pumping set in the Maan tract. The panchayat owes its prosperity to the wells.

With the two hundred wells, the thirty pumping sets and the twelve bunds, the village expects to irrigate the entire land belonging to the village.

With the supply of water assured the village has taken to double cropping of vegetables and cereals. Among vegetables, onion is more popular. This season, the onion crop would be worth one and a half lakh rupees. After harvesting the onion crop, Bajra and Jowar are grown.

With the improvement in the economic condition, the village has been advancing in the social field also. Last year the small savings shield was won by the village at the Taluka level competition. There are a multipurpose cooperative society and a dairy society to look after the daily needs of the people. For education, there are schools up to school final standard for both boys and girls. For recreation, a park has been tended in an area of ten acres, in which the trees have been grown with great care and personal attention by the villagers.

—BHASKAR JOSHI

Courtesy : 'Navashakti', Bombay

Quotation Box

Where the rice is without stones and the price is held low;

Where the clear stream of files has not lost its way into dreary desert sand of red-tapism;

Where man is led forward by Thee into ever-decreasing corruption and nepotism;

Into that heaven of freedom, my Father, let my country awake.

—From "A Prayer" by N. Gopalakrishna in "Shankar's Weekly"

The downgrading of the Ministry for Iron and Steel may, let us hope, lead to a reduction in quantity of State-made steel.

Mr M. Ruthnaswamy, M.P., in "Swarajya"

A planned society cannot be ushered in by a chore of missed meals and aborted births.

Editorial in "NOW"

The Punjab Congress Legislative Party passed a resolution placing on record its deep sense of sorrow on the passing away of Mr V.P. Menon, "a literary genius who was Ambassador to Moscow and other capitals of the world and whose memoirs depict his high literary capacity".

—Report in "The Hindustan Times"

Our senior journalists are seldom newsmen first. They prefer to be consultants and advisers to our public men or politicians. This perhaps is one reason why political reporting in our newspapers so often has the quality of history chronicled at convenience.

—Editor of "Eastern Economist"

Ahmedabad: Jan. 31: Mr Nityanand Kanungo, Governor of Gujarat, said here that he knew for the first time today what the inside of a factory looked like.

Mr Kanungo, who was speaking as chief guest at a get-together in a cement factory, said: "Even though I held different positions, including the Commerce and Industry portfolios, at the Centre, I had not entered any factory during my career of a quarter century.

"It is for the first time that I walked into a factory."

—Press Trust of India news item

Mr Jain (Kerala Governor) told a Press Conference that the obvious successor to him would be the all-powerful Editor of *The Statesman* who sits in his ivory tower.

—Report in "The Statesman"

On the other hand, there is abundant evidence drawn from a decade of polls to show that economic discontents make no impression against the Congress Party; there have been significant cases of a rise in the Congress vote associated with a rise in economic discontent, both urban and rural.

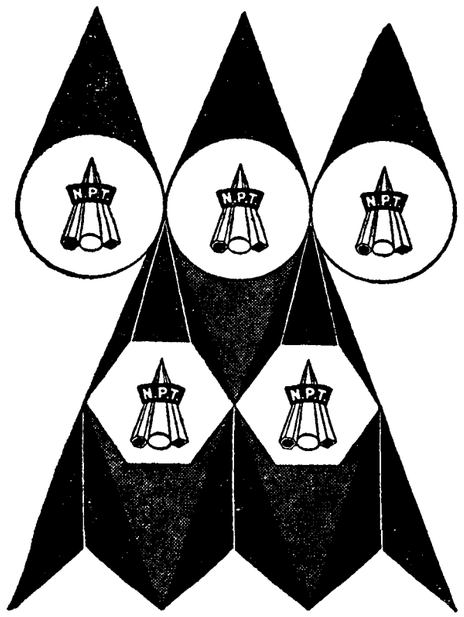
—Mr E.P.W. da Costa

A monthly average of 509 Press releases aggregating an average wordage of 1,78,619 words is issued by the Press Information Bureau of the Ministry of Information and Broadcasting. During the month of September 1965, which saw the climax of the Indo-Pak conflict, the Bureau issued a record number of 839 releases, totalling 4,12,464 words.

—From a release of the Press Information Bureau

We in India have made the mistake of reducing the constituent elements of our people into abstractions. Hindus have become the Hindu, Muslims have become the Muslim, Sikhs have become the Sikh. A proper sense of nationhood requires that these many abstractions, which mischief-makers can easily show reject one another, into a single abstraction, the Indian.

—Prof M. Mujeeb



WHEN YOU BUY N.P.T. YOU BUY THE BEST...

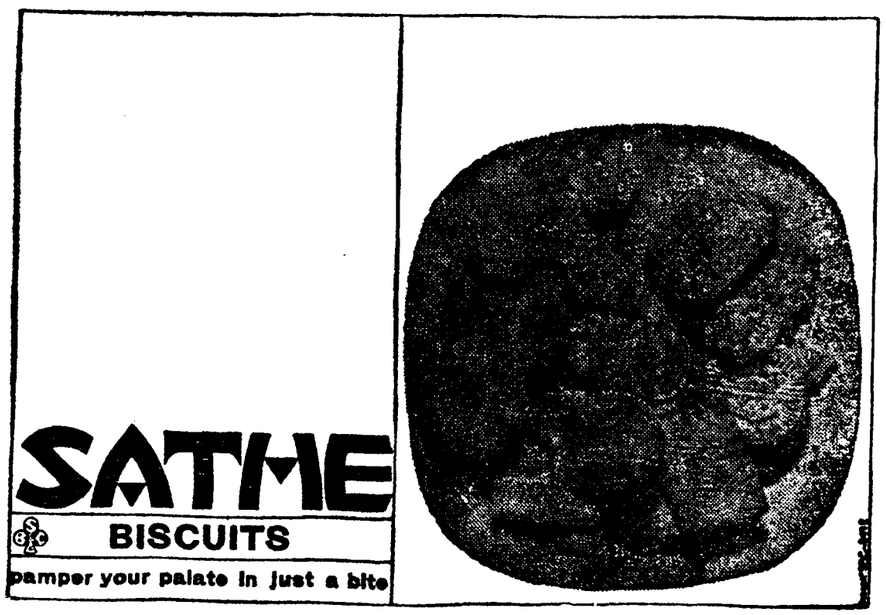
If you need extruded non-ferrous products like Rods—Rounds, Hexagonals & Squares—Flats, Copper Bus—Bars, sections, Pipes and Tubes of Brass, Copper including Arsenic Copper etc. etc,.... buy them from N.P.T.

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Grease

ARE tips illegal? Or improper? Not always, according to the decision of a High Court.

A transport company of Madras maintained that the money received by drivers and conductors of buses by way of rebate, the "mamools" paid by them, their wayside expenses and money realised by sale of old tyres and tubes were not assessable for tax.

The Income-Tax Department disagreed. It said that the rebates as well as the money from sale of old tyres and tubes did constitute income. As for the tips, it said that the expenditure had not been proved. The Income-Tax Tribunal upheld the view in regard to rebates and sale of tyres and tubes but also allowed deduction of "mamools". Such tips, it felt, were reasonable, as they were the grease that ran a business smoothly.

The Madras High Court agreed with the view. The very nature of the expenditure, it felt, precluded documentary evidence. The Court was of opinion (as reported in *The Hindu*) that "all tips, in one sense might be improper, but not necessarily so always or illegal."

Out of Focus

SHOULD a photographer remain anonymous? At least two well known photographers, Lord Snowdon and Henri Cartier-Bresson, who are now on a visit to India, feel he should.

Lord Snowdon, husband of Princess Margaret, is in this country for the first time to "shoot" India's development projects for *The Sunday Times* of London. When reporters successfully traced him in a New Delhi hotel, Lord Snowdon said: "A photographer should remain anonymous. He should be left strictly alone. If I am chased by photographers and others, I have simply to leave."

Yojana got news of the Indian visit of another camera-shy master, Henri Cartier-Bresson, from an Ahmedabad friend, Dashrath Patel. Patel was lucky to travel with him all the way from Paris to India. He told us that Cartier-Bresson was in India at the invitation of the National Design Institute of Ahmedabad.

This is not Cartier-Bresson's first visit to India. He was here eighteen years ago. The pictures he made in Delhi at the time of Mahatma Gandhi's assassination are hauntingly moving. They include one of Nehru addressing a crowd from the gates of Birla House.

Not to be recognised is a passion with Cartier-Bresson. To achieve his purpose he dresses "like an American tourist" except that he does not flaunt his camera. He works with only a small Leica with an ordinary lens. He is not one of your filter-changers and light-meter flaunters.

How serious he is about anonymity was again proved when Cartier-Bresson shot the Republic Day Parade in Delhi right under the nose of all the capital's photographers for whom the great master just did not exist anywhere around.

Sharavati

Bhagirath, the journal of irrigation and power, has done well to bring out a booklet on the Sharavati project (*All about Sharavati*, Publications Division, Rs 1.50). It has several articles which give the technical details of the project in a manner that even lay readers can understand.

This little river in the Western Ghats is only 132 kilometres long but it has a power potential of 1,300,00 kW. The capacity already installed comes to 891,000 kW. The total cost of the project is Rs 123.43 crore.

One of the articles in the booklet gives the true size of the project in this telling manner: "The power to be produced (by the project) will be more than three times the power presently generated in the whole of the Mysore State. The Linganmakki reservoir is larger by a fifth than the Tungabhadra reservoir...and has two and a half times the storage of the Koyna hydro-electric project in Maharashtra... The stone masonry in the two dams alone involved 1.6 million cubic metres; with this a stone wall could be run around the whole of Mysore State."



IGNORAMAN

Wants to Know

Whether we are doing away with surplus States so that the whole country can be safely deficit ?

The other articles in the booklet deal with dam design, tunnelling, use of 'surki' mortar, quality control, power generation and transmission, rehabilitation and the finance and accounting of the project.

Reason

"I believe the standard of English in your colleges is going down. What do you attribute it to?" a foreign newspaperman asked Mr R.K. Narayan the novelist.

"What else will happen if they prescribe my books!" was his sly reply.

Fruity

An article in *Family Planning News* (December 1965) has the following headings:

THREE TYPICAL
IUCD CASES

Sincere Attempts
Prove Fruitful

Now, is "fruitful" the right word to use when conception is prevented?

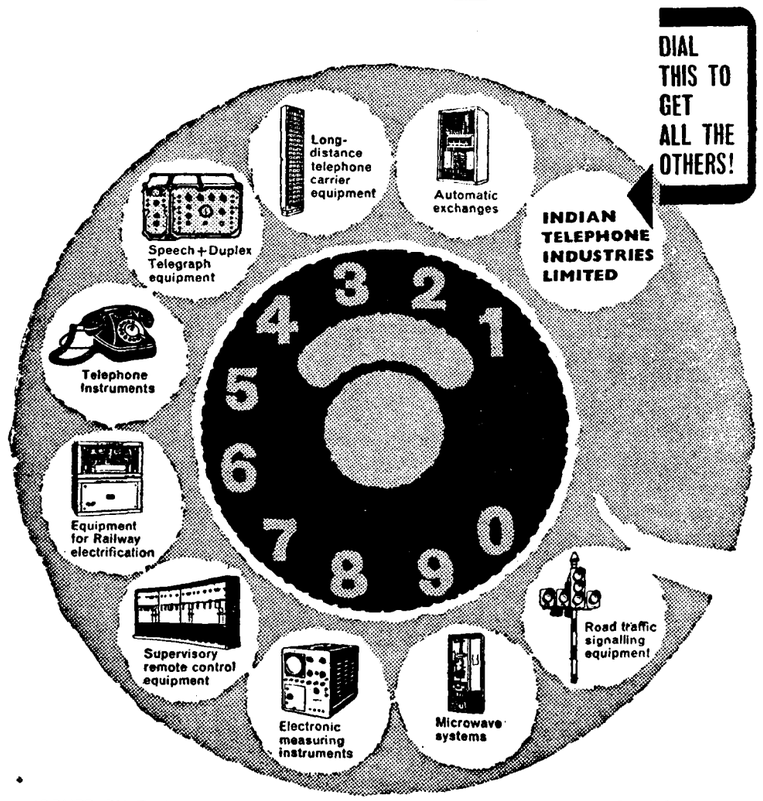
Collector's Item

A letter addressed to the Institute of Mass Communications, we learn, was delivered at the Institute of Communicable Diseases.

ITI is the pioneer Public Sector Undertaking in India that manufactures a wide range of modern telecommunication equipment, from telephones to highly complex multi-channel systems. □ Today equipment supplied by ITI works to satisfaction in Ceylon, Nepal, Sudan, Malaysia, Kuwait, New Zealand, Greece, U.A.R., South Vietnam, Thailand, Singapore and the Somali Republic.

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ISSUED BY THE ENGINEERING EXPORT PROMOTION COUNCIL, CALCUTTA, INDIA

Nine-tenths of Steel Plant Equipment to be Made in India

AN urgent programme has been launched for the manufacture and repairs of capital equipment for steel plants. The Heavy Engineering Corporation of India will help the Government in the programme. It is expected that 90 per cent of the imported equipment would be substituted under the programme in which both the public and private sectors will participate.

In the past few years, the existing steel plants have made a considerable progress in manufacturing their requirements in their own workshops or procuring them indigenously.

Thermal Power

STEPS to attain self-reliance in setting up thermal power stations are being introduced. They include: 1. A central training institute to conduct specialised courses in designing thermal power equipment. Universities will be associated with the institute. 2. A committee to recommend standardisation in designing. 3. Five teams of erection staff. 4. An intensive programme of research to find out indigenous substitutes for imported raw materials.

POWER TILLERS

A factory to manufacture 15,000 power tillers annually will be set up in Punjab in collaboration with a Japanese firm.

An agricultural research centre is to be set up at Jabalpur to serve the central region comprising Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Orissa and Andhra Pradesh. The centre will have departments for silviculture and soil science and will cost Rs 28 lakh.



Food Help

India will get an additional three million tonnes of food-grains (2 million tonnes of wheat and one million tonnes of milo), valued at Rs 79.3 crore, from the U.S.A. on rupee payment. The new agreement supplements the P.L. 480 agreement of September 30, 1964, under which the U.S.A. has so far given (or committed) 10.8 million tonnes of food-grains. The supplies have started coming in.

Under the new agreement, the U.S.A. will return 75 per cent of the total value to India as loans for mutually agreed projects.

The United Arab Republic has already despatched 10,000 tonnes of rice. Another 50,000 tonnes of rice were to be sent in two instalments this month.

Greece is sending 5,000 tonnes of wheat and 2,000 tonnes of rice as a gesture of goodwill.

The United Kingdom has offered India an interest-free loan of £7.5 million (Rs 10 crore) as an immediate step to help India fight the food crisis.

Rajasthan Fertilisers

The Rajasthan Fertilisers and Chemicals Corporation has been set up at Jaipur to establish a factory to manufacture nitrogenous fertilisers in collaboration with one Dutch and two American firms. It will have a share capital of Rs 7.50 crore.

The Fertiliser Corporation of India has signed an agreement with an Italian firm for purchasing the licence and process know-how for the manufacture of urea.

JAWAHAR SETU

Country's Longest Road Bridge

THE three-kilometre-long bridge over the Sone river at Dehri-on-Sone in Bihar has been opened to traffic.

Longest in India, the bridge took three years to be built at a cost of Rs 2.7 crore. It facilitates uninterrupted traffic on National Highway No. 2 from Delhi to Calcutta throughout the year and saves 192 kilometres of the distance.

The bridge has been named Jawahar Setu. Its construction incorporates the latest design techniques. The cost was financed by the International Development Association of the U.S.A.

SNIPPETS

THE Hindustan Insecticides, Delhi, produced 1512 tonnes of technical DDT, exceeding the target by 168 tonnes, in 1965. The plant will be expanded to double the annual capacity to 2800 tonnes. The National Projects Construction Corporation earned a profit of Rs 52.81 lakh in 1964-65. Its out-turn for the year was Rs 6.58 crore, the highest so far...The Mineral and Metal Trading Corporation exported 6.04 million tonnes of iron ore, valued at Rs 25.56 crore, in 1965, an increase of 22 per cent over the exports in the previous year.... The National Coal Development Corporation has raised a fresh capital of Rs 5 crore in equity shares of Rs 1,000 each.... A stamping plant will be set up at Hardwar as an integral part of the heavy electrical project coming up there. A has been set up to examine jute development programme and suggest measures to improve the quality of jute. ...About 160 kilometres of motorable roads have been built in the border district of Uttarkashi (U.P.) in the past six years and another 200 kilometres of roads are to be completed by the end of March next.... A railway overbridge, 487 metres long, has been opened to traffic at Jabalpur. It connects two thickly populated parts of the city. It cost Rs 12.40 lakh... A stadium, named after the late Mr. Nehru is being built at Sagar (M.P.) at a cost of Rs 8 lakh. It will seat 30,000 people ...The exports of jute goods were valued at Rs 125 crore, a record figure, during the eight months April to November 1965.... Licences have been granted for setting up four cotton textile mills in the Punjab, each with 12,000 spindles... The Union Government is undertaking a study of the factors affecting agricultural output and productivity in collaboration with the U.S. Agency for International Development and the U.S. Economic Research Service.

Adulteration

–how can this major problem be tackled ?

The Problem :

Adulteration of foodstuffs in India varies between 15% and 51% according to an official report. Adulteration can be eliminated through a two-pronged action.

By reducing the opportunities.

By disciplining the offender.

But the adulterated product usually comes in bulk form (and is sold loose). The manufacturer cannot be held responsible. And the man who sells the adulterated product does not make it himself.

The Solution :

One of the best ways to beat adulteration is to buy products in branded pilferproof consumer packages.

Pilferproofing makes tampering with the product (between the manufacturer and the consumer) difficult.

If it is tampered with, you can tell. And refuse to buy it.

A brand name on the package helps you to locate the manufacturer if necessary.



A medicine bottle pilferproofed by a roll-seal closure, developed by Metal Box. Other MB pilferproofing techniques : foil diaphragm on vanaspati and baby food containers, sealed cans for processed foods, tear-off seals on pharmaceutical phials, heat-sealed plastic and laminated packs. Work goes on to develop many more.

We at Metal Box honestly believe that pilferproofing and branded packaging together provide an effective answer to the anti-health, anti-social practice of adulteration. Time you did too.

METAL BOX
protective packaging

JWTMB 2944A3

PLANNING NOTE

Loans Meant for Farm Spent on Home

THE Programme Evaluation Organisation (P.E.O.) of the Planning Commission, has found that borrowers of short- and medium-term co-operative loans in the States extensively divert the money to other purposes. The supervision by the Central banks has been considered inadequate in this respect.

At the instance of the Ministry of Community Development and Co-operation, the P.E.O. studied nearly all aspects of utilisation of the loans. For this purpose 25 Central banks were selected from the 15 States and Himachal Pradesh. From each bank, five primary agricultural credit societies and from each society a maximum of 12 representative member-borrowers of both short- and medium-term credit were chosen as samples for study.

It was found that a household had an average monthly earning of about Rs 150 in 1960-61 which rose to Rs 170 in 1961-62. Each household incurred an average monthly cash expenditure of nearly Rs 130 in 1960-61. Only 38 per cent of the cash was spent on agriculture and the remainder was spent on daily household needs. Among the agricultural items, seeds, fertilisers and manures, and wages claimed nearly two-thirds of the expenditure. The average value of net capital accumulation per household was Rs 167 in 1958-59 which rose to Rs 261 in 1959-60 and Rs 384 in 1960-61.

Of the total credit obtained by the sample respondents, the share from co-operatives varied between 65 per cent and 72 per cent during the years 1958-59 to 1961-62.

The analysis of the relationship between short-term borrowings and cash expenditure on current items and between medium-term loans and net acquisitions revealed that total short-term borrowings from all sources formed a significant proportion (29 per cent) of the total current *cash* expenditure of the households.

Secondly, the proportions of both total and co-operative credit to the current cash agricultural expenses were much higher (53 per cent and 43 per cent) than those in relation to the household expenses (14 per cent and 4.5 per cent).

Thirdly, in some bank areas the proportion of short-term borrowings to the current cash expenditure on agriculture was more than 100, indicating a situation of over-financing. In a few bank areas the medium-term loans from co-operatives was also much higher than the corresponding value of net acquisitions.

Fourthly, a good proportion of the net capital accumulation was financed from medium-term co-operative borrowings.

It was found that a significant proportion of the loans granted was used to meet non-productive needs like consumption, other household needs, and even to pay off old debts.

The immediate and urgent needs took priority over the purposes for which loans were applied for or were admissible. Also, urgent needs led many to conceal the real purposes.

The main reason for diversion of funds obviously sprang from the weak and vulnerable financial position of the borrowers.

Among short-term borrowers, those who were aware of their responsibility were as much a prey to diversion on account of the exigencies of the economic situation as others. Deficiencies of the credit system were found to be an important reason among medium-term borrowers.

The study has shown that of the 946 short-term borrowers, 40 per cent admitted having diverted loans from the avowed purposes—17 per cent wholly and 23 per cent partly. Taking both short- and medium-term borrowers 41 per cent diverted their loans—19 per cent wholly and 22 per cent partly.

Of the amounts borrowed for short-term purposes 23 per cent was diverted to purposes other than those for which they were borrowed. In respect of medium-term loans, the percentage was higher at 35.

The study indicated that as far as short-term credit was concerned, expenditure on consumption and other current household needs claimed the highest proportion (30 per cent) of the diverted amount. The other purpose to which an equally big proportion (25 per cent) was diverted was repayment of old debts and liabilities. Thus, these two uses together accounted for more than one-half of the diverted amount.

Of the diverted amount of medium-term loans, the highest proportion (30 per cent) was used for consumption or other household needs. Nearly 27 per cent was used to pay off old debts or liabilities.

Though the practice of diversion was comparatively smaller among the bigger cultivators, yet the magnitude of diversion (in terms of amount) to consumption and household needs was no less among bigger cultivators than the smaller ones.

The diversion of short-term credit was high in Rajasthan, Orissa, Kerala and West Bengal; that of medium-term credit was relatively high in Andhra Pradesh, Madras, Punjab, Rajasthan, U.P., Assam, Orissa and Kerala.

Except in a few States, the officials seemed to have made extensive efforts to tell the borrowers of their obligation to make proper use of loans. This work needs to be more intensive and continuous, selective and systematic if it is to make an effective dent.

The field staff were generally so much burdened with procedural, administrative and accounts work, that supervision of the utilisation of loans had hardly received attention.

Reg. No. D—876

Yojana Bhavan Diary

MRS Indira Gandhi, Prime Minister, took over as Chairman, and Mr Gulzarilal Nanda, Mr C. Subramaniam and Mr Sachin Choudhury, Union Ministers, took over as members of the Planning Commission on January 24.

T.N. Singh, Minister of State, took over as Member of the Commission on January 29.

The Planning Commission met on February 1 to consider resources for the Annual Plan for 1966-67 and the Annual Plan for the Central sector. The Commission met on February 14, 15 and 16 to discuss the Fourth Plan outline.

The National Planning Council Study Groups on International Trade, Manpower, Planning, Industry and Minerals met on January 28 and the Group on Irrigation and Power met on January 29.

Prof N.V. Sovani has resigned from the National Planning Council.

The Union Government has set up a nine-member committee on technical consultancy services with Mr S.G. Barve, Member, Planning Commission, as chairman. Dr A. Nagaraja Rao, Adviser (Industry & Minerals), will be among its members. Mr. Hari Bhushan, Director (Engineering), will be its Member-Secretary.

The Demographic Advisory Committee has been reconstituted by the Government with Prof V.K.R.V. Rao as chairman. Among its members are Prof P.C. Mahalanobis, Mr Asok Mitra, Additional Secretary, Planning Commission, and Dr K.R. Nair, Director, Central Statistical Organisation.

An eight-member delegation led by Mr [illegible] Minister for Commerce and Co-operation, as also Mr [illegible] Executive Director, [illegible] Economic Research Centre, met Mr Asoka Mehta on January 28.

Among press correspondents from abroad who met Mr Asoka Mehta in the last few days were: Dr Bursky, Director of Die Press, Vienna (on January 28), Dr Joseph Hunck, Chief Editor of Handelsblatt, West Germany (on February 3), Mr Kingsley Martin and Miss Dorothy Woodman from U.K. (on February 6).

FORUM EVENTS
Reporting the Activities of College Planning Forums

Students Measure Impact of Drought

THE Planning Forum of the Tumkur Government College in Mysore State recently studied the impact of the unprecedented drought on six villages in Tumkur district. It was conducted on December 25 and 26, 1965 by a team consisting of three teachers in Economics and 27 students of the Economics Major group of the college.

The six villages are Habathanahally, Alnoor, Mallasandra, Adlapur, Kothihally and Kothihally Palya. They have a total population of about 3,500.

There were 856 households of which 514 were surveyed. The average size of the household was 6.5, the maximum being 40 and the minimum one. On an average 3 persons per household were gainfully employed and the remaining were either unemployed or were children.

Agriculture formed the mainstay of these villages. The drought had left a deep scar on their life. There had been a steep fall in agricultural production. The average production of foodgrains was 993 ounces per family which could last only for 9 days presuming that they consumed 16 ounces per day. This left an average deficit of 10.8 quintals per family a year.

The area normally produces more than its requirements. The average yield of ragi or paddy or both last year was only about 0.28 quintals. Under normal conditions the average yield per family would have been about 16.95 quintals.

Livestock, however, had not been affected much. Of the total of 3,026 heads of livestock only 96 had either perished or been sold at throwaway prices.

The total cropped area amounted to 2,064 acres. Of these 244 acres had perennial source of water and 502 acres had seasonal. The remaining 1,318 were dry. The average size of the family holding was 4.1 acres of which 0.47 acres came under perennial source of water, a little less than an acre under seasonal water, and the remaining 2.5 acres were under dry cropping.

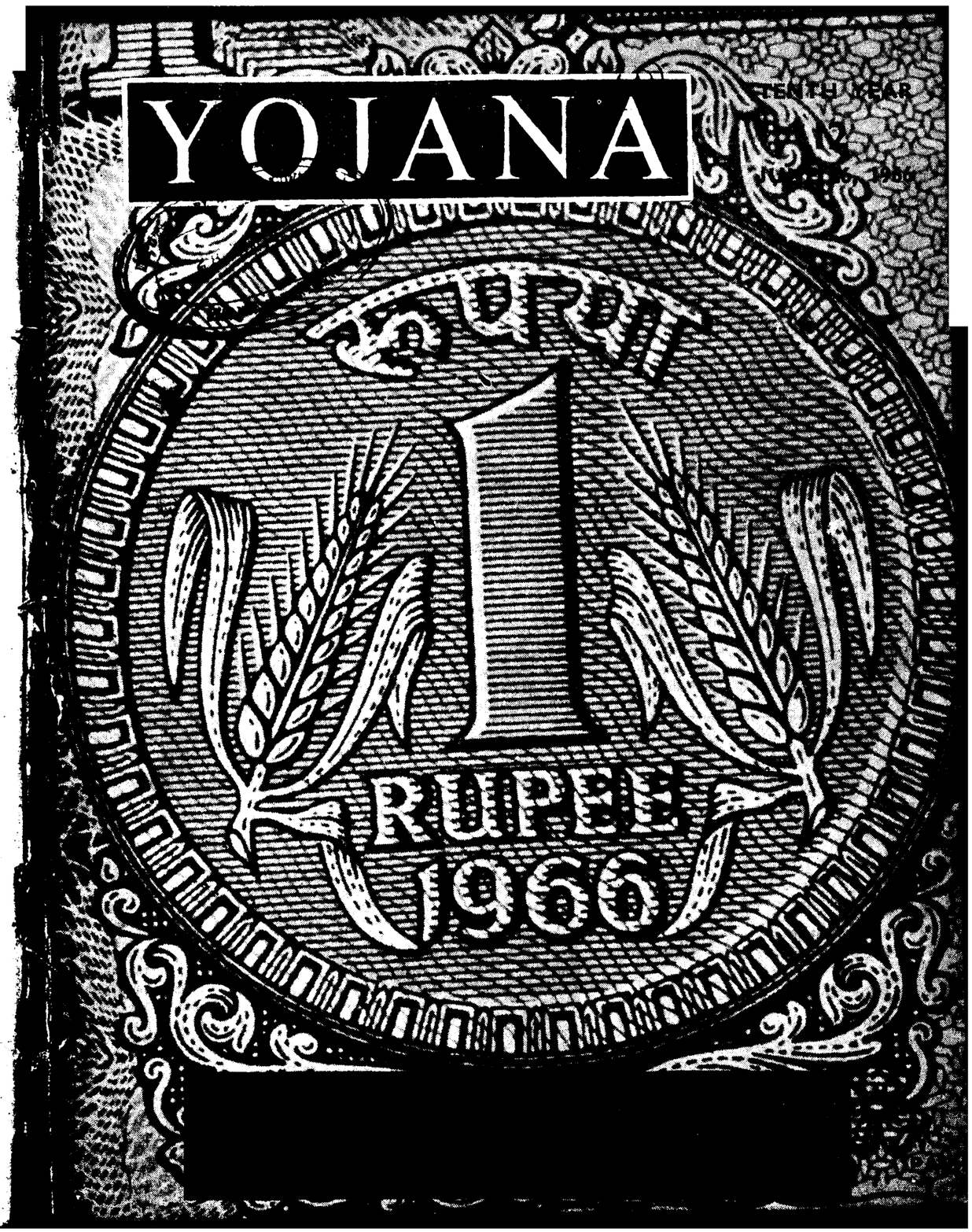
As regards irrigational pump sets there were only six as against the requisite number of 145.

The drought had led to the migration of 175 people to places like Mandya, Bhadravathi, Bangalore and Tumkur in search of livelihood.

Except for contour bunding, tank desilting, construction of a pond for drinking water for cattle and taccavi loans, nothing substantial had been done. Relief measures provided employment only temporarily to a few people.

The Planning Forum has suggested the sinking of community irrigation wells, desilting of tanks, sanctioning of interest-free loans, supplying fertilisers and improved varieties of seeds in time, immediate sanctioning of pump sets, intensifying relief works like contour bunding, and road construction, a long-range programme to establish cottage industries, and exempting these villages from land revenue.

The Planning Forum found in the village, Habathanahally a young agricultural graduate, Mr Adavi Swamy, who had turned into a progressive farmer. His silo-pit, model compost pits, bee-keeping and poultry farming were worth emulating.



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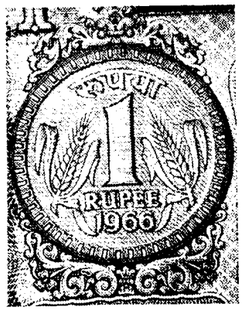
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YOJANA

This Issue



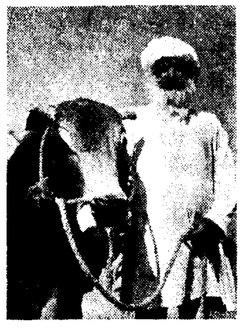
The Rupee

The purpose of devaluation, now three weeks old, is to make the rupee stronger at home and abroad. Four economists discuss devaluation in all its major aspects in a comprehensive article on page 6. Apart from the editorial which is also on devaluation, there is, on page 13, a resume of the measures taken till the time of our going to press to liberalise essential imports and to hold the prices of essential goods.

FELL, BUT NOT FALLEN

Pictorial story of an After-Care Home in Rajasthan, a staff feature, is on page 14.





THE NEW STATES

Punjab divided and still united by the many links forged by the development process of the last 18 years. Dr P. C. Kashyap on page 2 gives a comprehensive picture of the development potential of the two States, Punjab and Haryana which will emerge out of the present area of Punjab. KBK has drawn an illustrative resources map.

COVER :

The Rupee As It Is.

YOJANA

June 26, 1966 | Fortnightly Journal Published on behalf of the Planning Commission | Asadha 5, 1888

Vol. X No. 12

NOT WITHOUT TEARS

MUCH of the initial confusion in our minds has now settled down. We have now quite a clear idea of what devaluation means and is going to mean. Devaluation is not a workaday fiscal measure; it is an extraordinary step taken to tackle an extraordinary situation. Devaluation is meant to give a shot in the arm of the economy; no shot is painless. We are so used to taking things easy, to not paying the price for what we wish to get, that we are afraid of the hell and fire of growth. Devaluation offers us a challenge to do a hundred things better and without loss of time; if we can do them, the economy will get the boost it has been waiting for, for a long time.

Success will depend primarily on three things. Preventing an increase in the prices of the essential articles used by the common man, like foodgrains, kerosene, clothes. Increasing the production of our industries. And giving a really big push to our exports. These are not easy tasks. But these will have to be done. Every measure taken in the last three weeks having a bearing on the economy has been designed to achieve these three objectives. And more measures are in the offing.

Prices of some articles will go up; in fact, have already gone up, in some cases more than they should have. Especially articles with an import content. But the price of foodgrains and kerosene and of the coarser varieties of cloth have ruled steady. A series of measures are being taken in the next few months not only to check profiteering, but also to supply sizeable sections of the community with articles of daily use at reasonable prices. Under the Essential Commodities Act, traders will soon have to announce the prices of a large variety of articles. Some of the leading manufacturers have offered to co-operate. Others must also do the same. If persuasion fails, the long arm of the law will have to be invoked. There is a feeling in the country that Government is helpless when it comes to making the business community abide by social and economic ethics. This feeling needs to be removed.

For a long time our industries have got used to operating in a closed, protected market where almost everything sells. Now, with devaluation, they will have to produce more; in fact, to full capacity; and a great deal of this extra production will have to be sold abroad. With devaluation, exporters will be able to sell at a higher profit. But it will mean an extra effort. Also, there may not be much scope of increasing our traditional exports. We have, therefore, to sell to the world a great deal more of non-traditional goods—products of new industries. Industry, public as well as private, is facing a challenge which must be met.

It is part of the package of economic cures of which devaluation is only one, that we consume less of articles for which there is an actual or potential export market. The increase in the prices of luxury or semi-luxury goods as a result of devaluation is, therefore, a calculated development. It is also necessary to remember that the import liberalisation measures being adopted are designed to reduce imports over a relatively short period. Once we have plugged the loopholes in various industrial units and have been able to activise capacity to the maximum extent, our import bill will substantially go down. And as we make a break-through on the farm front with the new high-yielding strategy already at work in vast areas in the country, and, thereby, leave behind us the compulsion to import large quantities of grain, our economy will be past the days of tears.

Things will continue to be difficult for a few months. The prices of the basic essentials will, however, be held. The dynamics that are being released will begin to have their impact well before the year is out. Since we all live today for tomorrow, it is no mean comfort to think that our immediate tomorrows will be better than our todays.

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OUT OF PRESENT PUNJAB

TWO STATES
BOTH HOLDING PROMISE OF RAPID GROWTH

PUNJAB is shortly to be reorganised on linguistic basis. Two new states, a Punjabi-speaking State and another, a Hindi-speaking Haryana State, are to come into being on October 1, 1966.

The three-man Boundary Commission appointed by Government of India to recommend demarcation of boundaries between the two States has recommended that of the 20 districts of the existing bilingual Punjab, five should form the Haryana State; eight the Punjabi State and four should merge with the Union territory of Himachal Pradesh. The remaining three districts are to be divided among the three States.

The recommendations of the Commission broadly conform to the boundaries of the Punjabi and Hindi regions. These regions were created in 1957 through a Presidential order on the basis of predominance of either Punjabi or Hindi in the particular region. As specified in the first Schedule of the Regional Committee Order, 1957, the Punjabi region consists of the districts of Gurdaspur, Amritsar, Bhatinda, Jullundur, Hoshiarpur, Ferozepur, Ludhiana, Kapurthala and Patiala. Besides these nine districts, the region also included Sangrur district, minus two tehsils of Jind and Narwana, and the Rupar and Chandigarh Assembly constituencies of Ambala district.

The Hindi region comprises of Karnal, Rohtak, Gurgaon, Hissar, Mohindergarh, Kangra, Kulu, Simla and Lahul and Spiti districts. The entire Ambala district excluding the two Assembly constituencies included in the Punjabi region and the two tehsils of Sangrur district excluded from that region are also added to this Hindi region.

In its report submitted to the Union Home Ministry on 31st May, 1966 and published by the Government of India on June 8, 1966, the Boundary Commission has proposed that the hill districts of Kangra, Kulu, Lahul and Spiti and Simla and the hill development blocks of Gagret, Amb and Una of Hoshiarpur district, Nalagarh tehsil of Ambala district and the enclaves in Chamba of Dalhousie, Balun and Bukloh of Gurdaspur district should be merged with Himachal Pradesh. All these areas are contiguous to, and have cultural and lingustic affinity with, Himachal Pradesh.

The Punjab area that thus goes to Himachal Pradesh is about 9,000 sq. miles and has a population of 13 lakh 50 thousand out of the total Punjab area of 47,310 sq. miles and a population, according to the 1961 census, of two crore three lakhs.

According to the recommendations of the Commission, the Punjabi State shall consist of Amritsar, Kapurthala, Jullundur, Ferozepur, Bhatinda, Patiala and Ludhiana districts. It shall also have Gurdaspur district excluding the small territory that is to merge with Himachal; the Barnala, Malerkotla and Sangrur tehsils of Sangrur district; the Rupar tehsil of Ambala district; and the Dasuya, Hoshiarpur and Garhshankar tehsils plus some development blocks of Una tehsil of Hoshiarpur district.

The Punjabi State shall have an area of about 21,630 sq. miles and a population of one crore 14 lakhs.

The Haryana State shall have Hissar, Mohindergarh, Gurgaon, Rohtak and Karnal districts plus Narwana and Jind tehsils of Sangrur district, and the Kharar, Naraingarh, Ambala and Jagadhri tehsils of Ambala district. The capital of the State, Chandigarh, also forms part of Haryana, but is to remain a Union territory for a specific period.

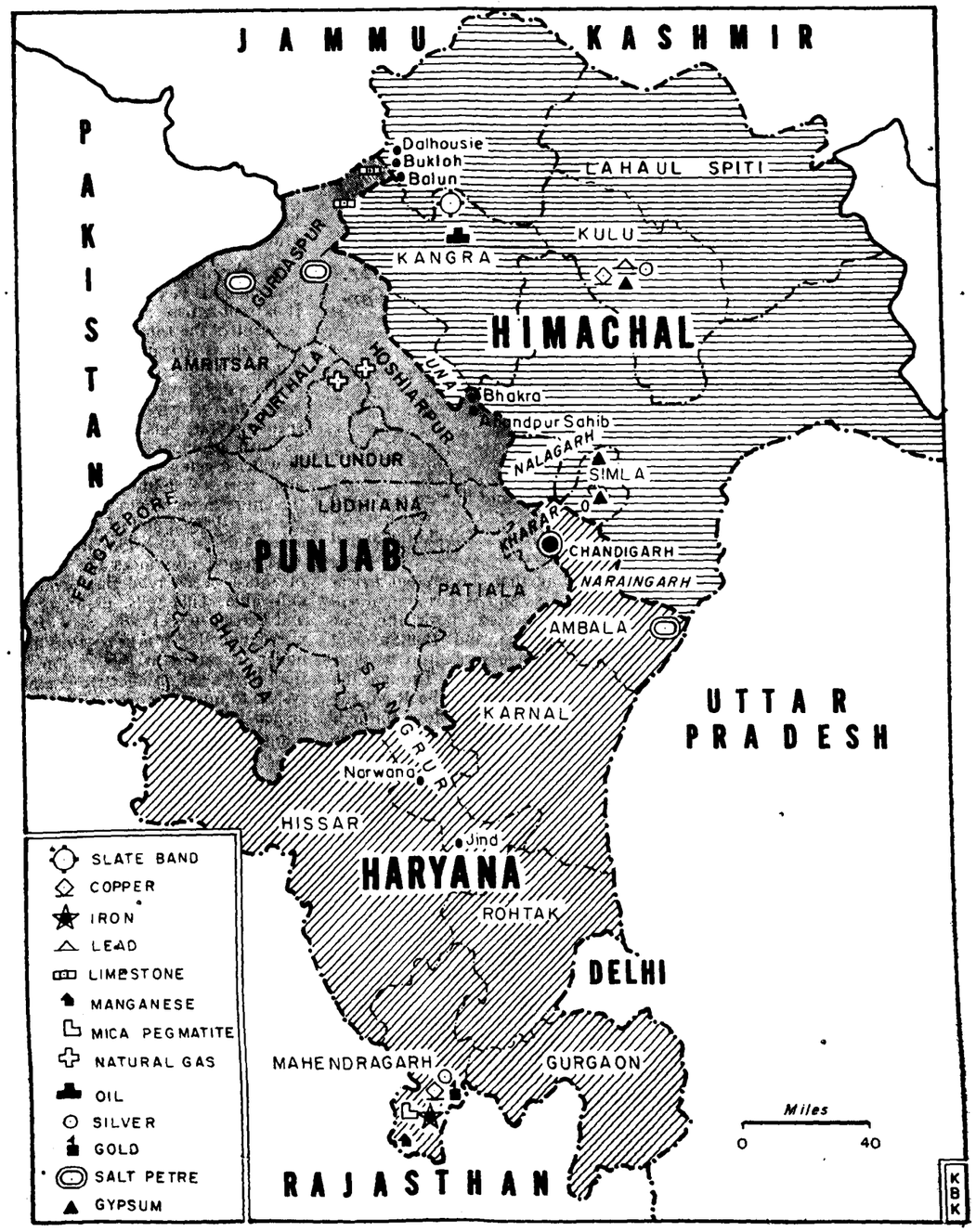
The area of Haryana is to be about 16,670 sq. miles and the population about 75 lakh.

Before we proceed to analyse the economic position of the two new States, it will be worthwhile to have a look at the economy of the existing bilingual Punjab.

As of today, the Punjab holds a pre-eminent position in the economic life of the country. Its *per capita* income in 1961-62 (in current prices) was Rs 401, as against the all-India average of Rs 334. The net area under irrigation in 1961-62 was 44.8 per cent as against the all India

DR P.C. KASHYAP

Dr Kashyap, All India Radio's senior correspondent at Chandigarh, has written a number of articles on Punjab's economic and social progress since independence.



MINERAL RESOURCES OF THE THREE STATES

average of 18.3 per cent. The *per capita* consumption of power in 1963-64 was 103 kwh as against the average of 41.03 kwh for the country as a whole.

When the country was partitioned in 1947, Punjab, then called "East Punjab", started with a backlog of problems. Its economy was in tatters. It could not grow enough to feed its people. It had virtually no industry. Vast tracts of land were water-thirsty yielding nothing but coarse grains.

The rapid economic progress registered by the State is mainly due to a very strong agricultural sector, an active small-scale industrial sector, a developing large-scale industrial sector, a strident tertiary sector and a widespread dissemination of technical and professional skills.

In the post-Independence period, the economy of Punjab has developed as a single integrated unit. The whole irrigation and power system has been executed as one common, integrated unit for the entire State. There is a network of canals drawing water from all the perennial and non-perennial rivers. Today, the waters from the Ravi are transferred to the Beas through the Madhopur-Beas link. Waters from the Beas are proposed to be transferred to the Sutlej through the Beas-Sutlej link, now under construction. Waters from Bhakra are being transferred to the Sirsa branch of the Western Jamuna canal through the Narwana link and are further proposed to be taken to the Yamuna through the West Jamuna Feeder and the Western Jamuna link. The waters so transferred to the Yamuna can be picked up by the Okhla Headworks for being diverted to the Gurgaon canal and the Sohna Lift Irrigation Scheme.

POWER AND WATER

In the sphere of power production, the bulk of the power-generating capacity has been installed at the Bhakra dam site, at Nangal Hydel channel and at Jogindernagar. Future development depended on power available from the Right Bank Power House at Bhakra and the power houses at Pong and Dahar when water reservoirs are built on the Beas. The power is supplied through two Grids; the first one, the 13,200 Volts Jogindernagar, Amritsar, Ludhiana, Rupar and Bhakra grid, and the second, the 220,000 volts Bhakra, Ganguwal, Kotla, Dhulkot, Panipat and Delhi grid.

BOTH STATES HAVE :

A Strong and Growing Agriculture, Good Supply of Water and Power, Forward-Looking Farmers, Fertile Land

Assuming that the present irrigation channels and power system will not be dislocated, both the new States, Haryana and Punjab, will continue to have agriculture as their economy's mainstay. Though the three perennial rivers, the Ravi, the Beas and the Sutlej, flow through the new Punjab State, the canals they feed, as pointed out earlier, irrigate lands both in the Punjabi region and Haryana. The Western Jamuna canal is exclusively within Haryana, as the Yamuna flows on the eastern side of the State.

One of the basic factors for the comparatively prosperous economic position of Punjab is the availability of water for irrigation purposes. In 1963-64, the net irrigated area in the State was 83.90 lakh acres.

There is a greater scope for irrigation in the Haryana region. Vast sandy areas in the Gurgaon and Mohindergarh districts can bloom, once irrigation facilities are provided. In Haryana, canal irrigation alone is possible as water in a larger tract there is either too deep or brackish. While it shall have its due share of the waters of the three Western rivers, Ravi, Beas and Sutlej, an eventual solution of Haryana's irrigational needs can be found by building dams on the Yamuna and its tributaries so that water can be drawn in abundance in the Western Jamuna Canal system. One such dam site at Kasau, on the river Tons, a major tributary of the Yamuna, has already been investigated and it is proposed to construct a 770-foot high arch dam and a power station of 750 mwh capacity near Kasau. Another site is at Kaunch, 6 miles upstream of Tajewala headworks and at Chandni on the Yamuna. These dams will help irrigate large areas in both Gurgaon and Mahindergarh districts.

In the Punjabi speaking State, the emphasis has to be on tubewells. It is well-fed by canals. Sixtythree per cent of the total cropped area in the State is irrigated in the Punjabi region. The percentage in the case of Haryana comes to 30. The large-scale canal irrigation in the Punjabi-speaking State, has, however, created its own problem. It has resulted in water-logging of a very considerable part of cultivable land. In the entire State, about 35 lakh acres are water-logged and of this, 24 lakh acres are in the Punjabi region. This region also faces the problem of thur—weeds rendering land uncultivable. Tubewells, pumping sets and Persian wheel wells shall be the alternatives for bringing more areas under irrigation in this region. It shall also need an effective drainage system to improve the existing water-logged and thur-infested areas.

Out of the total area of 303 lakh acres for the present State, the net area sown is 188 lakh acres. The total cropped area including double-cropped area is 240 lakh acres. Of this 90.05 lakh acres are in the Punjabi region and 85.65 lakh acres in Haryana (the rest in the hill region, proposed to be transferred to Himachal). The total cropped area in the Punjabi region is 113.20 lakh acres and that in Haryana 109.33 lakh acres. In all 17.5 per cent of the population in the Punjabi region is engaged in agriculture and 26.8 per cent in Haryana. It will thus be seen that agriculture is, and will remain, for a long time to come the dominant sector of the two States' economy. However, the pressure of population in the Punjabi-region is 572 per sq. mile and in Haryana 447. Consequently, the latter has larger holdings, particularly in Hissar district. In the Punjabi region, there is not much elbow room left.

Land in both the States is fertile. But as the Haryana region has been hitherto comparatively backward in agricultural techniques and production, its soil fertility is comparatively higher. However, the cropping pattern in Haryana is changing fast, thanks to the provision of canal irrigation, and the farmers are taking to superior food and cash crops. The area under inferior crops is diminishing and a substantial increase has been registered in respect of production of all major crops. Today, 86.82 lakh acres in Haryana are under foodgrains as against 72.15 lakh acres in the Punjabi region. Under cash crops, 19.7 lakh acres are in the Punjabi region and 12.08 lakh acres in Haryana.

YIELD PER ACRE

The per acre yield in Haryana is higher than in Punjabi region in respect of sugarcane, wheat and paddy. The area under sugarcane in Rohtak and Karnal districts is more than the area in any district of the Punjabi State. With water available from the Bhakra reservoir, cotton cultivation is extending fast in Hissar district. This district may shortly beat the famous cotton producing districts of Bhatinda and Ferozepur in the Punjabi region. The districts of Gurgaon and Mohindergarh are known for rape and mustard and, with extended irrigation facilities, other cash crops cultivation will receive encouragement. A recent survey has established the possibility of jute cultivation in the swampy land in Gurgaon and Kaithal tehsil of Karnal.

In 1961-62, the income from agriculture in Haryana was Rs 104.52 crore. This is sure to go up as more area is brought under irrigation, the crop pattern is changed and more cash and superior crops are grown. In the Punjabi region, while there is not much scope left for bringing more areas under cultivation and the holdings are small, the farmer is sturdy, hardworking, keen to learn new techniques and adopt them in farming. As demonstrated in the Intensive Agriculture Development areas in Ludhiana, the farmer is keen to become progressive. He has already produced creditable results and has increased the per acre yield by over 50 per cent through application of skill and greater inputs. The *kisan* in the Punjabi region has taken to new methods and is insistent in his demands for more fertilizer, more water, better seed and other inputs. He is keen to mechanise farming. There is no doubt that given the necessary incentives and inputs, the Punjabi *kisan* can double his produce, thereby giving a boost to the new State's economy. In 1961-62, he was already earning Rs. 214.25 crore through agriculture.

INDUSTRIES

Industrial development in the Punjab is a post-Independence phenomenon and its distinguishing features have been dominance of small-size units. *Of the total 17.000 such units, 75 per cent are in the Punjabi region.* They cover a wide range of industrial goods. Most of these units are, however, dependent on quotas of scarce commodities and, as such, the industrial structure dominated by small-scale industry suffers from certain handicaps and limitations.

	Area	Population
	Sq. miles	lakhs
Punjab	**21,630**	**114**
Haryana	**16,670**	**75**

In the 12,839 small-scale industrial units in the Punjabi region, an investment of Rs 30 crore has been made. Rs 5.5 crore have been invested in the 4,133 such units in Haryana.

In recent years, significant growth has taken place in the large-scale industrial sector, particularly in the ring towns around Delhi. There is an investment of Rs 139 crore in this sector (excluding the Government of India-owned Nangal Fertilizers), and of this, Rs 81 crore are in Haryana and Rs 58 crore in the Punjabi region. There is still greater scope for large-scale agro-based industries in the Haryana region. It has already three paper mills, two in Faridabad and one in Yamunanagar, three of the five cotton textile mills one in Hissar and two in Bhiwani. The Scientific Instruments Factory at Ambala the brass-ware industry in Jagadhari and Gurgoan, the glassware industry in Faridabad, the cement factory at Dadri, a big cycle factory at Sonepat and the nation's biggest sugar mill with 3,250 tons capacity at Yamunanagar are also in Haryana.

In the Punjabi region, big industrial complexes have arisen in Ludhiana, Jullundur, Amritsar and Batala. It has, however, limited scope for development of resource-based industry. It has little of mineral wealth and the forest resources have almost entirely gone to Himachal Pradesh. The position as regards minerals in Haryana is slightly better. It has iron and slate reserves in Mohindergarh district. A big iron plant with one lakh tons annual capacity is proposed to be set up at Hissar during the fourth Five Year Plan.

AGRO-BASED INDUSTRIES

Farm produce will, therefore, remain the major source of industrial raw material in both the new States. Amongst agro-based industries, sugar and textiles occupy a primary position. The Haryana State has a comparatively greater potentiality for development in this field. Of the total area of 6.95 lakh acres under sugarcane in 1964-65 in whole of Punjab, 3.73 lakh acres i.e. 54 per cent were in Haryana, where there is more yield per acre and cultivation is concentrated in two districts—Rohtak and Karnal. Cotton cultivation is also fast coming up following availability of Bhakra waters. Already there are six mills with 1,31,346 spindles in Haryana as against five mills with 96,904 spindles in the Punjabi region.

In the field of livestock-based industries, both the Punjabi State and Haryana have ample scope. Both States have good breeding tracts and a well-developed animal husbandry.

In the industrial sector, *while the Punjabi State shall have to depend more on small-scale industry, threre is greater scope for large-scale units in Haryana.* As it is, the percentage of rural population to the total population in Haryana is 82.8. In the Punjabi region the percentage is 75.3. Again 14 percent of the population in the Punjabi region is engaged

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ECONOMIC CONSEQUENCES OF DEVALUATION

And Policy Recommendations

A CLOSE ANALYTICAL PROBE BY FOUR DISTINGUISHED ECONOMISTS

B. S. Minhas
T. N. Srinivasan
Mrinal Dutta Chaudhuri
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THE recent decision of the Government of India to devalue the rupee has raised a number of questions. Some of these questions centre around issues like the loss of national prestige, ignominy caused by external pressure, the impact of devaluation on the coming general elections, etc. These are mainly emotional and political issues and we have no particular competence to analyse them. We restrict our attention to an analysis of some of the important economic consequences of devaluation. The discussion is divided into six parts:

1. Devaluation and exports
2. Devaluation and domestic prices
3. Devaluation and public finance
4. Devaluation, income growth and savings
5. Devaluation and the Fourth Plan
6. Devaluation and associated policy measures

1. EXPORTS

It has been claimed that out of a total of Rs 800 crore worth of exports in 1965, more than Rs 650 crores were moving without any assistance or subsidy. Why then do we need any devaluation to step up exports?

The question breaks up into three parts :

a. Is this statement factually correct ?

b. Even if it were correct, can substantially larger export earnings be realized from these items in the future without assistance or subsidy?

c. Even though the currently assisted items form only 20% of our export earnings, should we not attach a much larger weight to this category in our export potential in the future?

The statement, as it stands, is misleading, if not incorrect. Items like unmanufactured tobacco, cigars, salt, oil cakes, minerals and mineral ores, oil cakes and even tea and jute get varying degrees of import entitlements, railway freight concessions and tax credits. These are different forms of export assistance and have to be recognized as such. In recent months jute and tea industries have also been clamouring for additional export assistance. The tax credits alone vary from 2-5% on different types of tea and jute manufactures. Iron and manganese ores enjoy tax credits of 10 and 15% respectively. Assuming a 50% marginal tax rate on corporate profits, these tax credits implied a rupee price of dollar varying from 5 to 6.2. If freight concessions are also taken into account the extent of implicit devaluation would be even larger.

In order to answer the second question, we have to identify factors affecting the expansion of exports of different commodities. For goods like tea, jute and black pepper, the international demand at the current prices is the limiting factor in the short run. A fall in their prices is likely to increase the volume of our exports, although because of inelasticity of demand, exchange earnings may go down. If the exporters maintain the foreign prices, they will reap substantial profits after devaluation. If they lower the foreign prices, exchange earnings will go down. Export duties will prevent either of these from happening. However, these duties have been set at levels which still permit a lowering of price mainly for expanding foreign exchange earnings in the long run, though not in the short run. For the immediate future, devaluation may be viewed as a purely defensive measure for protecting our (declining) share in the world market for some of these commodities.

There are other commodities where the limitation is not world demand but inadequate supplies available for exports because relatively high profits on sales in the domestic market and/or output expansion is ruled out by the non-availability of critical foreign raw materials and spares. Devaluation would make exports relatively more profitable. Of course, the relative profitability of these goods (particularly the items for which internal prices are not too much out of line with international prices) in the export market can be secured by putting appropriate taxes on

Effects on

* *EXPORTS*
* *HOME PRICES*
* *PUBLIC FINANCE*
* *INCOME GROWTH*
* *SAVINGS*
* *FOURTH PLAN*

Import Substitution Leading Gradually to Minimum Imports

domestic sales. This device should release more of the product for possible exports. But considering the additional costs (real or imagined) of larger sales abroad, the exporters may still not find foreign sales attractive enough. They can, however, be given this inducement by appropriate subsidies. This, nevertheless, is implicit devaluation and suffers from the defect that the exporters will consider these devices as temporary and, as such, they may not make the required investment for expansion of production for exports. Devaluation will provide a permanent inducement for aggressive policies in production and export effort. In those industries which produce exportables and have substantial idle capacity mainly because of the lack of imported raw materials and spares, any increase in foreign exchange allocation (or availability) will bring particularly large gains in foreign exchange earnings.

The commodities that are currently receiving various forms of export assistance are mostly non-traditional items. In so far as our future export potential lies in the expansion of exports of these items, they must weight very heavily in any policy of export promotion. The question then arises whether we cannot achieve this expansion by the existing schemes with some modifications, if necessary. The answer is in the negative for the following reasons:

(a) The current import entitlement and other subsidy schemes in fact amount to devaluation though at different rates for different commodities.

(b) The extent of this *de facto* devaluation is not known either to policy-making authorities or the beneficiaries of this policy because they cannot know in advance the premia these entitlements are going to secure.

(c) These subsidy measures are believed to be non-permanent and subject to change at short notice. As mentioned earlier, this is inimical to investment (including the cost of market development abroad), in export industries.

(d) There is no uniformity in subsidy granted to the commodities coming in this category. Non-uniformity, however, can be justified on grounds of differential price elasticities of demand for different commodities. The trouble, however, is that it is very difficult to measure these price elasticities of demand in the world market. Naturally this leads to arbitrary decisions in the choice of levels of subsidies for different goods.

(e) These selective export promotion measures have led to a whole host of mal-practices in their operation such as over-invoicing of exports to obtain larger import entitlements, illegal sales of import entitlements at substantial premia, and so on. The gains made in these mal-practices encourage smuggling, tax evasion and other anti-social practices.

Devaluation, on the other hand, retains the export incentive aspect of the subsidy schemes while it does away with the uncertainty of the latter. Besides, it is uniform and non-arbitrary. It simplifies administrative burdens and reduces the incentive for engaging in mal-practices. Also, it may encourage exports of commodities which did not receive any subsidies before and were not being exported.

In the past a large part of remittances from abroad came through irregular channels. The altered exchange rate will reduce the incentive for these irregularities. It will help lessen gold and other smuggling by making this activity less profitable. Illegal sales of travellers' cheques and foreign currencies by tourists will diminish. Tourism in India will become less expensive and hence more attractive. Repatriation of profits will cause less of a drain on foreign exchange.

Another question that is asked is: Is it true that the quantum of exports will have to be stepped up by more than 57% to earn the same amount of foreign exchange as before devaluation?

This notion is based on a confusion concerning the implication of devaluation for the prices of exports. If the *rupee* price of a unit of exports is maintained at the pre-devaluation level, certainly the volume of exports has to go up by the same percentage as devaluation to maintain the foreign exchange earnings at the pre-devaluation level. However, there is no reason to assume that *rupee* prices will be maintained. *It is the international price that will have to be maintained.* On commodities like tea and jute which account for more than 40% of our foreign exchange earnings, the export duties imposed after devaluation will ensure that

Exporters Should Earn More Profit, Country More Foreign Exchange

rupee price per unit of exports rises even if the exporters by themselves did not raise it. On other commodities, where our exports constitute a small proportion of the world market, it is not the world demand but our high costs or high profitability of domestic sales that prevented expansion of our exports prior to devaluation. That is, we could have sold much more in the world market at the going *foreign exchange price* if our exporters had found it profitable to do so. On such commodities, therefore, the *foreign exchange price* will remain the same as before devaluation. The *same* rather than a larger quantum of exports will maintain foreign exchange earnings. However, we hope to do better than this. We hope to increase the quantum of exports as well as foreign exchange earnings from these commodities.

2. DOMESTIC PRICES

Devaluation has given rise to a genuine fear that the internal purchasing power of the rupee will be reduced drastically by a general rise in the price level. In analysing this issue it will be useful to distinguish the effect on the prices of commodities consumed by the general masses of poor people and luxury and semi-luxury commodities catering to the demand of relatively well-to-do sections of the community.

The government have announced that they will maintain the issue prices of imported foodgrains as well as the domestic price of kerosene through appropriate subsidy and indirect tax adjustment. Prices of coarse and medium varieties of cloth will not be affected because of their relatively small import content. Since food, clothing, fuel and light form an overwhelming part of the consumption of masses, the impact of devaluation on their cost of living will be minimum. Also the prices of inputs like imported fertilizer going into the production of food and fibres are going to be maintined at the pre-devaluation level. Therefore, even in the future, prices of items of mass consumption need not be seriously affected.

The position is quite different in the case of items of luxury consumption which are either imported wholly or have a large import content, such as imported rayon, blades, foreign liquor, various household appliances etc. Devaluation may raise the prices of these items inasmuch as the traders are not willing to absorb the increased cost of imports by a reduction in their excessive profit margin. Even if the prices rise, and such a price rise leads to a reduction in the consumption of these items, it is eminently desirable.

So far we have discussed only the welfare effects of the post-devaluation price rises on different classes of consumers. Let us now consider the likelihood of price rises (if any) on different classes of goods. Before doing that, let us note that for a wide range of imported goods the pre-devaluation market prices were substantially above the landed cost reflecting quantitative restrictions on imports. Items such as some chemical dyes and dyestuffs, art silk yarn, camphor, mercury, machinery, stainlees steel, dry fruits and some engineering goods fall in this category. The market prices of these goods have been observed to be above the landed cost by 40 to 200 per cent. In so far as the importers absorb the increases in landed costs by a reduction in their scarcity rents, prices need not go up. In general, if in the wake of devaluation, a substantial increase in external assistance comes about and imports are liberalized, idle capacity in the economy will get activised. The increase in output will help dampen any tendency towards price rises.

Let us now proceed to the ***case of finished goods that are imported as well as produced at home.*** Let us also assume that the home-produced part has no import content and the imports on a quota basis are allowed in to keep the prices down. Prior to devaluation the landed cost falls short of the domestic price. Devaluation increases the landed cost but in sofar as landed cost does not come up to the original domestic price, withdrawal of quota restrictions may, in fact, bring prices down.

If the same quota restrictions continue, any increase in the level of landed costs up to the pre-devaluation domestic market price will leave the price unchanged.

If the intention of devaluation is also to promote import substitution, which it is, in the sense of greater proportion of demand being met by domestic supplies, the new landed cost (post-devaluation) should be pitched higher than the pre-devaluation market price. The landed cost (*devaluation plus import duties*) can be made sufficiently high to eliminate imports altogether. For this very class of goods when home production is partly dependent on imported inputs, devaluation shifts the marginal cost curve of home production upwards. If the same quota of imports is permitted, prices in the domestic market will go up and domestic productions will be curtailed. In other words, the import substitution goes in the wrong direction. If there is import liberalization, domestic price will equal the new landed cost and domestic production will go down even more.

Now we turn to the case of goods which are exported as well as consumed at home: If foreign demand is perfectly elastic, in consequence of devaluation, rupee prices of this category of goods both at home and abroad go up to the extent by which devaluation exceeds the implicit or explicit subsidies that existed prior to devaluation. Production will go up and a greater proportion of the large output goes to the foreign market.

Even if production is partly dependent on imported raw materials, the above conclusion remains qualitatively correct though the increase in output will be less than in the no import content case.

In the exactly opposite case of complete inelasticity of foreign demand, devaluation will have the domestic prices unchanged. In the case of import content when foreign demand is completely inelastic, production and domestic consumption will go down. There will be some price rise though less than the increase in the cost of import content.

In the more general case of downward sloping foreign demand curve, devaluation, in the absence of import content, will raise production. Domestic consumption will be curtailed and there will be rise in domestic prices. Production after devaluation will increase even where there is an import content. Rise in production in this case, of course, will be less than in the absence of import content and prices will rise a little more.

There are some industries (that supply the home market) in which production takes place in a small number of large scale and a large number of small scale enterprises. It has been observed in the past that while the big producers were able to procure their imported inputs at landed cost through actual user licenses, the small producer had to get a large chunk of his supplies from the open market by paying a substantial premium over landed cost. Given that the product price was equal to the marginal cost of the high cost producer, namely, the small producer, the large producers were making very high profits which were essentially scarcity rents on their imported inputs. Devaluation followed by liberalisation of imports makes available the imported inputs at landed cost to both sets of producers. Insofar as the new landed cost is lower than the price that used to be paid by the small producers, it is plausible that the output of this commodity will go up and price down. The scarcity rents on imported inputs reaped by large producers will now be eliminated.

3. PUBLIC FINANCE

Will the resource position of the public sector be affected adversely by devaluation?

It is true that devaluation increases the rupee cost of foreign exchange expenditure (such as on imports of goods, interest and amortisation payments on foreign debt etc.) of the public sector. On the other hand, it also raises the rupee value of its foreign exchange receipts. The subsidies for maintaining the pre-devaluation prices of commercially imported food, kerosene, fertilisers, etc. will increase public expenditure. But export duties, withdrawal of tax credit and cash subsidies for exports reduce expenditure. The question then is whether on balance the resource position is adversely affected.

Let us first note that the import duties are being reduced on an ad valorem basis though absolute rupee levels per unit of import are being more or less maintained. A quick estimate suggets that these adjustments will yield an increase in revenue of Rs. 20-25 crore this year, not taking into account the reduction of duties on petroleum products. The latter may amount to a loss of Rs.50 crore. Export duties are estimated to yield about Rs. 140-160 crore. The effect of the withdrawal of export tax credits and cash subsidies (net of such subsidies as will have to continue) will amount to a reduction in expenditure of about Rs.30-35 crore. Assuming, on the basis of last year's transactions, that the net purchase of foreign exchange by the government from the private sector amounts to Rs.200 crore, devaluation would cause an increase of Rs. 115 crore, in government expenditure, not taking credit for any additional external assistance that may be forthcoming. Further, one has to provide for the cost of subsidies on foodgrains imported on commercial account and any increase in government expenditure on domestic goods and services because of the possible rise in their prices. Taking the pluses and minuses together, there may be a small improvement in public revenue.

In coming to this conclusion, we have assumed that there will be no significant increase in Government expenditure on account of rise in prices of home produced goods following devaluation. In a later section we discuss some policy measures to contain domestic price rises and if such measures are implemented, the net rupee resource position need not be seriously affected.

In so far as additional assistance is forthcoming, budgetary position will improve both directly by sale to or reduction in purchases from the private sector of foreign exchange as well as indirectly through customs duties paid by the private sector. We must also take into account the effect of additional corporate profit tax and excise receipts that may come about on account of the extra imports increasing production by activising idle capacity. If extra assistance materialises, the resource position will definitely improve.

Devaluation Should not be Made an Excuse for Scaling Down the Fourth Plan. Some Targets, however, may have to be Revised

4. INCOME GROWTH AND PRIVATE SAVINGS

We have argued earlier that devaluation will result in an increase in our foreign exchange earnings. These may be utilized to procure raw materials and spare parts. Those industries, in which non-availability of those items now constitutes the critical bottleneck in the expansion of output, will then be able to increase their output. Such increases in output will increase income, employment and profits.

Any additional foreign assistance will facilitate further activisation of excess capacity leading to still larger output, income, employment, and profits.

Rationalisation of administrative producers for foreign exchange allocation that is to follow devaluation will also have a positive effect on output through more efficient resource allocation.

There is no doubt that profits of those who were deriving extraordinary benefits from the quantitative restriction on imports, will now be lower. But their losses may be more than compensated by larger profits in other sectors.

Taking all these consideration into account, one may conclude that devaluati on is likely to increase income, employment and profits. Private savings which depend on income and profits should also go up.

5. FOURTH PLAN

What are the implications of devaluation for the Fourth Plan? Devaluation of course increases the cost of imports. This, together with any internal price rise, will mean a larger rupee outlay for the same physical plan. But, does this mean that the Fourth Plan should be scaled down? We must take up this question for the public and private sectors separately.

Consider the public sector. Given the Fourth Plan in terms of its physical content for which a scheme of rupee finance has been agreed upon, the limited question is whether the fact of devaluation will make the problem of rupee financing any more difficult. The factors which contribute towards raisings the rupee cost of the Plan are (a) higher cost of imports which enter into plan costs and (b) the higher cost due to rise in prices of domestically produced goods and services. Most project imports are financed by foreign aid and the increased cost in terms of rupees of these imports after devaluation is fully offset by the increase in the rupee value of project assistance. We have already examined the position in regard to to net government purchases of foreign exchange from the private sector. We saw that taking into account all relevant factors the resource position of the public sector will not be affected. To the extent the prices of the domestic inputs into the public sector plan go up, a resource problem does arise. Provided the problem of domestic price rise is tackled through appropriate policy measures (some of which are outlined in the next section), there is no reason to believe that there should be any major rupee resource problem consequent on devaluation.

We must be able to compete in the World Market. We must prevent cost rises

Any increase in external assistance will improve the position regarding public sector resources. It will be a pity if such additional resources are regarded as substitute for domestic effort; we should be on our guard against any tendency towards slackening of effort for domestic resource mobilization. It is all the more necessary to do so if we are serious about dispensing with the need for large foreign aid in the shortest possible time.

Let us now look at the consequences of devaluation on private sector plan. Certainly the increased cost of foreign exchange raises a rupee resource problem. To the extent there is foreign equity participation in the private sector, no problem of additional rupee resources is raised. Devaluation would increase the profitability of some exports and import substitutes. Any increased availability of foreign exchange that contributes towards fuller utilisation of capacity also raises profits. As such, overall profits in the private sector should go up and consequently there should be a larger pool of private savings available for private investment. It is difficult to judge a priori whether the increased cost would be fully matched by savings of the private sector. One cannot establish the contrary presumption either.

The general tenor of our argument so far has been that devaluation by itself does not raise any insurmountable rupee resource problem for the plan. The purpose of the Plan was to achieve certain minimal social and economic goals, and these goals are certainly as desirable and would appear to be as feasible after devaluation as before. Devaluation need not be made an excuse for scaling down the Plan. This does not mean however, that we make a plea for retaining all the targets of the Fourth Plan even after devaluation. Increase in export and import substitution possibilities thrown up by devaluation should call for some change of emphasis and some targets may need to be changed to improve the efficiency and consistency of the Plan.

6. ASSOCIATED POLICY MEASURES

We have pointed out in earlier sections that devaluation will protect or enlarge our export earnings. We also analysed the immediate impact of devaluation on prices. We briefly touched upon the consequences of devaluation on public

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THIS INDIA

YOJANA invites contributions to this new feature from its readers all over the country. Each anecdote must be true-to-life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

THIS happened years ago when I was a student at Santiniketan. Gandhiji was due to arrive from a nearby village. I was in a car with an advance party. The driver suddenly stopped the car in front of a crowd gathered almost in the middle of the dusty road. My uncle, a Pressman, who also was in the car, got out, walked up to the crowd. They were village folk, many of them in tattered clothes. Near them was a huge pile of dust.

"Why this dust"?, asked my uncle.

"We have come from a far-away village," said the villagers. "Many others who wanted to come for a *darshan* of Mahatma Gandhi could not make the journey".

"And so?"

"So we have piled up this dust. Mahatmaji will walk along this road. He will touch this dust with his feet. And we shall carry it with us and give it to our people." This wasn't hero-worship or making an icon of a great man. This, as I reflect on it now, was the love our people had for the emancipator.

Calcutta *Saibal Chakravorty*

ONE late evening I was returning home from the office. Riding my cycle. As I was passing the traffic signal point near Park station, Madras, I was stopped by a policeman clapping his hands from behind. He was relieving himself at the roadside, an activity quite human but banned by the law in Madras city. Finished, he came up to me, and demanded, "Don't you know you can't cycle at night without a light?"

He was right. I groped for an excuse. "I was just going to get oil for the lamp." He took charge of my cycle and commanded me to present myself in court the next day.

I fumbled in my pockets, brought out a 25-paise piece, and timidly placed it in his hand. He looked at it with contempt. "Too little for a hungry man", was his comment.

The only other wealth I had on my person was a pack of cigerattes and a cigeratte lighter. The policeman took the lighter, put it into his pocket, let go my cycle, and walked away.

I know I shouldn't have offered him a bribe. I was guilty. But wasn't he, too? First, relieving himself on the roadside, and then, walking away with my cigeratte lighter.

I have not been able to forget this incident. I have often asked myself, was the policeman able to satisfy his hunger with the cigeratte lighter?

Tuensang *V. Gopalakrishnan*

WE had lunch together, I and my friend, Shri Saikia, a big, hefty, warm-hearted man who owned an automobile workshop. Always boasting of his energy, he would not tolerate the slightest laziness from his workmen to whom he was kind of a terror. He would lecture them every day on the value of time, the value of work, and his workshop had a name for prompt fulfilment of work taken.

It was a good delicious lunch. Satisfied, we stretched ourselves in the winter sun in Assam, a rare pleasure. We were very pleased with ourselves and the world around us.

And then breaking the rhythm of our rest, walked a beggar into the yard. "I am hungry" he wailed, "Please give me a bowl of rice."

My friend was kind-hearted. He shouted for the cook. There was no response. The cook was away, taking his bath.

"Take this," said my friend to the beggar, offering him a small coin.

"I am hungry. Give me something to eat", came the reply.

My friend threw at him a cigerrate, and shouted, "Now, smoke that, and get away."

"I have eaten too much. The sun is warm. I am too lazy to go into the kitchen", my friend explained, and was snoring the next moment.

Gauhati *K. Sharma*

A few days ago a young man came to me for a job. "I am ready to do anything that will get me a hundred rupees a month", he said.

"Are you without a job now?" I asked.

"No, I have a job. And I earn nearly four hundred rupees a month."

"Why should you then ask for a job for a hundred rupees?"

"I came to this town five months ago," he explained. "For three moths I had no job. Then one day I went to a hotel and spoke to the manager. I said I would do any work to earn a living. The manager gave me a job then and there. The hotel needed 150 chickens every day. I had to knife them, two annas for cutting the throat of each chicken. For two months I have been doing this. I have knifed 9,000 chickens, and I can't do it any more. I would rather starve".

Ulhasnagar, Maharashtra *A.N.R. Naidu*

Economists on Devaluation

From Page 10

finances, income growth, private savings and the fourth plan. We emphasized that any additional assistance that might come for liberalisation of imports will act as stimulus to economic activity. However, it is all to easy to dissipate the advantages of devaluation and soon land ourselves again in a fresh muddle if appropriate policies are not followed from now on. These policies can be broadly indicated as follows:

First and foremost, we have to ensure that our costs do not rise disproportionately to those of our competitors in the world market. If this were to happen, whatever initial advantage that devaluation gives to exporters will have disappeared. In so far as labour costs form a large proportion of the total cost of production, an increase in wages out of tune with increase of labour productivity will have the effect of raising costs. There should be a check on wage increases but the real content of wages should be protected by not allowing the prices of essential commodities to rise. A proper set of policies of procurement and distribution of food, cloth, kerosene and vegetable oils is urgently required.

The bulk of consumption goods and export is derived from agri-

Farm Output must Quickly Rise, Wages and Prices be Kept in Check

culture. Unless agricultural output increases fast enough, the opportunity for export presented by devaluation will not be realized without curtailment of domestic consumption. A fast growth in production of this sector is possible only if a firm policy of appropriate price incentives and supplies of inputs like water, fertiliser, improved seeds, pesticides etc., are ensured.

Cerain fiscal implication of devaluation also require close study. It may be necessary to impose or increase excise duties on some commodities in order to channel into public revenue any windfall gains of producers. For instance, consider a commodity which is being produced at home as well as imported and the domestic output is limited by capacity. After devaluation, the landed cost goes up and the domestic price will also go up to the same extent. Even allowing for the increased cost of imported inputs into domestic production, the price rise will increase the profits of domestic producers. A part of these extra profits may be considered as necessary incentive for capacity creation. But there is a clear case for mopping up such excessive profits by appropriate excise duties.

Increases in current non-developmental expenditure of government should be subject to strict scrutiny. This was quite necessary before devaluation but it has become even more so now that devaluation has taken place. The advantages that devaluation is expected to create in export markets will be largely lost if inflationary tendencies are not held in check.

NEW STATES

From Page 5

in secondary and tertiary sector as against 10.9 in Haryana.

With proper guidance, availability of raw material for small-scale units, the percentage of those engaged in the secondary and tertiary sectors in the Punjabi region is bound to go up. This is mainly because there is a wider dissimination of technical and profession skills in the Punjabi region than in Haryana.

As a result of the developments over the last few decades, the Punjabi region got a distinctive lead over Haryana in matter of general education and later in technical and professional education. Certain educational bodies, such as the Arya Samaj, the Sanatan Dharam Sabha, Chief Khalsa Diwan, opened schools in the central Punjabi region even before partition. After partition, the displaced educational institutions settled by and large in this region. Patiala became one of the great educational centres of the State. It has a medical college, an engineering college, the State college of education and the Punjabi University. Another centre is Ludhiana with its Agricultural University and a medical college. The overall position is that Ludhiana, Jullundur, Patiala, Amritsar and Hoshiarpur in the Punjabi State are bigger educational centres than any in Haryana, barring Ambala and Kurukhestra.

This is reflected in the general standard of literacy. It is higher in the Punjabi region, being 27.1 per cent, as against 20.5 in Haryana.

To sum up, both the Punjabi State and Haryana will be viable economic units with great potentialities for development, particularly in agriculture and agro-based industry.

U.S. AID

Hopes of getting the necessary foreign exchange for the Fourth Plan have brightened with the announcement of the resumption of full economic aid from U.S.A. at an early date. The State Department has announced that the U.S. would contribute the same percentage of weight to the World Bank consortium as it has been doing before. It means that the U.S.A. will be willing to contribute 42 per cent of the total amount raised by the consortium. With this announcement the expected non-project assistance of 9 million dollars by Members of the Aid India Consortium is also likely to come through soon.

In the series of loan agreements signed recently with the U.S.A., the latest is a Rs 24.75 crore one for the Beas Dam project. The loan amount will be used to buy construction equipment for the dam at Pong in Punjab.

"RECORDER" SUMS UP MEASURES ALREADY TAKEN

To Hold Prices To Increase Output

SIMULTANEOUSLY with the announcement to devalue the Rupee, the Union Government declared its decision to hold the price line of the essential needs of the common man. Since then it has taken a series of measures to arrest increase in prices. "The prices of foodgrains will be maintained, no matter what happens", said the Prime Minister at her press conference on June 15. Apart from food, it has been declared that the prices of other essential imported goods like kerosene and diesel oil, petroleum, fertilisers, etc., will be kept under check. Excise duty on them will be adjusted.

By the time these lines appear in print, the Government will have issued an ordinance to maintain the price line and to deal firmly with black-marketeers, hoarders and other anti-social elements. The Essential Commodities Act is being amended. More powers to control prices of articles of common use will be acquired. Three-fold changes are envisaged: extention of the items covered, power to direct mills and factories to produce articles of particular specifications; and making the penal provisions more stringent. The Central Government has delegated powers to the State Governments to issue orders controlling the production, supply, movement and prices of essential commodities. Instructions have been issued to District Officials to take stringent action against hoarders and profiteers.

A Commissioner of Civil Supplies is also being appointed. His duties will be to obtain market intelligence and to watch trends of prices of essential commodities. He will be empowered to requisition supplies from the producing units for the areas of shortages.

A Cabinet Sub-Committee at the Centre has been appointed to keep a watch on prices and availability of essential commodities throughout the country. It advises on prompt remedial action and in working out a suitable distributive system. Similar Central Rooms on being set up in the States.

CONSUMER STORES

The co-operation of the manufacturers of consumer goods has been sought to hold inernal prices. Assurances have been received from some. The producers have been asked to fix wholesale and retail prices of their products. The traders will be required to display prices. Whenever necessary, prices will be fixed under the Essential Commodities Act.

The Government has prepared a plan to open consumer stores on a massive scale throughout the country. The whole-sale co-operative stores will be increased from 300, at present, to 700 and retail stores from 7,000 to 20,000. It is envisaged that these stores will handle about 20% of the retail trade in consumer goods this year and make available commodities worth Rs 350 crore in a year. This will help build up consumer resistance to unfair trade practices.

Another step has been taken to keep the consumer informed of the price-trends. All India Radio has started broadcasting a 5-minute daily price bulletin from all its regional stations from June 16.

To soften the impact on the cost of living, imported food, fertilizers and other essential commodities are being subsidised. Arrangements for larger imports of kerosene, copra and raw cotton are being made. Vegetable oils are being imported from the USA and the USSR. The State Trading Corporation is importing Copra worth Rs 1 crore.

Imports of technical books, drugs, requirements of research institutes, hospitals, laboratories etc., have been liberalised. Additional licences are being issued to meet the requirements. The basic rates of duty on most consumer goods and agricultural equipment remains unchanged.

The Government has replaced the Scarce Industrial Material Control Order of 1965. This order was to regulate the supply, distribution and consumption of scarce industrial materials like copper, lead, zinc, tin etc.

To mitigate the hardships of newspapers, additional 2 million dollars are being provided for the import of newsprint.

Downward adjustments have also been made in the rates of import duty on a large number of commodities. These liberal steps are to augment production through fuller utilisation of capacity. But liberalisation of imports is restricted to essential commodities only.

The Government has decided to allow enhancement in the rupee value of import licences to compensate for devaluation. Unutilized portion of import licences as on June 5, is being enhanced by 57.5%. Since June 6, certain adjustments regarding duty concessions admissible on luggage, gift parcels have been made. The currency limit of outgoing passengers has been raised from the foreign exchange equivalent of Rs 40 to Rs 63.

Simultaneously with devaluation, export duties on 12 traditional export goods like jute manufacture, coffee, tea, tobacco etc. has been imposed.

All special export promotion schemes providing for the grant of import entitlement licences have been abolished since June 5.

The Reserve Bank of India has taken two important steps. It has fixed ready rates for buying and selling pound sterling and has stopped forward sales of sterling.

Steps have been taken to see that students now studying abroad do not suffer because of devaluation.



They Fell, They're Not Fallen

Report by
ROSSCOTE
KRISHNA
PILLAI

"BE it ever so humble, there's no place like home." But to some, home has become a distant dream. Ever since man was born, broken love and promiscuity have shattered many homes and have sent women shelterless into wide open streets. The distractions of modern society have added to the ensuaring lures of flesh and have drawn many a simple woman into the roofless outside of their homes. And to them home has become a forlorn dream.

Not so to lovely Sylvarani (16) of Siliguri. The memory of her home haunts her even while she is in the affectionate care of Rajasthan's After-care Home in Ajmer. Her father is a Subedar Major in the army. He was away in the border areas during the Indo-Pak conflict. Little Sylvarani was in the care of her step-mother. Perhaps a step-mother's love was not warm enough for Sylva. She ran away with a servant. Perhaps 'she feared no danger, for she knew no sin.' The runaway youngsters were soon caught by the Rajasthan police at Kotah and Sylva came into the sheltered sanctorum of the After-care Home.

On a visit to the Home run by the State Social Welfare Department, I found Sylva along with other inmates, doing the daily chores of a housewife. She was frying snacks for the 43 inmates for the evening tea.

"Do you like this Home?" I asked her. She shook her head, looked down, and said 'no'.

She was homesick. She had passed the 9th class and wanted to continue her studies in the Siliguri school in Bengal. Of course she had come to like the deaf and dumb Kamla (30), the haggard-looking old woman Prabhavati (65), with no children or husband to support her, and the forty odd companions in the After-care Home. But she was eager to be back home.



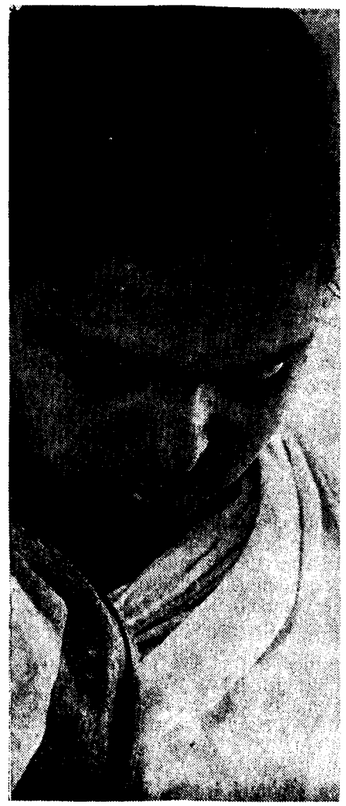
Mr K. K. Sharma, the Social welfare Officer, who was with me, was only too eager to help. Till the police case was decided, she could not go away. But he guessed that if she could at least get the feel of Bengal in Rajasthan. Sylvarani's homesickness could be more bearable. And he was right. He suggested that he could arrange for her to spend the Sundays in some Bengali houses in Ajmer. She eagerly agreed. He also promised to get her books for the 10th class.

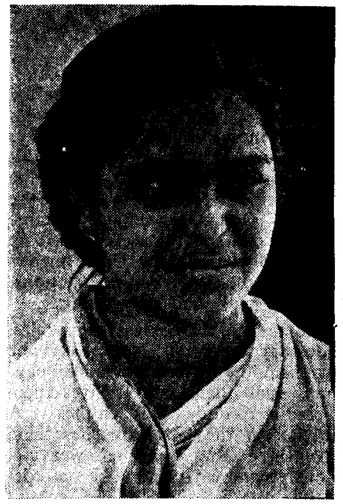
To everyone, as to Salvarani, the home is sweet but to many the State After-care Home is a haven. To Bhagwati (15) of Pushkar near Ajmer, for instance, it was a blessing. And if Sylvarani was brought by the police to the Home, Bhagwati went to the District Magistrate on her own and sought the protective wings of the Home. Bhagwati was a profile in defiance. She refused to live with her husband who was chosen for her by her parents. She was in love with someone else whom she wanted to marry. Her parents did not relent. She found her husband cruel; in any case, she refused to live with a man she didn't love. She ran to the District Magistrate and complained of her husband's cruelty. Thus she came to live in the After-care Home. Her parents visit the Home and try to coax her back to her husband's home. But Bhagwati is determined either to live with the man of her choice or in the company of other helpless women like her.

Broken hearts, frayed tempers, moonstruck minds, lustful moments, perhaps a longing for the forbidden fruit, have drawn many a simple woman into the benighted group of fallen women. The more fortunate among them in Rajasthan find their way into the After-care Home at Ajmer. To many of them in the

A lustful moment; the result: the widow gets a child and both are in the Home.

Top left : Bhagwati, camera-shy, refused to live with the man she was forced to marry against her will, and came to the After-care Home.





Does she like the Home? She looks down and says "No". Homesick Sylva eagerly welcomes the feel of Bengal in Rajasthan.

At 65 the helpless widow (below) makes a valiant effort to learn.

Photographs:
TARA CHAND JAIN



Home, 'weeping may endure for a night, but joy cometh in the morning.'

There are at present 43 inmates. Supportless widows, women deserted by their husbands, and women who were in moral danger. Semi-lunatics and women with tortured souls and disturbed nerves. Some like Sylvarani were brought by the police. Others like Bhagwati came on their own. A few were picked up by the Social Welfare Department's investigators from railway stations, bus terminals and village fairs.

Some frankly confess their tales, a few try to conceal. But to everyone of them the After-care Home pays individual attention. It gives them free food and free clothes. A teacher in the Home teaches them the three R's; another, weaving, knitting and toy-making. I was delighted to see in the Home a decrepit old woman in her sixties learning how to write the Hindi alphabets; Sitting by her side was the illegitimate offspring of another inmate, doodling with a chalk. Since the Home was opened on Republic Day 1958, only three or four women have run away.

"It is true that women who are used to easy life find this Home a prison" said Mrs Kapur, Superintendent of the After-care Home. But most others have found the atmosphere congenial. They nurse the Home's vegetable garden, do the cooking, take to handicrafts, all in unison, like birds of the same flock. A doctor visits them once a week, a nurse is there all the while. The lunatics are isolated, sent to mental hospitals and they come back if cured.

The After-care Home is not meant to be the permanent abode of the fallen and deserted. Its Managing Committee finds employment in the Government or in private homes for those who are suitable, honest, good at work. And for those who wish to get married the Sub-Committee for marriage readily acts as honest broker. An interview is held for the prospective bridegrooms and the choicest is selected. And those who leave the Home for employment or marriage are not forgotten once for all. The investigators keep a watch. With tender care the Home has nursed many a fallen woman back to life's normal excitements—work, motherhood, useful living.

THE WATER-VAN

JANAKI SRINIVASARAGHAVAN

It was 12 noon. Except for a few youngsters all were asleep in their darkened homes, a protection from the gruelling heat of summer days. Suddenly a shout pierces the stillness.

A youngster runs shouting: 'The water-van"! Soon the word 'water' reverberates through each of the twenty houses in the locality. 'Water'! 'Water'! 'Water!' the tiny-tots gleefully chant. The weary housewife who has just laid down for her siesta after the forenoon's domestic chores administers a drowsy rebuff to her brood of three to keep the silence of the place.

Startled out of her much-needed rest, she grumbles, 'Why can't the municipality van come at a fixed time every day? The master of the household in a dreamless slumber, suddenly wakes up. 'Ah! the water-van has come! I see', he drawls.

And soon the *bustee* is all a bustle. Buckets, vessels, containers of all descriptions and sizes go clattering out. Amidst the clangour of buckets and utensils there is a big scramble at the ten taps on the water-van. The vessels—full and empty—move back and forth in a keenly contested relay race. All conceivable containers and receptacles—cement tubs, brass drums, earthern pitchers, small kitchen utensils—are filled with the precious fluid. The children are given a hurried bath one after the other. The grannies wash out the stinking lavatories, grumbling all the while: 'Death and this cursed van have no fixed hour', little realising that the water-van comes to sustain life.

The scramble at the van continues unabated. The master of the household is still there handing out, perfunctorily, the fitted buckets to his many children. His sleep-laden eyelids, only partly open, take in the scene around him as if it were all a dream and he not apart of it; he whose house is filled out with two taps for the flow of municipal water supply, and a well to boot. Alas, none of them is of any avail, the water is simply not there. But for the water-van....

Soon the hands and feet slow down as the water in the taps reduce itself to a mere trickle. The tiny-tots frisk about merrily and splatter in the puddles produced by the spilt water. The engine of the ramshackle van starts with a grunt, the children cheer and clap the departing van as they had done on its arrival. 'There goes the water-van, the water-van, the water-van'. And as men, women and children make for their homes under a sweltering sky, the beasts take over the puddles left by the water-van.

Looking Back

(From Yojana, June 28, 1957)

The years 1951 and 1956 mark the beginning and the end of India's first Five Year Plan. In the long process of planned development this is but the first stage. In that sense the Plan is both an assessment of the past and a call for the future. It sought to translate into action the ideals and hopes of millions of people who had newly emerged into a life of freedom and work. The approach of those who drafted India's First Plan and the outlook of thousands of men and women who worked on it have now become a part of our common thinking. It laid the foundations of a socialist pattern of society, and gave new content to our democracy.

THINGS THAT BIND US TOGETHER

"The Punjab has been at the forefront among the States of India in war and peace," says the Boundary Commission in the concluding paragraph of its report.

"It has been the sword arm of the country in times of war, and, in times of peace, it has led all other States in agricultural production, and parts of the State are humming with small-scale industry. We fervently hope that after the dust of conflict is settled, the people of Punjab to whichever State they belong, will, in healthy rivalry, achieve higher targets of production, agricultural and industrial, and bring about all-round prosperity and contribute to a higher standard of living for all our people.

"The people of Punjab share the common aspirations and ideals with the rest of our people, and we trust that nothing will be done in either State to prejudice the linguistic preferences of the minorities residing within their territory. It is on the cultivation of a tolerant attitude towards the claims of others within the Constitutional framework that democracy functions, and we share the optimism with many others that the people of Punjab will maintain the democratic ideal".

Much more is said in this paragraraph than may be revealed to us at a first glance. Punjab is being divided in order to satisfy the legitimate linguistic aspirations of the Punjabi- and Hindi-speaking people. But there is a deep and strong unity of Punjab which cannot by any means be undermined. This is the unity woven by the rivers given by Nature and the irrigation canals and power projects built by man; by the industries that have come up, the agriculture that is the pride of the country.

Even after partition, either State will have linguistic minorities whose interests will have to be protected and fostered. In other words, the two new States, like all other Indian States, will remain bi- or multi-lingual. Either State will have people belonging to more than one faith. Both the States will have to be guided by the common Indian tradition of tolerance and give-and-take, because Punjab will retain its unique personality and the new States will form a part of the mainstream of India's life.

For more than a hundred years, engineers in Punjab have built an elaborate canal system. It carries to the fields in most of the districts waters of the rivers—Ravi, Sutlej, Beas, and the *Shivaliks*. These rivers and the irrigation canals provide the lifeline of Punjab. Some of the rivers are perennial, others seasonal. The perennial rivers are trained by a complicated systems of canals so that the water flows into arid and parched land. Intensive irrigation from canal water also creates the problem of salinity and water-logging. The reservoirs have to be protected from silting. The flow of water has to be trained to make it available at the farthest point. These raise numerous technical points.

Canal System

The canal system, as the Boundary Commission points out, was developed to meet the requirements of a single economic unit. The system was disrupted by the partition of Punjab in 1947. It was once again built for the new Punjab with great industry and determination. Now comes another major surgery. The Commission has been guided by the imperative need to keep the irrigation system effective. Its report underlines the need for continuing collaboration between Punjab and Hariana for the efficient administration of water and power.

"The entire irrigation system in the Punjab is...an integrated one," says the Report, "and, within certain very broad lines, it is possible to take water from one place to another place... without great difficulty. This irrigation system was intended for a single economic and administrative unit, and division of the unit into two components is bound to involve disruption of the smooth working of the system. A canal system, to be efficient, must ordinarily be in the administrative control of one Government or a body independent of State control where more States than one are interested in the efficient distribution of water."

And so with power. The hydro-electric potential of the Punjab rivers is very high. But "the source of water on which power supply depends is in one State, the production of power is sometimes in another, and the beneficiaries of the power are in more States than one ...any breakdown of electric power distribution may seriously jeopardise the industrial and agricultural potential of the region which is served thereby. The Punjab State contains an integrated system of power generation, and in dividing the State on the basis of language, care must be taken to ensure that the mechanism of power supply remains effective, and the new States to be brought into existence are not exposed to economic peril".

The Commission's recommendations were inspired by considerations of this basic unity of Punjab —the unity built up in the process of development since independence, a unity that is stronger than even our past heritage. The links that will bind the two new States bind the whole of India together and the links grow year to year.



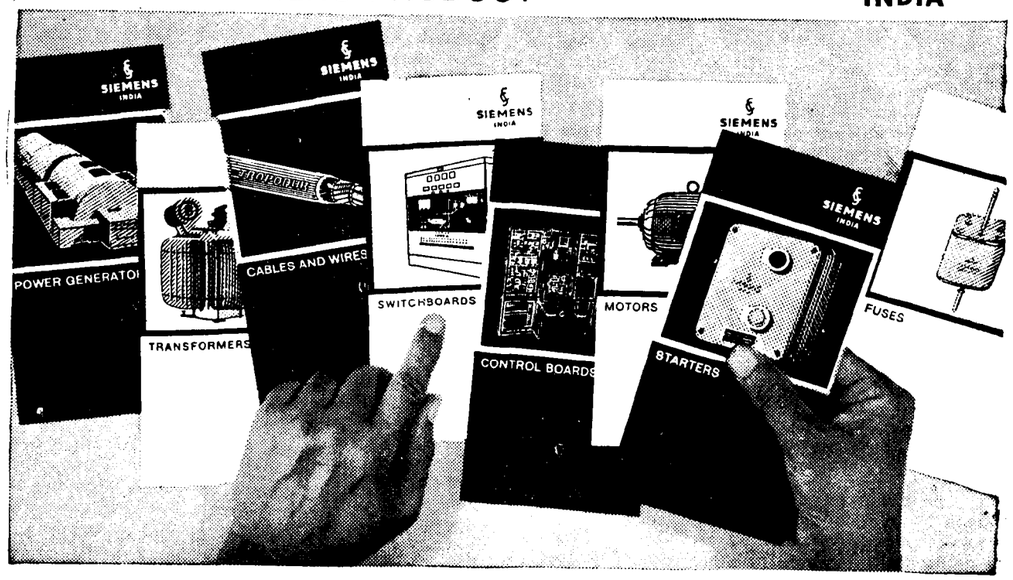
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A PILOT PROJECT IN BARODA

URBAN COMMUNITY DEVELOPMENT

THE walls in the schoolhouse were black with dirt and grime. They had not been whitewashed in years. The headmaster had written to the School Board about it several times without result. Someone suggested that the school need not wait for official action. Couldn't each man in the neighbourhood set aside a bucket of lime for the school when he whitewashed his own house every year? Or couldn't those who could afford it bear the expense? They could and did.

That was the beginning of efforts of the people in the area to do something themselves about their schools. When they learned of the needs of the schools—for benches, books, chalk, repairs—they gave whatever they could in labour, time and money.

In a middle-income area of a large city, the community development worker found that a number of parents were disturbed by the attitudes and conduct of their young people. Others in the community were also disturbed. Many of these young people were unemployed; they spent their time in idleness, gambled or drank when they could find the money, annoyed girls, treated their elders with disrespect.

Learning that many people were distressed by this behaviour, some of the parents, encouraged by the community worker, met to consider what they ought to do. One man suggested building a recreation centre. Another thought of approaching foundations to get scholarships for higher education. Someone suggested arranging competitions. For a while the group discussed these ideas. The community worker asked whether anyone knew what the young people themselves wanted. No one did.

A committee was appointed to talk with a number of young people individually. They found that their youth were deeply troubled and frustrated. They did not want to play or go to school or engage in sports. They wanted jobs. They wanted to be able to pay their own way.

The young people were encouraged to meet to talk over their common need. What kind of work did they want? Was there a market for such work? If so, what training did they need to be able to do it? Were any local institutions equipped to give such training? If they were, under what conditions? If they were not, could any constructive steps be taken? By whom? If there was no demand for the work the young men wanted most to do, what skills would give them a job and personal satisfaction?

Finding answers to these questions took months of study. The young people no longer had time on their hands. The community development worker helped by referring them to sources of information. Co-operation came from employment agencies, industry, training institutions, Government, the University.

Today the majority of the "problem boys" have had additional training and are at work.

In the Tropics

A city neighbourhood had had much sickness and death. In almost every family someone was ill. The community development worker, in talking to a number of families, discovered that they shared a common worry. Why so much sickness? What could be done?

A meeting was called. The people talked about the problem. They decided to ask the Public Health Officer to come to their next meeting to tell them what caused different diseases and how they could be prevented. After his talk people said they wanted to know more and asked the community worker if they could see films that would help them learn. They made arrangements in the community to show the films and invited all the neighbours. A thousand people came to see them. Through a microscope they saw germs carried on the legs of flies and germs in water; they saw how cholera was spread.

People began to notice conditions in their own neighbourhood that were making people sick. Flies were feeding on human waste and garbage in dirty roads and carrying germs to the food in the bazaars and tenements. People were drinking water that came from a tank used for bathing and for washing clothes and animals. The public latrines were filthy. Few people had been inoculated against cholera.

What could be done about these conditions? Some said, "Nothing, because sickness comes from God." Others said, "It is not our responsibility; it is up to the Government to take care of us."

The community development worker asked about sanitation and health services provided by the Muni-

People, Their Neighbourhoods, and the City

cipal Corporation. The people said that the streets were swept every day; that public latrines were cleaned daily; that the public health officers urged people to come for inoculations. Why, then, were they not inoculated? Why were the streets and latrines in such condition? As the discussion went on, people began to see more and more clearly that they as well as the Corporation had responsibilities. How could they co-operate with the City to help themselves?

They decided that to keep the roads clean, they needed trash bins and to encourage people to use them. If the Corporation had responsibility for providing such bins and the money to do it, they would ask for them. If not, they would collect money locally and buy them themselves.

As for latrines, they decided to invite an expert from the Sanitation Department to talk with them about the problems and see what they could work out together. Obviously, one need was to educate people to use and care for the latrines properly; this was something they would have to do. Another obvious need was for more latrines. They would offer to provide the materials and labour if the Sanitation Department would tell them how to build latrines.

They arranged to make calls at every house, urging people to be inoculated against cholera, and then invited the Public Health Officer to come to the community on a chosen day to do the inoculations.

In this way a partnership began between the people and the Municipal Government which helped to improve the health of the people and the services of the city.

These examples illustrate what urban community development is.

It is helping people find new ways to work with their neighbours to help themselves and their communities.

It means encouraging people to decide together what they and their communities need and want, what they themselves can do about it and how to do it, and then helping them do it.

It is about demonstrating how much every person and every neighbourhood can develop, how much they can do with their own resources in time, labour, and money.

Urban community development is helping people learn about other resources and when and how to use them.

It offers new opportunities for leadership.



People help keep their street clean



A dirty neighbourhood breeds disease

It is about creating understanding of the role of the people and of their Government in improving themselves and their communities, what each can and should do alone, what they cannot and should not do, and what both can do together.

Urban community development is citizens making democracy work, beginning in their own neighbourhoods, by sharing responsibility for their communities with the Municipal Corporation and the Government.

Indian Experiment

India and other countries have had long experience in rural community development, but urban community development is much more recent.

The first pilot projects in urban community development, in Delhi and Ahmedabad, began with the help of the Ford Foundation and are administered by the Municipal Corporations.

The Baroda Community Development Service is the third pilot project in India. It is sponsored by the American Friends Service Committee, in co-operation with the Central Government, the Government of Gujarat, and Baroda Municipal Corporation. (Under the national programme there are to be urban community development projects in every State in India. Two of these are in Bhavnagar and Rajkot.)

The American Friends Service Committee is a social service agency which was organized in 1917 by members of the Society of Friends or Quakers in the United States. Like Gandhiji, Friends believe in non-violence, that each person is a child of God, a human being to be treated with dignity and respect. They believe that love, expressed through creative action, is the only power that can overcome hatred, prejudice, and fear.

Why Baroda ?

People often ask, "Why did the American Friends Service Committee choose Baroda, out of all the cities of India, for this pilot project?"

The answer is (1) Baroda has many assets necessary for successful urban community development : progressive and interested Municipal and State Governments; a fine University; the promise of co-operation from industrialists, educators, trade union leaders, the business community, leaders in every field. (2) Baroda also has the same problems as most of India's medium-size industrialising cities, so what is learned here might help other cities.

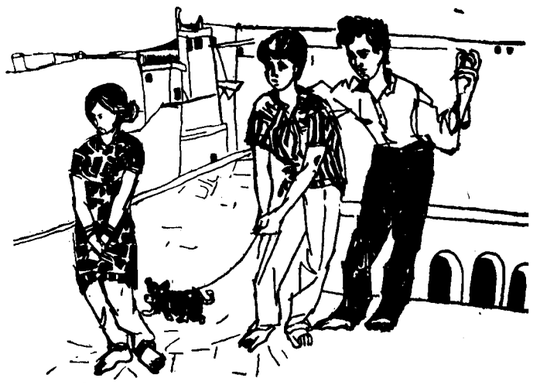
The problems are tremendous. New industries have brought more and more people into Baroda in search of jobs, and all of them cannot find jobs. The population has jumped from about 298,000 in 1961 to about 400,000 today. There is not enough housing. Newcomers have moved into already overcrowded tenements, or have put up unauthorized shacks or live in the open without shelter. More people and more industry have increased the amount of traffic, the dirt and garbage in the streets, the pollution of rivers, the demands for water, power, police, schools—for all public facilities and services. People from rural areas, unaccustomed to living in the city, have not learned to adjust to it. Children roam about uncared for while their mothers work. Many young people are frustrated and insecure. Such social problems as gambling, drinking, and juvenile delinquency are common.

It is clear that Municipal Corporation must take responsibility for providing public facilities and services. But no Municipal Corporation, even with State and Federal help, can solve all the problems of growing cities. The help of the people is vital.

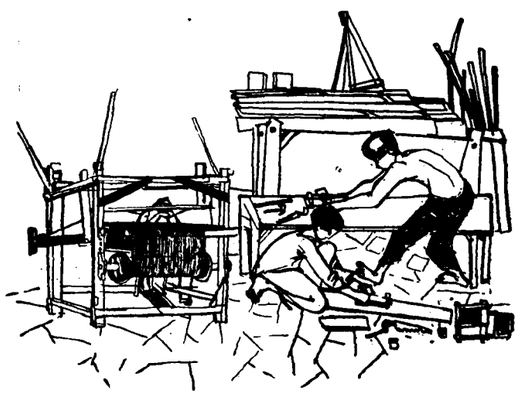
For example, no city has money enough to abolish all its slums. But the people who live in them, by working with their neighbours and the Municipal Corporation, can do something to improve them.

The City may provide all the necessary facilities, but they will not be of long-term value if the people do not use them properly. Where water and power are scarce, people have to help by conserving them.

The City may clean the streets regularly, but they will not stay clean if people throw trash on the road.



With nothing useful to do, the boys behave badly



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ALI/64/1-A



Children without guidance



Children in a Balwadi

Drains and latrines are essential for sanitation and public health, but they are worse than useless if people clog them up and make them breeding places for disease.

To prepare young people for jobs or a career, there must be schools and training centres, but the people have to want them and use them.

Health and family planning clinics are needed, but they cannot fulfil their purpose unless people know about them and go to them.

Urban community development is directed towards all people, not just poor people, because every community has problems, however well-off and however well-educated its population may be.

A middle class area, for example, may have serious problems of overcrowding, juvenile delinquency, traffic congestion, unemployed youth, the need to supplement the family income. While the people alone cannot solve all these problems, they can make some contribution towards their solution. Because of the advantage of

turn to PAGE 24

Introducing



D. THOMAS ESQR.

He was not born that way, nor was he christened in character. There was certainty about his birth. He did not, at first, question the facts of life or the universe. It was education and sophistication that bred the doubt in him. Experience nurtured it and mellowed his mind to an awareness of alternatives.

Mr Thomas got his prefix as he advanced in years. In the small oyster world he moves about, questioning is an intellectual passion. He is continually exposed to the frailties of other's wisdom. When against his grain he is about to take the plunge, he hears the whispers of second thought. Or it is expressed for him in the press, at the club or at the cocktail party. There's the rub, he says to himself, and turns his back on the Rubicon.

In the Secretariat, on the Company Board, in the factory or elsewhere, he works with a quiet zeal even if he has to pinch himself often for proof of his very existence. Where he arrives at a stage of decision, or indecision, he brings to the job the higher tenet of his Rabelaisian religion: "a great perhaps."

He uses his penchant for analysis to escape decision because choice is alien to his philosophy of life. Spurred by an indolence of will he makes a Hobson's choice of easily distinguishable preferences. His enquiring mind exposes so many alternatives that a choice becomes unnecessary. He employs his private doubts to make a public case against decision. He delights in sowing the question as if it were wild oats. When others reap his reward in perplexity and confusion, his life's mission is fulfilled.

Long inurement in Doubting Castle has made him a non-event. From his gray tower of files, he takes a tinfed view of the world humming with inaction. Cut off from the flux of things, he is in a state of beatitude. He knows not what is afoot. To shield his ignorance he uses the dilemma and the many alternatives he is always discovering. He is not so much for the full stop as for the question mark.

Although Mr Thomas shuns action for its own or any sake, he moves about freely among us, his bears drooping, his head high. You can meet him at any place any time of the day. You can easily recognise him; he is very much one of us. Gaze fixed on the chess-board to determine whether it is black on white or white on black. If he accosts a unicorn he starts wondering if it is not the hippogriph in disguise.

"What shall we do?" you ask him. "In the first place you can... Then there is the other thing... Really I am afraid it is difficult to say." Put him to the categorical and out comes the classic rejoinder that much may be said on both sides.

Mr Thomas has his diction. His style is unique and sets the pattern for those who like to lose themselves in argument. It abounds in phrases like "either or, sooner or later (why later at all?), on or before", and every sentence is punctuated with a dozen ifs and buts.

For much of what we are today we have to thank Mr Thomas.

C. R. EKAMBARAM

QUOTATION BOX

"Tonight I make no promises."
—Mrs Indira Gandhi's person to person broadcast.

Exhortation is not enough. The Government will have to give a better account of itself... There has to be decision, co-ordination, and follow-up. Merit will have to take precedence over seniority if we are to get the right man in the right jobs.
—Ibid

"The debt position of Rs 5,000 crores when you went to bed on June 5 spiralled to more than Rs 7,000 crores when you woke up the next morning because of the devaluation. Thus by devaluing the rupee, the Congress has devalued its own prestige."
—C.R.

"Devaluation of NATO"
Headline in "the Hindustan Times"

Mr Mehr Chand Khanna is the Defence Minister of Punjab. Kalidas wrote the Gita. The Buddha renounced the world because he was disgusted with the conflict between Hindus and Sikhs.
—Answers given by candidates for teachers' posts at a Delhi School.

Nearly 40 per cent of the papers evaluated by examiners showed mistakes in totalling the marks, according to a survey by Nagpur University.
—"Free Press Journal"

"... It would be gross over simplification to regard Communism as the Central factor in every conflict throughout the underdeveloped world."
—Mr. Robert McNamara

The thing that nags me about my country is the contradiction between promise and reality.
—Hughs Rudd, American novelist.

Watch it :
I am a
GRUMP
This entitles me to take a stand for or against anything or anybody.
—Poster at Emory University, Atlanta, U.S.A.

"No, I don't intend to write memoirs."
—Mr Nikita Khruschev

"It seems to me highly probable that the real responsibles of Hanoi knew every bit as little about the outside world which they denounced in such embracing generalities as the outer world knew about them: not impossibly, even less."
—James Cameron in his book "Witness"

According to the Government report Pakistan has taken 32,500 sq. miles of Indian land; and China 14,500 sq. miles during the last 18 years, yet we say, "Nobody can take an inch of our land." What do we mean by it ?
—From "Good Will."

URBAN C. D. *from page 22*

better education, they may be in a position to demonstrate more quickly than peple in poorer neighbourhoods what people can do with their own and other available resources to meet common needs.

Lack of facilities may be problems in areas of new housing. The people there may decide to work together on such efforts as setting up a balwadi, providing interim schooling or shopping, etc.

The staff of the Baroda Community Development Service, in common with other community developers, have faith in the intelligence and capacity for growth of people in every kind of neighbourhood.

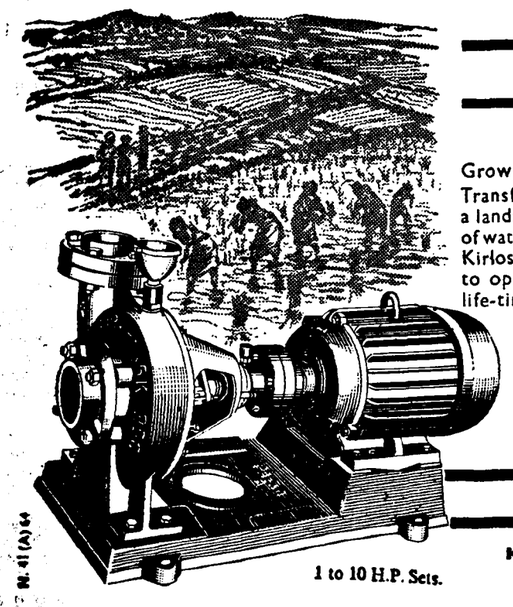
Since October 1965, the Project's community workers have been working in four neighbourhoods in Baroda, Bajwada, Padra Road Housing Colony and Navapura, Goya Darwaja-Jambudi Kui, and Navi Dharati. They have been learning about these areas and getting to know the people. They have been encouraging people to meet with their neighbours so that they might decide together what they want to do and how best to do it. They have been showing educational and cultural films when people have expressed a desire to see them.

In some sections, as a result of these meetings, people are beginning to know their neighbours better and to work with them on problems of their choosing. People have revitalized some of their old mandals, expanded the functions of others, created new organizations. Young people did a survey of their community, discovered what improvements were needed, how much families would contribute toward them, and consulted appropriate officials about next steps. Several groups formed housing societies. Groups of women formed sewing societies. Some groups are working on balwadis.

Whatever the activity, the people themselves have made all the decisions and have done all the work. The community workers serve only as motivators or stimulators. They work *with* the people rather than *for* them.

A Citizens Council, made up of leaders in the Municipal Corporation, Government, industry, trade unions, and social welfare, advises and guides the Project. The Council also concerns itself with problems larger than the neighbourhoods which people cannot solve with their own resources and the help of the Corporation no matter how hard they try. One such problem is housing. Because so many people in the Project neighbourhoods have raised questions about housing and related problems, the Citizens Council has appointed a committee of experts to explore questions of land, construction, financing, conditions for occupancy, etc. for different types of housing.

Because of their knowledge and experience, leaders in every field have an important contribution to make. So do the young people whose idealism, intelligence, and energy can be tremendous assets to their communities and to Baroda. Involvement of people at every level, not just in the local neighbourhoods, is necessary if urban community development is to be successful. For everyone, including the community development workers themselves, urban Community development provides opportunities for personal and community growth.



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INDIAN AGRICULTURE

Problems and Promises

Report of a Seminar Organised by the Agricultural Economic Research Centre of the University of Delhi

T. C. VERGHESE

SINCE the beginning of developmental planning in India a lot of data relating to agriculture has been made available by diverse agencies. Little attempt has so far been made to assess the extent and nature of available data and to categorise it on a systematic basis to facilitate its analysis. A two day seminar on problems and promises pertaining to Indian agriculture began with a discussion on the mass of data relating to Indian agriculture, collected from various sources and collated by the staff of the Agricultural Economic Research Centre of the University of Delhi. This attempt by the sponsors of the seminar to put together the available data was widely appreciated. Numerous observations were made with regard to the variance in the reliability of data from different sources. A number of useful suggestions were made as to how the data might be utilised and this will no doubt have stimulated participants to undertake further research into the problems confronting Indian agriculture. Against this background the seminar took up deliberations on the problems of agricultural production on the first day and those related to distribution on the next day.

The problems relating to agricultural production can be approached from different angles. Since the strategy currently pursued by the Government relies greatly on varietal changes of crops and extension of "package programme" of fertiliser, water and other inputs to 32.5 million acres of cultivated area under foodgrains, the seminar addressed itself to the task of examining this programme. In the morning session the questions that came up for discussion were: (*i*) whether the I.A.D.P. (Intensive Agricultural District Programme) experience bears out the expectation of higher agricultural output if the programme is spread over a larger area ; (*ii*) the problems that need to be tackled for transforming Indian agriculture from the present backwardness to an advanced technological base; and (*iii*) how to measure the productivity of new inputs in order to use them for planning and also for extension.

There was considerable discussion on all these points.

With regard to the performance of the first group of 7 districts covered by the I.A.D.P., there was almost unanimity of views that *the results were not uniformly always encouraging*. The major reasons responsible for the unsatisfactory performance of the programme, according to a study presented in the seminar, were that the selection of districts was not done carefully by taking into account the availability of adequate supply of water for crop production and that the institutions and the machinery that were to implement the programme in many of the selected districts were not adequate to meet the required responsibilities that were expected of them. As a result the programme is not operating at an intensive enough level even in the first seven districts.

It is only natural, therefore, to administer caution against any attempt to expand this programme to a larger area if the intention is to continue it as an intensive programme. It was also suggested that the areas which are weak with respect to institutions and factor supply base should be eliminated. In order to concentrate on a smaller area, even those areas which have already achieved considerable progress could be excluded from the programme. However, some doubted the advisability of excluding areas that have shown considerable progress when new varieties of seeds are to replace the indigenous varieties. Even the elimination of weaker areas was considered difficult on account of political considerations.

RESPONSE OF INPUTS

The general problem of transforming traditional agriculture to a technologically efficient level was considered in detail. Along with this, the problem of measuring the responses of the new inputs was discussed. It was pointed out that the transformation of agriculture meant moving the whole of the production surface by changing the technology instead of treating it as given. Unfortunately in India there is not enough information with respect to the problems of pushing the production function from its present level to a higher level. No serious attempts have so far been made either to formulate yardsticks of production for homogenous agro-climatic regions, or to work out composite scales of responses due to a combination of inputs termed as 'package'. Therefore, the conclusion one may draw is that the initiation of technological change in India is at present at a stage of experimentation. *In such a situation great care must be exercised in arriving at targets*

1965 DUNLOP ACHIEVEMENTS



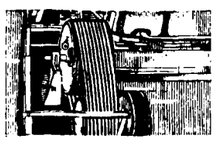
Addressing the 40th Annual General Meeting of Dunlop, India, in April 1966, Mr. Cecil Stack, Managing Director, referred to record sales in 1965 despite raw material difficulties.



Additional equipment for truck tyre manufacture, the most modern in the country, was installed at the Dunlop factory in Ambattur, Madras.



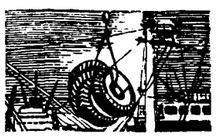
During the year Dunlop pioneered the manufacture of fire resistant PVC conveyor belting for use in underground coal mines.



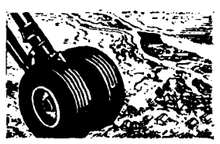
The plant for making industrial vee belts was also modernised and expanded to meet the increasing demand for "Maxrate" Vee Belts.



Extra large Off-the-Road Tyres were made by Dunlop—another 'first' in India—replacing imported tyres used on heavy earthmoving machines. Each tyre stands over six feet high and weighs nearly half a tonne.



Direct and indirect exports of Dunlop totalled Rs. 1.2 crores — 50% higher than the previous year's figure.



With the modernisation of the aero tyre plant Dunlop are now able to equip all types of aircraft operating in India.



Much greater use was made of local raw material and imports accounted for only 11% of total raw material purchases compared with 17% in 1964.



Amenities for employees were improved : a new playing field and sports pavilion were opened at the Dunlop Sahaganj factory in West Bengal.

DUNLOP

LEADS THE WAY

(ENCS)

of production which are based on so many unknown or imperfectly understood factors.

During the afternoon session the dimension of the production problem was enlarged by taking into account institutional factors, in particular the problem of tendency, along with the factors directly related to technological change. *Can there be satisfactory increase in agricultural production without institutional changes?* The importance of this question in the context of new strategy for increasing production can hardly be overstated since it has been demonstrated that the areas with assured rainfall and extensive irrigation suffer more from problems arising from tenancy than relatively drier regions. Since the profitability of the application of new inputs is considerable it was argued that even share-croppers would have the incentive to use them in crop production and, therefore, the agricultural production could be increased even in the absence of institutional reforms. Such an argument was, however, doubted by pointing out the uncertainty factor and non-availability of credit on easy terms with which subsistence farmers are handicapped, taking away whatever profitability they could expect from the application of new inputs. Furthermore, it was argued that tenancy could result in misallocation of resources and thereby reduction of the social returns from the application of scarce inputs. There was almost unanimity of opinion with regard to the long-term adverse implication of tenancy on agricultural production owing to the lack of incentive on the part of tenants to undertake fixed investments. Regarding the extent of short-run misallocation, opinions differed, and much depends on the extent of inter-factor complementarity in production. One important point which emerged during the discussion is the lack of good empirical evidence on the input pattern and production level on tenanted farms *vis-a-vis* owned farms, and also the paucity of data on the peasants' attitude to risk on which the allocation largely depends.

The discussion also brought out the point of view that there was no dichotomy between institutional reforms and technological change. A survey of the experiences of certain countries which have been able to transform their traditional agriculture highlighted the intimate relationship between institutional reforms and technological change. The impression one gathered from listening to the deliberations was that a programme for initiating technological change consisted of three integral parts: adoptive research on technological change, removal of institutional hindrances and creation of new institutions and machinery for making available new inputs and services. A policy which did not take into account all these aspects would not be considered as a sound strategy particularly from the point of view of long-term development of agriculture.

DISTRIBUTION

On the second day two major aspects of the distribution problem were analysed—price behaviour in India with particular relevance to foodgrain prices and the method and institutions by which the State could discharge the responsibility of distributing the available supply to the different sections of the community. With regard to the first problem, *viz.*, price trends, it was demonstrated that regional variations in foodgrain prices were responsible for accentuating the distribution problem. Another paper put forth the hypothesis that changes in prices during 1949-65 can be explained in terms of autonomous investment (discounting the role of speculation) in the closed Indian economy. A price policy which guaranteed a minimum incentive price to the producer and a maximum protection price to the consumer was suggested though there were differences in the points of view with regard to the manner of estimating the prices and of implementing such a policy.

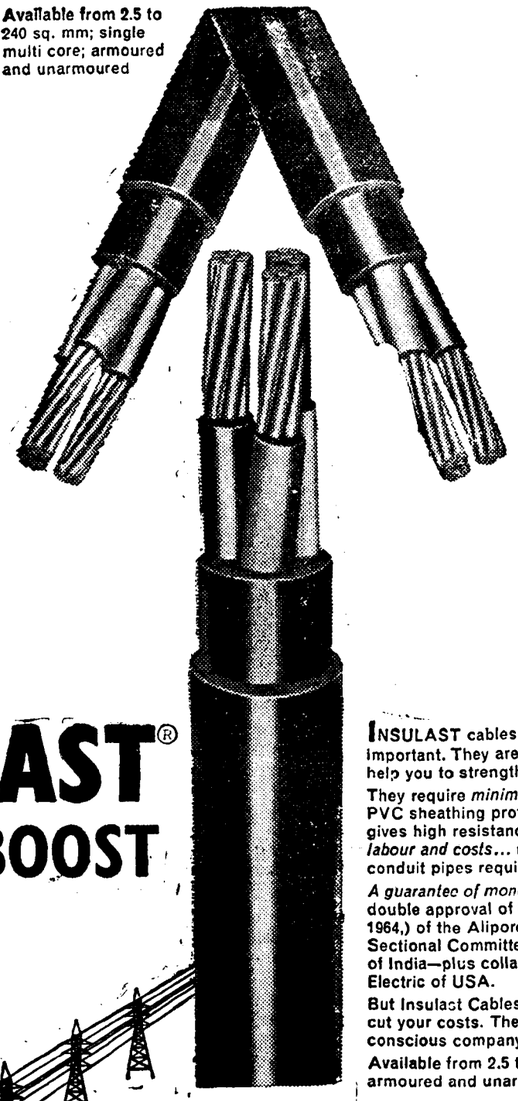
The discussion on prices was continued with the question relating to the advisability of maintaining the food-zones. It was suggested that the maintenance of zonal restrictions in the movement of food in the country is responsible for the persistence and sometimes accentuation of disparities in regional prices.

Most of the discussions on the mechanism of distribution rested on the assumption that the *responsibility for distributing food should not be left in the hands of private trade as this method has not fulfilled the objectives of national policy in this vital sphere.* Three definite proposals came up for discussion. The first came to the conclusion that State trading in foodgrains is the only method that is feasible in the prevailing political climate in India for which the State can use the private traders as its agents. Another proposal for the short-run to buy foodgrain from the producers at higher prices than prevailing in the market and sell at subsidized rates to 'vulnerable' sections at market prices to others was objected to on the ground that 'vulnerable' was an arbitrary concept and that straight income transfers could be a better alternative. The proposal was, however, well received.

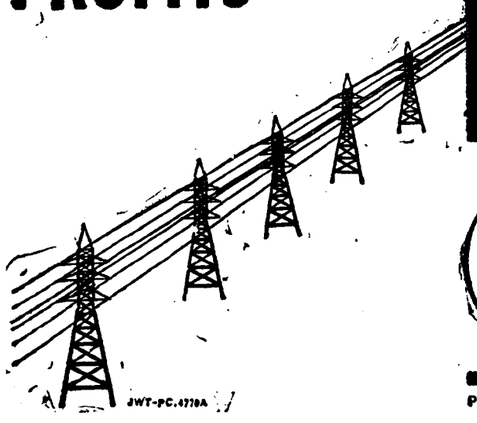
The major aspects shared commonly by all the three proposals were that the *Government should build up a sufficiently large buffer stock to influence the market and that there should be a powerful institution such as Food Corporation of India to deal with distribution on a regular basis.* There was, however, criticism of the government policy in merely relying on buffer stock operations in the third proposal which demonstrated that in a situation of long-run persistent gap between demand and domestic supply of food, the emphasis should be on a policy involving rationing on as extensive a scale as possible. For procuring the quantities required for rationing imposition of levy on the producers was suggested, which would in turn help the Government to get over the difficulties associated with zonal restrictions on the movement of food. It was also argued by some of the participants that full-scale rationing was essential when the expectation of high rates of growth was based on very weak premises and that the Government could very well undertake such responsibility when it has already taken up more complicated functional responsibilities. It was, therefore, contended that the emphasis should be on a regular procurement system.

Thus the seminar ended after a lively discussion on almost all the important problems of Indian agriculture. The stimulating discussion it provoked will help the researchers and policy makers to undertake further studies in different fields.

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Letters

PLANNING FOR HAPPINESS

I was leaving for Dehra Dun by the bi-weekly Janta Express. At the railway station I was told that the train was late by two hours. I sat in a bench in a corner. Two working men in their twenties sat by my side. The younger of them was reading aloud a wall poster: "Sukhi Jeevan Ke Liye Parivar Niyojan" (Family Planning for Happy Life). The poster showed a man, a woman and three kids. The elder workman remarked; "It seems they have found out a remarkable remedy for impotency and gonorrhoea".

The younger one laughed and said: "That's why the Government is spending so much on publicity."

With great difficulty I restrained myself from laughing. I knew that the attempt to taking the message of family planning to our masses had failed.

Hardwar KRISHNA SWAROOP KAUSHIK

LEADERS OF VISION

Mr K. Kamaraj, Congress President and Mrs Indira Gandhi, Prime Minister are the indefatigable champions of the common man and woman.

The two leaders have firm faith in the Planning Commission. After Jawaharlal Nehru there appears to have emerged a pattern of collective leadership to run the country, the Prime Minister to run the ruling party in the Government and the Congress President to look after the ruling party. Fortunately, we have at present persons in the two posts who are known for bluntness and directness of utterance and action.

Addressing the seventieth session of the Congress session at Jaipur, Mr Kamaraj pinpointed the inadequate progress made in tackling the basic problems of the country, be it agricultural production or industrial development or equitable distribution of national wealth. When Mrs. Gandhi said at Bombay recently that the country is greater than the Congress what she meant was that today we need not a partisan, but a national approach to the country's problems.

Madras DR. E. K. SWAMY

HIGHLIGHTS

There has been a record number of tourists to Jammu and Kashmir and Mussoorie. Till the end of last month about 29,000 tourists, including 2,000 foreigners, visited the valley. This is about 10,000 more than last year's figures.

More than 90,000 people visited Mussoorie during the last two months. This is 10,000 more than during the same period last year.

A thousand metre-long bridge across the Saryu river at Ayodhya in Uttar Pradesh has been completed at a cost of Rs. 2.25 crore. It has a carriage-way 8 metres wide with two foot-paths.

The new rocket launching station will soon be set up in the north-west region of the country. This will be the second such station in India—the first one being at Thumba near Trivandrum.

Government have taken over the management of Jayanti Shipping Corporation for five years. An ordinance issued by the Government said that the Shipping Corporation of India would manage its affairs.

The first factory in the free trade zone at Kandla port in Gujarat has gone into production. It manufactures utensils of stainless steel.

A steel plant in the private sector at Jamshedpur has set up a new safety record. Between the first and sixth of June, it achieved 1 million accident free manhours.

A cheque for 3 million 43 thousand yen has been presented to the Prime Minister by the President of Japanese Council for the Freedom from Hunger Campaign. The amount was donated by the Japanese people.

The first plant in the country to manufacture off-set rotary machines for printing newspapers is expected to go into production in Coimbatore in about a year.

The Centre has made an *ad hoc* provision of nearly Rs. 4.5 crore to be released as loan to States for strengthening the agricultural credit funds of State-level Co-operative Banks.

Yojana Bhavan Diary

The draft Fourth Plan would be ready within the next few weeks: this note of optimism was struck at an informal meeting of the Planning Commission on June 15 presided over by Mrs Indira Gandhi. The meeting was attended by the Minister for Planning and Social Welfare, Mr Asoka Mehta, Members of the Planning Commission and Mr Gulzarilal Nanda, Mr. Sachindra Chaudhuri, Mr C. Subramaniam and Mr T.N. Singh who are Minister Members of the Commission.

The Prime Minister asked the Planning Commission to push ahead with various stages in the preparation of the Plan.

During the last two weeks there have been a series of meetings of the Commission presided over by Mr Asoka Methta in Yojana Bhavan. On June 8 the Commission considered the draft chapter of the Plan on Agriculture and Education; on June 14, a draft Cabinet note on Company Affairs and the Monopoly Commission's report; on June 15, the Food & Agriculture Ministry's note on long-term loans to agriculturists and the financing of land mortgage banks; on June 17 and 18, the position of revised resources and outlays for the Fourth Plan.

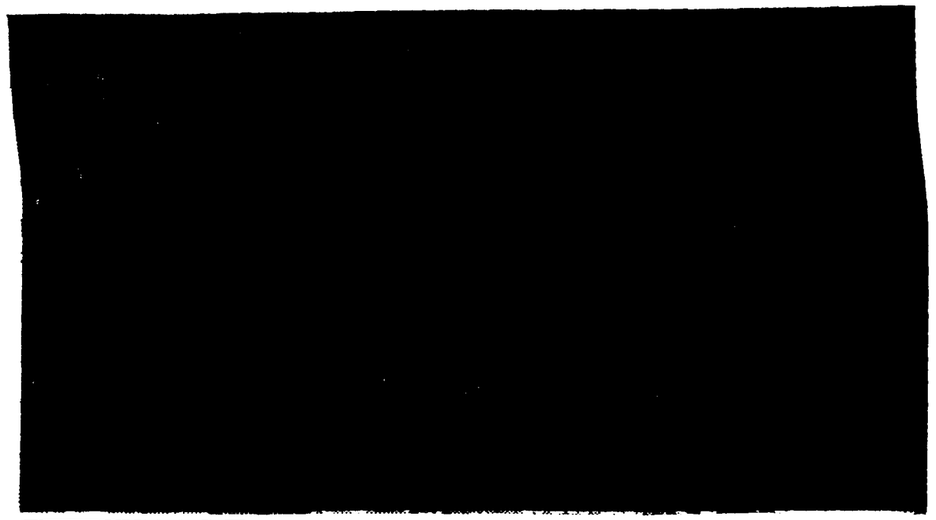
While the Prime Minister had her meeting with a selected number of heads of public and private undertakings Mr. Asoka Mehta met the managing directors of public undertakings set up with Soviet assistance.

Dr Jack Lippes, inventor of the loop, who met Mr Mehta earlier, met him again on June 13.

Dr S.R. Sen, Additional Secretary, Planning Commission, met heads of various Divisions to consider the draft Fourth Plan.

Dr K.R. Nair, Director, Central Statistical Organisation, left for Bangkok on June 11 as leader of the Indian delegation to the 7th Session of the Conference of Asian Statisticians.

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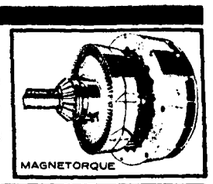


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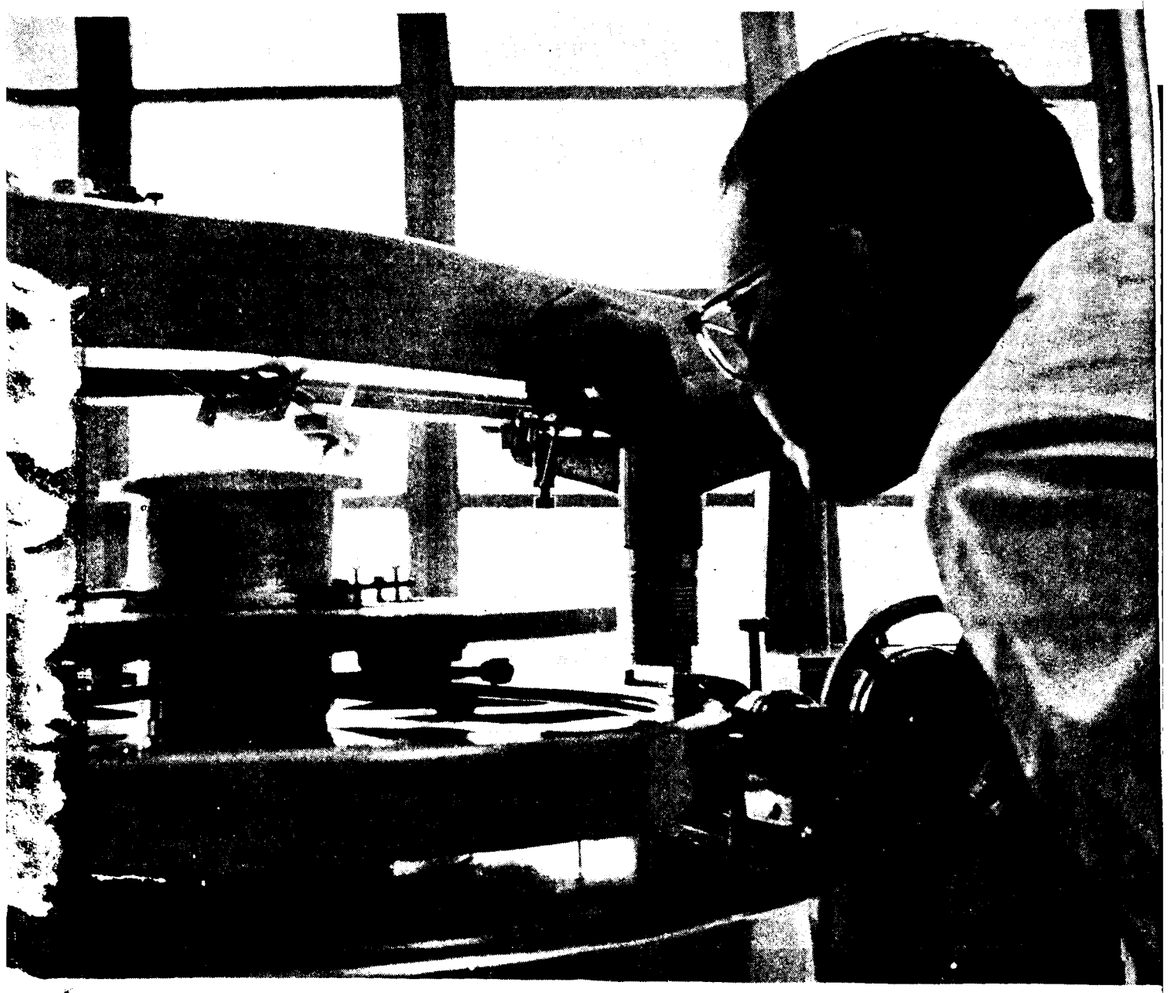
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Chief Editor : Bhabani Sen Gupta

YOJANA

NINTH YEAR
13
JULY 4, 1965



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HOW TO BRING MORE TOURISTS—Page 9

ABOUT YOJANA

YOJANA seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion of problems of social and economic development.

It is issued every other Sunday in two separate editions, English and Hindi.

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NEXT FORTNIGHT

MAKING HOUSES IN THE NEW WAY

★

GROWTH & CHAOS IN CITIES

★

MINE ACCIDENTS: HOW THEY OCCUR

OVER TO YOU

Let Fourth Plan Go Metric

I READ from the newspaperss and from your own *Yojana* that the draft outline of the Fourth Plan is being drafted and will soon be received.

As an ardent supporter of the metric system, I hope the plan will list the various units in the metric measures.

In fact not to do so would be contrary to law. It would also be poor policy of the Government which urges people to change over to the metric system in the interest of uniformity and rationalisation if it won't itself do so.

The Third Plan document, from a quick look at the table attached to chapter V, used all the old kinds of measures—tons, pounds, acres, feet. The Irrigation chapter spoke only in terms of acres and acre feet, and the Agriculture chapter also in terms of acres, pounds and ounces. (Careful reading of the document might even reveal a stray maund somewhere).

It is possible to be generous and say that the Third Plan document was published *before* the time-limit for changeover to the metric system. But the Mid-Term Appraisal of the Third Plan, which did not have this excuse, continued to adopt the old approach.

I hope that the Fourth Plan document at least will use:

Kilometres, not miles.
Metres, not feet or yards.
Kilograms, not pounds.
Tonnes, not tons.
Hectares, not acres.

The draftsmen might also consider whether to use lakhs, crore and million. But on that I would give them freedom. Also, we have no law against lakhs, as we have against pounds and miles.

Lucknow D. P. SETHI

3 MONTHS

I am writing this letter by way of a complaint for the uncalled for and inordinate delay in enrolling me as a subscriber of your journal.

I sent a Money Order for Rs 5 on March 6, 1965 addressed to the Business Manager, Publications Division. After waiting for a considerable time, I received a letter dated 8.6.65 acknowledging the receipt of the Money Order and enrolling me as a subscriber from June 6, 1965.

It took three months to enrol me as a subscriber. If it is a normal practice to take three months' time to register a new subscriber, kindly announce it in your journal so that the prospective subscribers may send remittance at least three months in advance.

I am sure my complaint will not be consigned to waste paper basket or merely filed.

Meerut K. L. AGARWAL

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THE COVER shows a scientist at work in a research centre. See article on Pages 5-8.

YOJANA

Vol. IX No. 13 Fortnightly Journal Published on behalf of the Planning Commission Asadha 13, 1887

STATES' NEEDS, NATION'S NEEDS

INDIAN planning, like Indian politics, is of a federal nature. Under the Constitution the power to make laws and take executive decisions is not concentrated in Delhi but distributed between the Union and the States. And more recently, under laws passed by the various States, there is a third layer of power—the panchayati raj institutions.

The political structure defines what the Union's jurisdiction is and what the States' prerogatives are. The two sets of government are vested with powers to find the means to fulfil these responsibilities. Development is a business which concerns both the States and the Centre. The Five-Year Plan is for the nation as a whole and for each of its parts. It can succeed only if there is the continuous co-ordination, in thought and in action, between the Union and the States.

When the Planning Commission was established, it was made clear that it was to advise not only the Union Government but each State Government on matters of development. The National Development Council, constituted a little later, gave fuller expression to the joint character of planning; it is this body of State Chief Ministers, Planning Commission members and Union Ministers that is the ultimate policy-maker on planning, and its recommendations go to the Union Parliament as well as the State Assemblies.

Planning is becoming daily more complex. Even the division between plan formulation and plan execution has ceased to be so simple. A plan is a good plan only when it is workable. And field experience has its own impact on policy-making. A group of men sitting in Delhi cannot decide what shall be done in the country. Centralised direction may be possible in the case of an industrial project; it is not so effective in the case of agriculture where ultimate decisions are taken by millions of farmers. As we know more of agriculture, we have come to appreciate more the importance of area planning. No two stretches of land are exactly alike in all respects; what works in one may not work in another. If both are to be brought up, there is need for variation in approach, for flexibility.

This is true at the village, block and district levels also. And at State level. The needs, resources and potentialities of our States vary. All States have to progress; and there ought not to be disparities between State and State in levels of living and opportunity. But it is obvious that the needs of Kerala, with its tremendous pressure of population, are different from those of Assam, where the density of population is low. Likewise the potentialities of Bihar, which is a huge storehouse of minerals, are different from those of Madras, which is not so richly endowed. Maharashtra, an industrial leader, needs more irrigation. Andhra Pradesh, which has a high level of irrigation (despite the arid Rayalaseema) clamours for industry.

The States are in different stages of economic and social growth. Their hopes and their developed capabilities differ. It is the duty of planning to take due note of all this. The economists and administrators within a State evidently would have a greater knowledge of these problems and aspirations. That is why the national planners have stressed the importance of strengthening State planning. Indeed the Third Five Year Plan referred to the need to strengthen the arrangements and machinery for planning at the State level. Even the setting up of planning boards in the States was suggested.

In the last four years the planning process has grown and developed in the States. And for the first time, as part of the measures leading up to the formulation of the Fourth Plan, State planning agencies have been assigned a task which, in substance, is different from what obtained in the three earlier plans. The States have prepared extensive memoranda on the plan they would like to have—and this has been done *in advance* of the publication of a Draft Outline of the national plan. On earlier occasions, detailed discussions with States, and the filling out of their plans, had followed the Draft Outline; this time they precede it.

It is hoped that in this way planning will be more responsive to the needs and hopes of the people of the various States. But these hopes and desires have to be put into a common national framework. That framework already exists. Not only must we think of giving the maximum possible to the people of a State; we must think of the best that each State can give to the nation. There are also key considerations like financial feasibility and of proper sharing of resources and responsibilities. There must be unity in objective and outlook, and freedom for variation, innovation and experimentation. Above all there must be discipline, and a resolve to fulfil obligations.

Discussions with the States on their memoranda are going on in the Planning Commission. A report in this issue explains the nature of these discussions. What is being done is to consider the magnitude of each State's plan in the light of three questions: Are the programmes technically sound? Does the State have personnel of the needed ability to put them through? And can the State find the resources? On this last point the discussions are more detailed. Yet another question is how to phase the programmes so that the State and the nation can get a steady inflow of benefits.

Need to Raise Rs. 1250 Crore by New Taxes

YOJANA REPORT

STATES and the FOURTH PLAN

One of the notable features of the work connected with the formulation of the Fourth Plan is that all the States have, for the first time, presented memoranda prior to the drawing up of a Draft Outline for the national Plan as a whole.

TALKS ON PRIORITIES AND PHASING OF PROGRAMMES

Each of these memoranda is being discussed in detail by the Planning Commission with the concerned State. *Thus has been developed what might be called a polycentric approach to planning.* The Planning Commission has always felt that the State Governments should have an active role in the detailed work of Plan formulation, so that their approach becomes part of the national scheme.

In their memoranda the States have spelt out their ideas, aspirations and priorities. The task of the national Plan is to take into account the distinctive profiles of the different States, and reconcile and accommodate them with and within the all-India Plan.

All in all, the State memoranda show that the States are thinking in terms of large outlays and rapid rates of growth. They want to handle large-sized developed programmes. Some of them also have their own priorities, which are often at variance with the hitherto accepted national priorities.

Agriculture Must Get More

For example while the national Plan is expected to give the first priority to agriculture, the States, from their memoranda, appear to accord priority to power, irrigation and roads. In addition to agriculture they have also tended to underplay social services.

> These are matters which are being discussed with the States. The discussions are not only concerned with the magnitude of the Plan. A critical examination is being made of whether, from techno-economic criteria, the various programmes indicated by the States are feasible. Do they have the ability, in terms of resources and personnel, to carry out what they say they want to? Also, will they yield the benefits claimed?

States Cross Third Plan Outlay Target

The achievement of each State in the first three Plans would give a fair indication of what it can hope to do in the Fourth. The Planning Commission has compiled a brief document on the progress of the development activities in the various States and this document provides a rough yardstick.

Entitled "States' Third Five Year Plan: Outlay, Resources and Targets —An Assessment" the document is based on the actuals for the first three years of the Third Plan and the approved outlay and targets for 1964-65 and 1965-66.

> The figures show that there has been a progressive increase in the Plan outlay of States from year to year: Rs 580 crore in 1961-62; Rs 675 crore in 1962-63; Rs 798 crore in 1963-64; Rs 946 crore in 1964-65 and Rs 1,023 crore in 1965-66.

The total for the five-year period would thus come to Rs 4,022 crore compared to the originally proposed outlay of Rs 3,847 crore in this sector.

Eight States have spent more than the targeted outlay. They are Andhra Pradesh, Assam, Maharashtra, Madras, Orissa, Punjab, Uttar Pradesh and West Bengal. Four States have spent less—Bihar, Madhya Pradesh, Rajasthan, Jammu and Kashmir. The Plan expenditure in Gujarat, Kerala and Mysore would roughly be the same as originally envisaged.

The expenditure on power (Rs 1,092 crore), the largest head, is Rs 210 crore more than the approved outlay. Outlays on agricultural programmes and transport and communications have also exceeded the original figures.

The States have spent more on the Third Plan; but have they been equally successful in raising additional resources ?

The States *have* found Rs 80-90 crore more but Central assistance has also increased by Rs 110-120 crore.

> But the efforts of individual States have not been uniform. Eight States, Andhra Pradesh, Gujarat, Madras, Maharashtra, Orissa, Punjab, Uttar Pradesh and West Bengal have exceeded the resources targets, and seven have failed to do so—Assam, Bihar, Kerala, Madhya Pradesh, Mysore, Rajasthan, Jammu and Kashmir.

Additional resources come through taxation and through other measures. Additional taxation in Bihar, Madhya Pradesh and Uttar Pradesh has been far short of the agreed figure. *The States' aggregate, in fact, is only Rs 584 crore against Rs 610 crore which had to be raised.* Loans and small savings have together fared somewhat better. But the States' withdrawal from reserves will be larger than envisaged.

With Higher Goals, More Resources

In order to help the States to draw up their memoranda the Planning Commission had indicated that the States' outlay would be roughly twice what it was in the Third Plan. But the memoranda as drawn up involve far larger outlays. *As against the total outlay of Rs 7,660 crore in the States sector suggested by the Planning Commission, the States seem to want something like Rs 9,875 crore.*

Of this Rs 1,200 crore is the spill-over investment in irrigation and power and in urban water supply.

While the States have indicated what they think is necessary and feasible by way of programmes, they have not given a clear hint on how they will set about mobilising the resources. The size of the State plans will evidently depend upon how far the States are able to contain their non-developmental expenditure and what steps they are willing to take to mobilise additional resources.

> It is hoped that in the present discussions and through later, more detailed, discussions on the proper phasing of production programmes, it will be possible to have a well-thought-out programme of resource mobilisation. A right kind of balance has to be struck between *generation of resources and actual mobilisation* of resources.

The Planning Commission's own Memorandum on the Fourth Plan, published last year, indicated that the total outlay of Rs 22,600 crore was to be regarded as tentative, with the possibility of the Plan fluctuating between Rs 21,500 crore and Rs 22,600 crore. The corresponding outlay for the public sector, Union and States together, would be in the range of Rs 14,500—15,620 crore. The total of Rs. 7,660 crore for the State plans is tied up with the upper figure of Rs 15,620 crore, which itself depends on greater effort in resource mobilisation.

> It is obvious that the State plans as now conceived, which add up to Rs 9,875 crore, cannot be accommodated in the national plan. Pruning is necessary, but pruning cannot be arbitrary. It has to proceed on sound considerations.

Deficit Financing Ruled Out

The States have to meet specific problems; they have to satisfy the aspirations of the State. That is why they favour a larger plan and a different order of priorities. But a larger plan cannot be had without readiness and ability to raise larger resources. As pointed out, additional taxation in the States is somewhat lower than the accepted level for the Third Plan. Central assistance has also had to be larger. *And there are some States who have drawn on the reserves and gone in for deficit financing.*

This is something which is neither desirable nor beneficial. In the words of Mr Asoka Mehta, Deputy Chairman of the Planning Commission, the Fourth Plan *can proceed only on the understanding that there will be no deficit financing.* The Commission has been urging on the States to go in for supplementary budgets and balance the two sides. If more resources cannot be raised, then outlays of expenditure have to be pruned even in the current year. The balancing of resources and outlays is essential even in the first year of the Fourth Plan.

Getting More Out of Rural Sector

To have the kind of State sector envisaged in the Planning Commission's Memorandum, (that is, one which adds up to Rs 7,660 crore), the States have to mobilise *between Rs 1,150 and Rs 1,250 crore of additional* resources. The State plans are likely to be twice the size of the Third Plan and, therefore, the State Governments have to mobilise twice the additional taxes mobilised for the Third Plan.

It should not be regarded that all this will necessarily mean greater squeeze. The unfolding of the plans generates more incomes, and therefore it is necessary to have larger savings and larger inflow of a portion of these incomes into the State exchequers.

Besides getting more out of land revenue, surcharges on commercial crops and betterment levies on irrigation, other methods of enlarging resources are to have an appropriate pricing policy, improve collection of taxes, and to rationalise electricity charges. Thousands of crores of rupees are being invested in the agricultural sector; these investments require that agriculturists, particularly the larger holders, must undertake a due share of the burden for finding resources.

Minor Irrigation Target Exceeded

Besides the question of *resources*, the current series of discussions cover two other key questions: *priorities* (in relation to achievements in the Third Plan period) and *phasing* of programmes and projects.

As we saw, agriculture ought to be—and is—Priority No. 1, and agriculture is predominantly a State responsibility; but the States' own preference list gives a higher place to power. This is sought to be rectified in the discussions.

The Planning Commission and the Union Food and Agriculture Ministry, after close consultations, have informed the States about the targets and outlay to be aimed at and the inputs available—water, fertiliser, pesticides, etc.

> The States have also been urged to adopt the area approach. The agricultural plan cannot certainly be implemented properly if it is guided only by the total figure approach. Detailed working out of what is desirable and possible for each area has to be undertaken.

The Third Plan performance has revealed a big lag in major and medium irrigation. New irrigation potential of 16.2 million acres had been aimed at; but the achievement is likely to be only 7.9 million acres. Utilisation of irrigation potential is also likely to be 54 per cent successful. Instead of 12.8 million acres, only 7 million acres are being brought under the benefit of irrigation. It means that a million acres of land are being neglected every year. Utilisation in Andhra Pradesh is likely to be only 440,000 acres instead of 1.56 million acres; in Bihar 790,000 acres instead of 2 million acres. Uttar Pradesh is likely to do better, by bringing 920,000 acres under irrigation against the target of 1,040,000 acres.

Some of the shortfalls in the agriculture sector are as follows :

In food grain production: only 19 million tons additionally instead of 23.6 million tons (only Andhra Pradesh, Madras, Kerala and Rajasthan are exceeding the targets).

In cotton: only 6.4 million bales instead of 7.1 million bales.

In introduction of improved seed: only 121.8 million acres against 148.2 (although Bihar is exceeding the target by nearly 2 million acres).

In fertiliser: only 3.9 million tons of ammonium sulphate instead of 5.2 million tons, and 1.5 million tons of superphosphate instead of 2.4 million tons.

It is not, however, a story only of shortfalls. The targets are being exceeded in jute and sugarcane production, and in minor irrigation, and almost realised in soil conservation.

Village Power Scheme Moving Fast

In power, although the outlay is nearly Rs 200 crore larger than the allocation of Rs 882 crore, the installed generating capacity may be less than 5 million kw instead of the target of 7 million kw.

This is accounted for by the substantial increase in costs and expansion of scope of projects and increased expenditure on rural electrification. *Against a target of 20,000 villages and towns, nearly 28,000 villages and towns are now expected to be electrified.* Uttar Pradesh is electrifying 4,550 villages instead of the target of 1,550, and Maharashtra 2,400 villages instead of 700.

We have not been able to reach the targets in power; but taking the country as a whole, there has not been any shortage of power, since the load requirement has also not gone up as expected. In the current year alone, 2.1 million kw are being added to the system. The achievement of this may take a month or two more—14 months instead of 12 months.

In general education, Madras, Maharashtra, Kerala, Orissa, Mysore, Punjab and West Bengal are exceeding the enrolment targets. Technical education is also expanding faster than targeted for. In technical degree courses, against a Plan target of 5,300 additional seats, the likely achievement is 14,300. In girls' education there is a back-sliding in the Hindi areas, especially Bihar.

While the States should not develop the social services faster than the personnel can be made available, at the same time, it would not be wise to allow the social services to suffer because some States have given a lower order of priority in their Fourth Plan memoranda. This is one of the matters being discussed with the States.

Problem of Proper Phasing

An important dimension of planning is *phasing*. It is not enough if a particular target is reached at the end of a five-year period: at different stages, the benefits from a programme must be real and tangible. For several reasons, proper phasing could not be achieved in the Third Plan.

The provison of the Third Plan has not been one of uniform tempo but has been jerky. For instance, of the 7 million acres of land that are being brought under medium and major irrigation during the Plan period, 4 million are materialising only in the last two years of the Plan. In power 4.7 million kw are being added in the Plan period, but 3 million of this total will have been added to in the course of the last two years.

Jagged progress can be seen in food grain production also: in the first year of the Third Plan the potential created was 17 lakh tons; in the second, it was 39 lakh tons; in the third, it was 83 lakh tons; in in the fourth 127 lakh tons, and in in the fifth it is likely to be 190 lakh tons. The difference between the the first year's and the last year's performance is too large for comfort. It is therefore necessary that phasing has to be much better than it has been so far.

The Fourth Plan is four times the First Plan, three times the Second Plan, and very near the total outlay of the three Plans put together. Such large outlays require proper planning, proper phasing, administrative vigilance and proper balancing between investments and savings, resource generation and resource mobilisation. They require far better co-ordination between the Centre and the States. The detailed discussions are aimed at achieving these.

The results of these discussions are being incorporated in the Draft Outline of the Fourth Plan which will be placed before the National Development Council on August 9 and 10.

Report based on papers prepared by Planning Commission and the observations made by Mr. Asoka Mehta at a Press Conference on June 9.

Yojana Bhavan Diary

Mr. Bernard Bell of the World Bank met Mr. Asoka Mehta on June 21 and 23.

The Planning Minister, Mr. B.R. Bhagat, returned to New Delhi on June 12 after visiting Austria, Hungary, Yugoslavia, Czechoslovakia, Italy and Switzerland.

Mr. S.G. Barve, Member, Industry, Planning Commission, has been included in a committee appointed by the Government of India to consider the question of administrative delays and allied matters.

Professor M.S. Thacker, Member, Natural Resources, Planning Commission, left for New York on June 14 for consultations with the U. N. Advisory Committee on Application of Science and Technology to Development. Later, he attended the World Congress on Engineering Education at Chicago from June 21 to 24.

The Time-Table

The following is the time-table of the Planning Commission's discussions with the States :

June 10, 11	Bihar
June 14, 15	Orissa
June 16, 17	West Bengal
June 18, 19	Assam
June 21, 22	Gujarat
June 23, 24	Andhra Pradesh
June 25, 26	Kerala
June 28, 29	Madras
July 3, 5	Maharashtra
July 6, 7	Mysore
July 8, 9	Jammu & Kashmir
July 10, 12	Uttar Pradesh
July 13, 14	Punjab
July 15, 16	Rajasthan
July 17, 19	Madhya Pradesh
July 20, 21	Nagaland

In a subsequent issue of *Yojana* we hope to publish a report on the outcome of these discussions.

THE QUESTION IS NOT HOW MUCH WE SPEND BUT HOW WELL WE THINK

SCIENTIFIC RESEARCH

A gap invariably separates what is desirable from what is possible in budgeting for any activity, be it scientific research or a schoolboy's pocket allowance. In determining how much to spend on scientific research, one can easily be led astray by considerations of what happens elsewhere. There is also a tendency to lose the ends in the means, and to assume the existence of a basic organisation that can cope with all the funds that may be funnelled in it.

Eventually, the success or failure of scientific research in India will be influenced by the environment in which science is nurtured. Lord Rutherford was prone to remark, "We haven't any money; we have got to think."

What is the role of government, university and industry on the one hand and of bureaucracy, mass research and individual freedom on the other ? These aspects of the problem are discussed in this article against the background of the recently published report on "A Study of Expenditure in the National Laboratories", issued by the Council of Scientific and Industrial Research.

CAN a country ever spend too much on scientific research? The answer, on first thought, would seem to be no. Soon, however, one hits the rock of reality, and the question will have to be amended to: how much can a country spend on research?

In seeking an answer to this question, there is a strong temptation to think that what obtains elsewhere must obtain here, and to be led into a statistical approach to research outlay, based on indices such as per capita research expenditure, percentage of gross national produce and so on.

By
P. R.
GUPTA

It is true that in 1962 the United States Government spent about 10.3 billion dollars (Rs 5,000 crore) on scientific research and development. About 90 per cent of this outlay was used for defence, and atomic and space research. Similarly, China's research budget in 1960 was estimated at Rs 200 crore, and its research objectives included the development of the atomic bomb. In comparison, India's allocation for research was less than Rs 50 crore.

It is obvious that with this level of outlay, we cannot hope for parity with these and other countries. The first reaction would be to demand a higher allocation for research. However, the relationship between national economic growth and the outlay on research is far too complex to be reduced to a simple index like per capita research expenditure. *In fact, current economic growth is tied up with the application of new technology rather than on the size of the research budget.* Input of new technology can spring either from indigenous research or from research purchased from abroad in the form of patented processes and equipment, for which royalty is paid.

Our National Laboratories Must Move Closer To Universities & Industry

Self-reliance is emotionally such an attractive concept that we tend to underrate, if not despise, the value of imported technology. There is no doubt that parasitism in research will put a country a decade or two behind others. But the levels and rate of scientific research being what they are, it is not possible—for that matter, even desirable—to aim at self-sufficiency in research. Japan is a notable example of a country which has turned to good account the imported technology.

What matters essentially is whether there is an adequate organisational framework. This framework is of more consequence than the number of scientists employed and the rate of annual expenditure on research. It is idle to pretend that gigantic laboratories staffed by research technicians will automatically pour out a stream of inventions.

If government funds on science are not to be wasted, then the science programme they support must be viewed in totality and not in isolated parts. For this, it is essential to formulate a national science policy that

will foster the growth of scientific research and scientific talents as well as build up an organisational structure that can cope with all the funds that may be poured into it. The effect of using a high-octane fuel in a low-powered car is well known to those who have tried.

What is meant by organisational structure is not a line of control or hierarchy of power but an environment which supports first-class men with first-class ideas. Such people are highly individualistic and prone to resent administrative control. Research needs a creative collision of personality, continuing dialogue among research scientists in universities, industry and government, and knowledgeable public debate.

Much can be learnt from the way Lord Rutherford gathered a galaxy of physicists at Cambridge, and Niels Bohr at Copenhagen. Some of the greatest scientists grew up there, Fermi, Heisenberg, Oppenheimer, Pauli, Pauling, Teller. It was a free-for-all, with no idle distinction between teacher and taught.

TIME TO THINK

Amidst the din and shouts for more funds for scientific research in India, some fundamentals get lost. Lord Rutherford was fond of telling his colleagues who demanded more and more funds: "We haven't any money. We have got to think."

There is plenty of food for thought in a recent report brought out by the Council of Scientific and Industrial Research (C.S.I.R.) titled "A Study of Expenditure in National Laboratories". The 98-page report, which is supported by some 60 tables, analyses extensively the disbursement of research funds allocated to C.S.I.R. What part of them goes to staff as salary, to research equipment and other facilities? What is the cost per scientist ? How does a scientist work as "organisation man" ? What is the educational level and age of scientists and how well are these attributes rewarded ? All these questions are answered.

In short, the study gives a fairly clear portrait of the Government scientist in India. Although the report confines itself to the personnel in the C.S.I.R's national laboratories, it may not be wholly unfair to claim that it presents a picture of Government scientists as a whole. If anything, the C.S.I.R. has a more liberal and flexible personnel policy, on account of its autonomous character, than other governmental agencies employing scientists.

In fifteen years since Independence, the total expenditure of the C.S.I.R. has risen from Rs 5.16 million in 1946-47 to Rs 81.22 million in 1961-62. This impressive growth rate makes it fairly evident that scientific research is not among the neglected areas of our planning.

Besides telling us where the research rupee in the national laboratories goes, the report also projects, indirectly though, some of the problems that the growth of scientific research in India faces.

STAFF ANALYSIS

The report confirms what may have been vaguely suspected by outsiders that the largest single group of C.S.I.R. staff members is not that of scientists, technicians, or even administrators, but of *chaprasis* and messengers, officially known in our country as Class IV 'officers'.

As on March 1, 1963, there were 9,663 members on the staff of the C.S.I.R. of whom about 30 per cent,

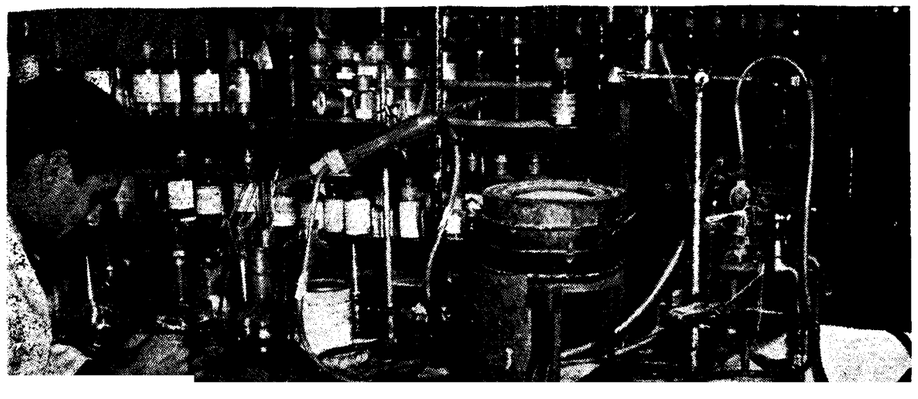


Young scientists in a national laboratory. A half of scientists in the CSIR are below 30, but only 4 per cent earn more than Rs. 500 a month.

i.e. 3,030, were in the Class IV service; about 20 per cent were scientists and technologists and about an equal number were administrators; the remainder were auxiliary technical staff—those with scientific qualifications but not directly engaged in research. The staff breakdown is as follows :

Scientists & Technologists	1,978
Auxiliary technical personnel	2,787
Administrators	1,868
Class IV	3,030
	9,663

What this amounts to is that every scientist supports about four others. This configuration is also reflected in the staffing of research projects.



Equipment and materials account for only 10 to 20 per cent of the recurring expenses of our laboratories.

Every research project, usually headed by a director or his deputy, has on an average an assisting staff of seven research officers and 30 assistants.

A really disturbing element in the over-all staff situation is the large number of vacancies, about 2,000, *waiting to be filled and constituting about* 18 *per cent of the total posts sanctioned.* Not all of these vacancies can be explained by the phenomenon of "job mobility". Of some concern is the high level of vacancies in the senior scientific cadre which exceeds 30 per cent. Out of 1,244 sanctioned posts, about 400 were vacant on March 1, 1963.

A similar situation holds good for the auxiliary technical staff where the percentage is slightly lower—about 27 per cent. *Interestingly enough, in the case of administrative staff, it is barely* 2 *per cent.* The gap between the sanctioned staff strength and the actual is by far greater for the scientific and technical posts than for administrative ones.

PLACE OF YOUTH

In an activity like scientific research, youth has a big role to play, and this is confirmed by the report. In 1962, out of 3,165 scientific personnel of the C.S.I.R., as many as 50 per cent (1,566) were below 30 years of age. *Of these, more than* 96 *per cent were, however, earning a monthly salary of less than Rs* 500. *Among them were* 36 *scientists with a doctorate or equivalent qualification.*

At the other end of the scale, there were four scientists in their twenties whose monthly salary exceeded Rs 1,000. Significantly, there are just 160 scientists in the C.S.I.R. whose monthly emoluments are in the four-figure bracket.

The distribution of scientists and technologists by educational qualifications and pay reveals that there are 272 post-graduate scientists with a monthly salary under Rs 300. Among them are eleven potential "Josephs"—those with doctorate or equivalent qualifications. One of them is in the 40-50 age group.

THE RESEARCH RUPEE

The report presents at length the disbursement of research funds in the 31 national laboratories. The "top eleven" of these national laboratories, which can be considered well established and thus set the norm, spent about 50 to 60 per cent of their recurring expenditure in 1962-63 on salaries alone. Research hardware—apparatus, chemicals and scientific literature received 10 to 20 per cent.

A better perspective can be had by examining the annual cost per scientist, based on the total expenditure of a laboratory. For this purpose, the National Physical Laboratory in New Delhi and the National Chemical Laboratory at Poona may be taken as the model. In these laboratories, the cost per scientist amounts to Rs 24,000 per year, based on a three-year average (1959-60 to 1961-62). The breakdown is as follows :

Scientists' salary	5,300
Supporting staff salary	5,000
Chemicals & apparatus	4,000
Library	350
Capital equipment	1,500
Pilot plants	1,500
Others (buildings, services etc.)	6,450

Compared to the all-India average cost per scientist of Rs 16,800 in 1962, the cost per scientist in the C.S.I.R. is 50 per cent higher, but not high enough. In the United States, this figure averaged to Rs 120,000 in 1960, and for the U.K., it was Rs 105,000 in 1960-61. Research is an expensive business.

ORGANISATION MEN

Scientific research is also an activity that does not lend itself to too much direction from above. It is very often likely that the members of a group will individually know more than the head of the group and are chosen because of their special knowledge. The scientific spirit is encouraged by give-and-take and the absence of hierarchical atmosphere.

The report also throws light on the 'organisation men' in the C.S.I.R. There are some 889 committees, and 75 per cent of their membership consists of directors, deputy directors, or assistant directors. The hierarchical trend is also reflected in the pattern of visits abroad by C.S.I.R. personnel. Of the 91 who attended international meetings in the four years between 1959 and 1962, more than half were directors or deputy directors. Only two trips were made by junior scientists.

Of 803 committees on which scientists from nine national laboratories sat, about 80 per cent were those set up by either the Government or the Indian Standards Institution. *Barely* 3 *per cent were committees of universities or industries.* This is a revealing index of the poor relations that exist between C.S.I.R. scientists and universities and industry.

SCIENCE AND PUBLIC POLICY

It is both deceptive and dangerous to assume that if a large number of scientists are engaged in research, results emerged automatically. This is akin to seeing depth in darkness. In the same fashion, it is also thought that originality can be organised; that mass research will produce originality in the same manner as mass production produces canned fish. Some other beliefs of the 'organisation men' are: ideas come from groups, not individuals; decisions are best made in committees; creative leadership is a staff function.

Contrary to the popular belief, individual scientists are still very much in the forefront of scientific progress. Out of 61 important inventions attributed to this century, more than half came from individuals who did much of the pioneering work; six are borderline cases; and only 22 come from "big" research laboratories.

It is significant that nearly all major breakthroughs in the steel production came from rank outsiders. Other examples: Kodachrome (two musicians); xerography (a patent lawyer); safety razor (a travelling salesman—Gillett); pneumatic tyre (a veterinary surgeon—Dunlop); automatic telephone dialling system (an undertaker).

Often, the size of the budget for scientific research is taken to be an index of scientific significance. Not until meaningful science policy is formulated and pursued can scientific research be fruitfully canalised. Too often, science policy is limited to the needs of science and scientists and excludes the impact of science on society—rapid, deliberate applications of science for human welfare.

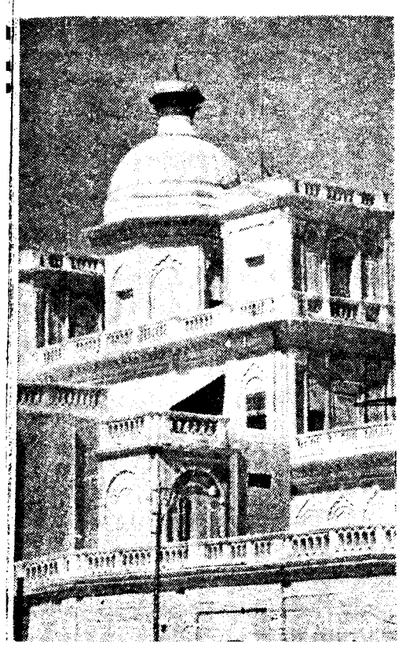
As the biggest single customer of the major sectors of industry, Gov-

ernment can influence industry so as to encourage and stimulate technical progress through an appropriate contract policy which would induce the introduction of new techniques.

Thinking has been done in different countries to isolate some of the components of a national policy that will facilitate the development of science and research. Studies in this sphere have emphasised the togetherness of scientific research and post-graduate education.

The quality of scientific research and science education cannot be separated. As the eminent American scientist, Dr James V. Conant, has observed, the future of science in a country will be influenced by its educational policy. There is always the danger that unsound planning might easily result in weakening the universities by drawing away too many research scholars, thus effectively reducing the capacity of universities to nurture new scholars.

In West Germany, much industrial research is done by students completing their degree courses and is undertaken in industry itself. In Denmark, independent research institutes do not exist, because universities and academic institutes which are supported by industry solve their problems.



Any plan for national scientific development must build up a dynamic relationship among government, university and industry.

RESEARCH PARTNERSHIP

Perhaps the most ingenious system of disbursing government funds for research without much of the accompanying disabilities of a bureaucratic organisation has been developed in the United States. There, less than 20 per cent of the total annual outlay on research (amounting to well over Rs 5,000 crore) is used to conduct research in Government's own departments. The rest is shared among universities, non-profit institutions and private industrial research laboratories.

This system is the outcome of the development of the cost-reimbursement contract which provides a legal framework for this kind of relationship between government and outside agencies. Not only research projects but also entire research centres have been set up and operated under this contract system whereby the finance is provided by the Government, and administration is the responsibility of the contractor.

An outstanding example of this contracts system is the Los Alamos Laboratory (of atomic bomb fame) which was set up under an army contract with the University of California. There are at present about thirty other such institutions in the United States.

A notable achievement of this contract system has been to do away with the traditional distinction and clash among government, university and industry which is now replaced by a relationship based on national needs for research.

This system is not without its faults. It has been criticised for polluting the academic groves and for weakening the Government science departments.

FREEDOM & DIVERSITY

It is equally important to ensure the freedom of scientific enquiry and the diversity of scientific organisations so as to attract various types of individuals, all of whom may not feel at home in big-sized, well-oiled and impeccably organised research laboratories. Many scientists have urged that all sciences need not be put in one big, single agency.

With science becoming a major establishment in the government hierarchy, there is the inevitable growth of a vast bureaucracy which, in its characteristic way, is concerned more with its own status and power than with the national purpose and policy. Under its dead weight, the spirit of scientific enquiry and independent criticism can easily get squelched. And, there is, of course, the inevitable conflict between those who think and those who organise—the individualistic scientist and the O-&-M minded administrator.

Moreover, government control of research may result in centralisation where nothing gets done which does not fit the idea of one man or one small group.

RESEARCH 'FACTORIES'

In this context, it may be useful to heed the warning of many scientists against allowing research centres to degenerate into big laboratories which are no better than research 'factories' with a facade of mass mediocrity where quantity is a substitute for quality.

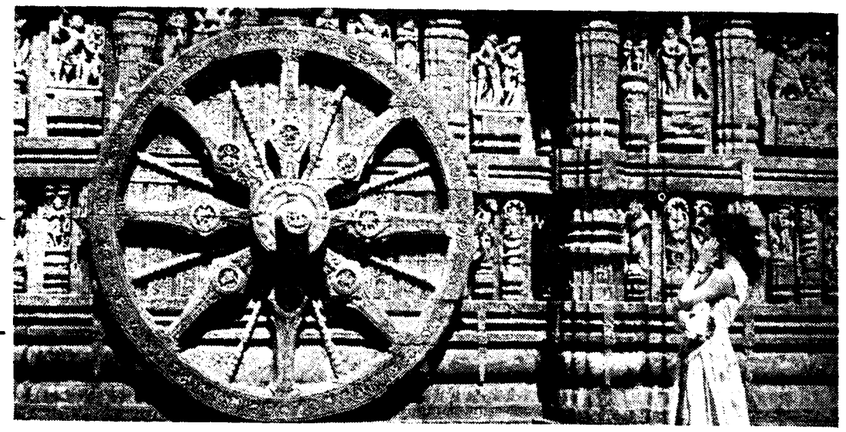
In such centres, there is an undue obsession with instrumentation which can impede the chances of discovery. Excessive reliance and interest in complicated and expensive equipment can easily seduce the research scientist away from original thinking and divert him to refine results beyond a useful limit. Besides, there is also the inherent danger of scientists becoming specialist machine-minders.

In the ultimate analysis, scientific progress is made "not through the pursuit of clearly perceived social utilities, but through private compulsions of a few men of genius". It has been well said that the only thing men of power can do for men of genius is to leave them alone.

Picture at left: The facade of a palace which houses a laboratory, the Chhatar Manzil of Lucknow, new home of drug research.

TOURISM CAN BRING INDIA MORE

By ROBERT W. MOSS



A Programme to Attract the not-so-Rich

ONE of the happiest ways to improve India's earnings of foreign exchange, while winning friends abroad, is to increase the number of foreign tourists coming into the country. In 1964, more than 156,600 foreign tourists (barring nationals of Pakistan) came to India, and India was Rs 23 crore richer for their coming.

An impressive figure, certainly, but it reflects only a small fraction of India's real potential in the tourist field. Tourism accounts for only about 3 per cent of India's foreign exchange earnings, a much lower figure than observed in countries which have actively sought to increase their tourist business. Italy, for example, plays host each year to over 8,000,000 tourists, who spent more than $ 900 million (Rs 430 crore) in 1963. Japan earned $ 190 million (Rs 90 crore) the same year.

In the decade between 1951 and 1961, the growth in the number of tourists coming to India was little short of spectacular. Reconstruction in Western Europe and growing affluence in North America were creating increasing numbers of potential tourists with the necessary dollars, pounds and francs for long



journeys. India's long history and growing position in the world made her a natural goal. From 17,000 tourists in 1951, the flow grew to 66,000 in 1956 and 140,000 in 1961.

The growth was not to continue. Between 1961 and 1964 tourist arrivals increased by an average of less than 4 per cent per year. Tourist arrivals in 1964 were fewer than 157,000, only some 17,000 more than in 1961.

Few satisfactory answers have been proposed to account for this poor recent record. Certainly border troubles with China and Pakistan may have deterred a few weak-hearted potential visitors, but the decline in tourist traffic was noticeable *before* the Chinese border incidents began. Nor can the decline be attributed to any overall slow-down in the growth of international tourist traffic; tourism in Western Europe and the U.S.A. has increased significantly in the period.

For the cause, India need look no further than her own policies of attracting, transporting, accommodating and amusing the foreign visitor. The fact is that, with few exceptions, India has appealed to a certain class of Western traveller, the middle-aged to elderly, upper-class American or European.

The cost of travel to India is the first major hurdle. For an American man and wife to fly from New York to New Delhi, the tourist class return tickets alone cost $ 2,300 (Rs 11,200). In contrast, a trip to Western Europe, as part of a charter flight group, might cost the couple as little as $ 500 (Rs 2,400).

Once the tickets have been purchased, the next problem is ac-

commodation and travel *within* India. While Indian hotel prices compare favourably with those in the West, the *selection* offered to the tourist is meagre.

The chances are good that his travel agent will only know of one or two luxury hotels in a few major cities and tourist centres. And while luxury at the Ashoka hotel in Delhi is certainly cheaper than the same style of living at the New York (or London) Hilton, it is still more than the potential middle-class tourist is able (or willing) to spend. It is not only the money cost that is a problem; many travellers rebel at the thought of living in "international" style luxury at the expense of almost total isolation from the people and country they have come to visit.

Travel within India is one of the potential bright points. Although there is a lack of local transport facilities, as any one who has tried in vain to hail a Delhi taxicab at rush hour can well testify, the situation is not much worse than in many large cities of the West.



Longer distance travel is another thing. Indian Airlines' new Caravelles provide first-class service among the major cities, but air travel to the more remote historical and scenic stations remains an adventure for the daring. And reserving seats on an Indian train requires unlimited patience and quantities of insight into the mystic operations of the booking offices that few Indians, let alone foreigners, seem to possess.

After succeeding in his day's sightseeing, and being overcharged by taxi drivers and shopkeepers, the weary traveller returns to his hotel. He is greeted by yet another "international" meal, an Indian euphemism for uniformly overcooked and underseasoned dishes introduced by the British. Why this food should have been introduced into India, and why it should have caught on, is one of the great mysteries. Almost every other major nation, except—ominously—England, has pride in its national cooking, and a desire to exhibit it before guests.

The French *sauces* and *souffles* are known well beyond the borders of France; Italian *pastas* and Spanish *paellas* are increasingly well known. Even such exotic dishes as Japanese *sukiyaki* and Mexican *tortas* have become popular in America. Yet how many Americans, and especially those who have stayed in India's luxury hotels, know the delights of the hearty *Mughlai* dishes, or the delicacies of South India? Why must India deny her guests a welcome exposure to good Indian food, seasoned to Western taste, in the mistaken belief that they prefer instead a poor imitation of the dishes they eat at home?

A PROGRAMME FOR GROWTH

The list of reasons why India has not succeeded in drawing the new middle-class tourist, who accounts for the bulk of today's international travel, could be continued through many more items. But instead of recounting what India does not do, or does insufficiently to attract these tourists, let us consider a seven-point programme for expanding India's tourist earnings. Specifically, these are the necessary items for attracting the new style of middle class tourist.

1. A CHEAPER WAY TO GET TO INDIA : This could be easily brought about, for groups, if Air India were to drop its current policy of not allowing group charter flights into India. Such flights could be sold for about $ 600 (Rs 2,850) a seat *at profit to the airline*, if all seats were sold to the chartering group. This would not involve a significant reduction in traffic on Air India's scheduled flights, as the bulk of the charter traffic would be newly created by the great difference in fares.



Such charter arrangements have proven their value on the North Atlantic routes, where they now account for a large percentage of total traffic.

2. A CHEAPER WAY TO LIVE AND TRAVEL WITHIN INDIA : The sale of package tours in the West should be encouraged. These would include transportation *to* and *within* India, hotel reservations, discounts on souvenirs, etc. Another method would be to introduce an unlimited travel plan on Indian Railways or airlines similar to the Eurail Pass sold to American tourists going to Europe. This Pass, which must be paid for in dollars before the tourist leaves home, allows unlimited first-calss travel on the railways of Continental Western Europe. It assures the tourist of fixed cost travel, without the bother of purchasing separate tickets for each journey. It would also assure the Government that the foreign exchange involved would in fact go into official coffers, not into the black market.

3. ANOTHER WAY, to reduce the cost of an Indian tour, and ensure that more foreign exchange goes to the Government, is to introduce a special *tourist exchange rate*, say at Rs 5.50 to the U. S. dollar. (The official rate is $ 1.00=Rs 4.76). This would serve to discourage tourists from dealing with black market money changers (who may offer Rs 6.50 to the dollar), by reducing the differential between "official" and black market rates. In addition, it would ensure that very few American tourists would utilise the new U.S. Embassy facilities for changing dollars into P.L. 480 Rupees at the less favourable rate of Rs 4.76 to the dollar.

4. NEW FACILITIES MUST BE PROVIDED for the middle-income tourist that will offer clean accommodation,

(*Continued on Page 18*)

How Food Trade Can Be Made Rational

Merchants Making Too Large Profit

SATWANT SINGH

RECENTLY I went on a week's fact-finding tour of Andhra, Mysore and Goa, as a Director of the Food Corporation of India. During this visit I came across numerous anomalies in the food trade that were a good example of the kind of problems that need to be solved if we are to have a rational food policy.

As regards rice, the Mysore State has fixed the margin at the milling stage at Rs 6 per quintal, that of the wholesaler at the consuming centre at Rs 5.50 per quintal and that of the retailer in the consuming centre at Rs 3.25 per quintal. On these calculations, the Government has fixed a maximum price for the consumer at Rs 71 per quintal or Re 0.71 per kilogram. But in Puttur and Mangalore in the deficit district of South Kanara the current selling price of rice is Rs 1.50 to Rs 2 a kilogram.

The private trade in the surplus area of Shimoga has built large stocks on account of the permission given to retain up to 50 per cent of stocks brought for sale in the open market. The stockists manage to sell their 50 per cent open market share at exorbitant prices in the neighbouring deficit district of South Kanara and other consuming areas.

From this example and from past experience, I suggest that during the next paddy season all purchases of paddy should be made by the existing agencies—such as private trade, producer co-operatives, State Governments—*on behalf of the Food Corporation of India*. The Corporation should function as a co-ordinating central marketing agency, which would have control on the entire stock and be in a position to direct the stockists to sell rice at a graduated profit-margin-price scale through regulated retail outlets, particularly in the deficit areas.

Corporation's Say

If buffer stocks have to be built up, if a reasonable price level to the consumer and a fair profit margin to the distributor are to be assured, and if the grower has to get scheduled prices, it is essential that purchase by the private trade as well as storage should be licensed and regulated by the Food Corporation of India under statutory powers. These powers should also make provision for compulsory fumigation and for orderly movements of food grains to deficit pockets at controlled prices.

In a surplus State like the Punjab, where the wheat-grower gets about Rs 51 to 54.50 per quintal, the trade manages to smuggle a sizable quantity to the adjoining States of U.P. and Rajasthan mostly via Delhi and pocket a profit of about Rs 15 to 20 per quintal. To counteract such a situation the State Government ought to set up subsidiaries of the Food Corporation of India on the pattern of the Australian Wheat Board. The trade must hold all its grain stocks as an agent of the State subsidiaries of the Food Corporation to enable it to exercise effective control on the movement and prices of food grains.

Maharashtra Model

In Bombay Professor D.R. Gadgil, Chairman of the Maharashtra Cooperative Bank, showed us how the procurement of *jowar* is being done at a few hundred assembly points by the joint efforts of the Co-operative Bank and producers' marketing co-operatives. This system has been able to maintain the price line and ensure scheduled prices on quality-basis to the growers. Its wholesale and transport margin comes to about Rs 6 per quintal. The successful working of this Rs 17-crore co-operative monopoly may be adopted, with local adjustments, as a model for setting up a purchasing agency of the Food Corporation of India in both surplus and deficit States.

Growers' Needs

From the viewpoint of the grower, the following measures are needed:

An efficient statutory marketing agency has to be built up, supported by a network of producer-controlled regulated markets in both the economic and the physical sense. This would motivate practically every farmer to produce marketable surplus and sell it for buying increased agricultural inputs, which in turn would further increase the grower's production capacity.

Food grains should be purchased in accordance with a price support policy that would reflect adequate remuneration for quality. Sample tests should be made of every heap of food grains.

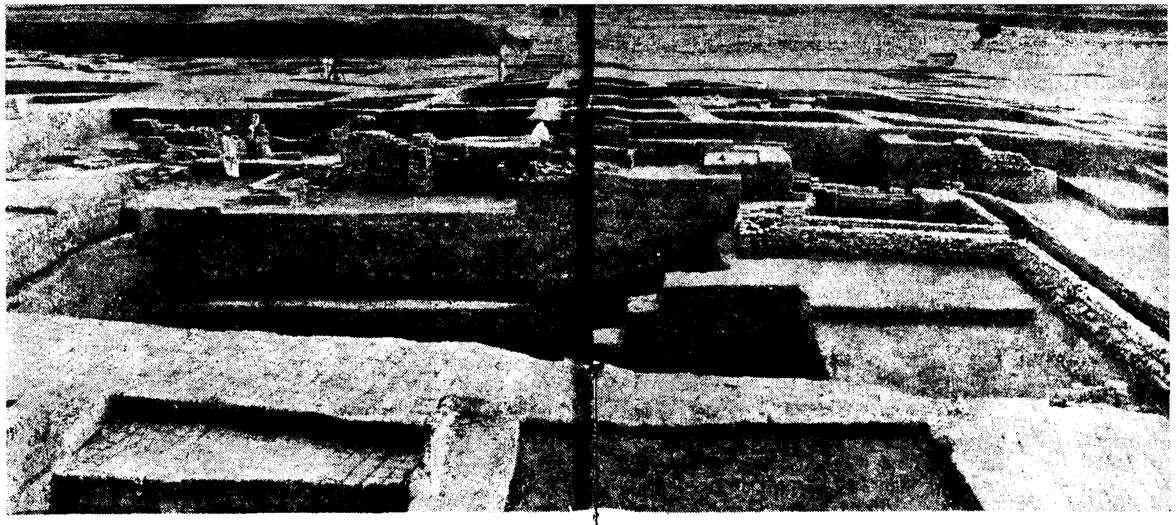
Adequate storage accommodation should be built up at assembly points, so that orderly movement of food grains to deficit areas or pockets can be undertaken.

Any other kind of storage of food grains at assembly points should be by licensed dealers who function as agents under the close supervision of the Food Corporation and State Governments.

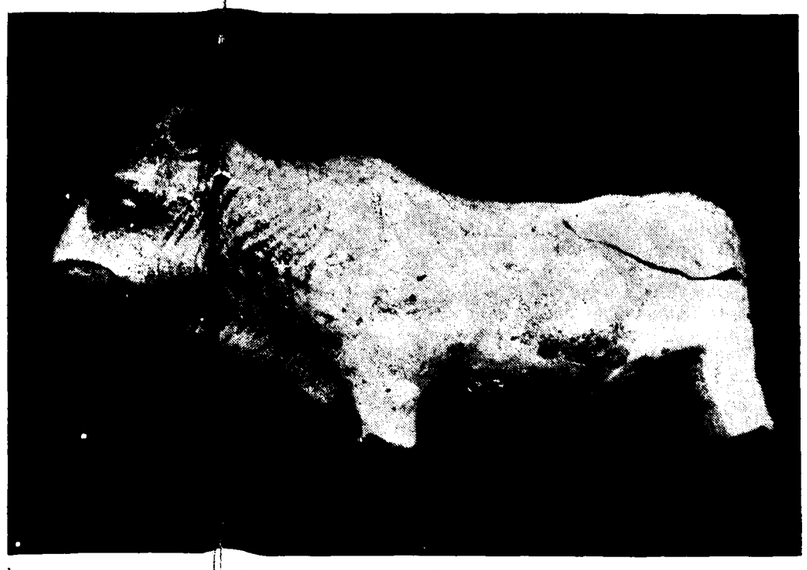
Timely release to deficit areas should be assured, so as to eliminate the temptation of smuggling. This will be possible by having storage of adequate stocks throughout the year at points near the borders of deficit areas.

The land reform concept should be broad-based enough to include marketing reforms, initially in the Package Programme areas.

In inferior wheat producing areas superior quality wheat should be siphoned off by paying a premium of Rs 5 per quintal for seed purposes.



General view of the excavations in the elevated part (acropolis) of Lothal



A terracotta bull



The foundation of the warehouse



Jar found at Lothal

Photographs : Archaeological Survey of India

THE discovery of Harappa and Mohenjo-daro and the subsequent excavations from 1921 onwards have established that India was the cradle of one of the most ancient civilisations of the world.

What distinguishes the Indus Valley civilisation from the Egyptian and Sumerian civilisations is its urban character. By 2500 B.C. the Indus Valley people had been able to build large cities commanding an excellent system of roads and drains. They had a public bath at Mohenjo-daro and a granary for storing grains in a very scientific manner. They were highly literate and their writing consisted of hieroglyphs and pictographs. Trade was well regulated and a uniform system of weights was in vogue throughout the Indus Valley.

The twin cities of Harappa and Mohenjo-daro were planned more or less on similar lines. The absolute uniformity in the pottery shapes, painted designs, lithic and metal tools, jewellery, seals, and even toys and gamesmen over the vast area covered by the civilisation is what catches the eye of everyone. In spite of the fact that the Indus Valley people had established firm trade links with the Sumerians they maintained their distinctive features in art and architecture, religious and social customs, and trade and commerce.

How such a well-ordered civilisation disappeared suddenly is still a mystery, In fact there are no clues even as to its origin.

DISCOVERY OF LOTHAL

THERE is a vast gap in Indian history between the supposed end of the Indus civilisation about 1500 B.C. and the beginning of the Buddhist period in the sixth century B.C. The Indus civilisation was discovered over forty years ago, and before an attempt could be made to throw light on the 'dark age' by tracing the survival of the main elements of the Indus civilisation in the later Indian culture, the country was partitioned in 1947.

As a result of the partition, Harappa, Mohenjo-daro and all other Indus sites went to Pakistan. The Archaeological Department of the Union Government decided thereupon to survey the Ghaggar and Chautang Valleys (ancient Sarasvati and Drishadvati) to locate Harappan sites, if any, within the present-day borders of India. (It might be noted that the term 'Harappa Culture' will be used henceforth to suggest the urban culture of the Indus Valley noticed at Harappa and Mohenjo-daro as distinct from other cultures.)

The survey of the Ghaggar Valley resulted in the discovery of 20 Harappan sites among which Kalibangan is very important. As far as Saurashtra was concerned the renewed excavations by the writer in 1954 confirmed its Harappan affinities, but the absence of typical Indus seals necessitated looking for more positive Harappan sites. The port town of Lothal was discovered in 1954 in the course of a survey of the corridor connecting the Kathiawar peninsula with the mainland. The excavations conducted there from 1955 to 1961 have brought to light several new features of the Harappa culture which had penetrated deep into Gujarat. So far, as many as 80 sites belonging to the various phases of the Harappa culture have been located.

LOTHAL in Gujarati conveys the same meaning as Mohenjo-daro in Sindhi, namely the 'mound of the dead'. The mound is situated at the head of the Gulf of Cambay at a distance of 75 km from Ahmedabad. The earliest settlement, *circa* 2450 B.C., was a small village of mud and mud-brick houses enclosed by a mud bund to protect it against recurring floods in the river. The inhabitants must have been a simple folk who depended on agriculture, fishing and trade. They manufactured beautiful beads of semi-precious stones, worked ivory and shell and produced earthenware of a micaceous red surface. The shape of the vessels and decoration differed from those of the typical Harappan pottery.

ATTRACTED by the sheltered harbour and rich hinterland growing cotton, wheat and rice the seafaring Harappans moved down from the Indus estuary to Lothal and further south up to Bhagatrav in the Kim estuary. Their arrival meant some change in the way of life of the indigenous population ; but both lived together peacefully as attested by the co-occurrence of the material equipment of both the groups for several centuries at Lothal. As was to be expected, the superior equipment of the Harappans, namely beautifully painted earthenware, long blades of chert, tools and weapons such as daggers, arrowheads, celts, chisels, drills and nails of copper and bronze, cubical weights of stone and square seals of steatite became increasingly popular. The newcomers built drains and roads too.

TOWN-PLANNING

ABOUT a century after their arrival a severe flood destroyed the village; but the co-operative effort of the residents, evidently organised by a leader-genius, brought greater security and material prosperity. The damaged peripheral walls were strengthened and enlarged, and the houses within were built on two- or four-metre-high platforms of mud-bricks as a precaution against floods. The town was well-planned by separating the acropolis (citadel or elevated part) from the lower town both of which were served by a network of broad roads.

The sanitary arrangements were excellent. Public drains, both underground and surface, were connected with bathrooms by private drains. Periodical clearance of soakage jars, which also helped to keep the town clean, was ensured. Municipal regulations were so strict that no encroachment on streets was permitted and the houses had to be built in straight rows flanking the streets according to a pre-determined plan. Manholes and inspection chambers were introduced to prevent choking of public drains.

INDUSTRIAL ESTABLISHMENTS

THE surplus food produced in the fertile plains flanking the rivers could sustain a highly specialised class of metal-workers, bead-makers, shell-and ivory-workers,

shipwrights, sailors and merchants. The most important industry of Lothal was bead-making. Semi-precious stones imported from the Narmada Valley were processed in the large bead-factory the remains of which have been found at Lothal. Besides a central working platform the factory had several living rooms for the workers. A circular kiln was used for heating the raw material and finished products. It is interesting to note that the present-day lapidaries of Cambay obtain agate and other semi-precious stones from the same source from which the Lothal lapidaries obtained them. Moreover, the processes of manufacture are identical.

Beads of carnelian, agate, jasper, opal, crystal and steatite were exported from Lothal to the Sumerian cities. Workshops of shell-bangle-makers and coppersmiths are also laid bare in the bazaar street of the Lower Town. On the northern margin of the town a smithy with at least six brick-paved 'sinks' each with a pot-furnace has been traced. Copper implements and terracotta muffles were also recovered here. Several smiths appear to have worked under a single roof.

In another small workshop of a coppersmith, a brick-enclosed furnace, a stone anvil, terracotta crucibles etc. were found. The coppersmiths imported ingots of pure copper and mixed tin to produce bronze. Celts, chisels, blade-axes, engravers and drills required by carpenters, seal-engravers and shipwrights were produced locally.

THE DOCK

THE most important contribution made by the Lothal folk is the construction of a large dock for berthing ships and handling cargo. *This is the earliest evidence of an artificial dock built by the Bronze Age people in the world.* After excavating a basin measuring 219 x 37 metres the inhabitants enclosed it in metre-high walls of kiln-burnt bricks. The construction shows that the problems of erosion and thrust were taken into account.

An inlet nearly 13 metres wide was provided in the northern embankment to sluice ships at high tide through a *nullah* which joined the siver flowing on the western margin of the town. The ingenuity of the Lothal engineers consists not only in taking precautions against erosion and thrust but also in ensuring floatation of the boats at low water by providing sluice gates in the spillway built in the southern embankment. Thus, water-locking arrangements were introduced here. The port-holes in the embankment walls and the anchor-stones found in the basin establish that boats were berthed here. A terracotta model of a boat found at Lothal has a sharp keel and provision for the mast.

In circa 2000 B.C. a great flood damaged the dock and the river itself changed its course. But the inhabitants cut a channel connecting the river with the dock and provided a new inlet in the eastern embankment.

A massive mud-brick platform was built adjoining the western wall to serve as a wharf. Several ships with a tonnage of 60 could be easily berthed in the dock.

WAREHOUSE

WHILE planning the town, the need to provide warehousing facilities at a busy international port like Lothal was foreseen. Hence a warehouse measuring 18.5 x 42.5 metres was built on a 3.5 metre-high podium of mud-bricks in the southeast corner of the Acropolis. But unfortunately the floods have washed away about all except twelve mud-brick bases over which a wooden canopy must have been erected to cover the cargo. Some scholars have called it a granary. Among the imported finds from this structure are 75 terracotta sealings which bear positive impressions of Indus seals on the obverse and marks of packing material such as matting, cloth and strings, used on bales, on the other. For the first time Lothal has yielded unmistakable evidence of having actually used Indus seals for sealing packages, which disproves the theory of the seals being used as amulets.

TRADE AND COMMERCE

THE scarcity of stone and metals necessitated the import of semi-precious stones, copper, gold, tin etc. from outside. The lapidaries of Lothal obtained their supply of agate and other semi-precious stones from the Rajpipla mines through Bhagatrav, an early Harappan port in the Kim estuary. At present also the bead-makers of Cambay obtain their supply from the same source. Lothal exported a large variety of beads to the Sumerian cities through Bahrain islands. Both etched and non-etched beads of Indian origin have been found along with Indus seals at Ur, Brak, Hamma, Kish, Lagash etc. in Mesopotamia (Iraq) and at Susa in Elam (Iran). Circular seals with Indus script have been reported recently from Bahrain islands. Cubical stone weights of Indus type occur in Brak and Kish.

Several positive proofs of trade between Lothal on the one hand and Susa, Ur, Kish and Bahrain islands on the other are provided by the following antiquities found at Lothal : (i) a circular steatite seal of Bahrain origin; (ii) terracotta figure with Sumerian features; (iii) copper amulet with a couchant bulls figure of the type found at Susa, Ur etc.; (iv) double-slipped pottery known as the Reserved Slip Ware common in Ur, Brak, etc. in 2300 B.C. and earlier levels; and (v) bun-shaped ingot of copper similar to those found at Susa.

Steatite (soapstone) and gold needed for making seals, beads and other ornaments must have come from the Deccan and Mysore, while chert needed for making blades and weights was imported from Sukkur-Rohri in Sind.

Apparently, sea-borne trade must have been well organised, and merchants must have been financing the artisans and shippers. In one of the houses of the merchants engaged in foreign trade two seals, eight gold pendants simulating those from Ur and painted pottery of Sumerian authorship were found. There are also indications of partnerships in trade as indicated by clay sealings bearing impressions of more than one seal.

RELIGION

RELIGION does not appear to have dominated the life of the Lothal people nor did the ruler derive his authority from religious sanctions. Had it been so, the fire-altars and other structures attributable to religious beliefs should have been found in the Acropolis during the heyday of Lothal.

This is not so, but there is enough evidence to show that the inhabitants practised some form of ritualistic

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Wanted

A PEACE CORPS OF OUR OWN

By RAM K VEPA

THE recent news announcement of a "Shanti Dal" (Peace Corps) to be formed in India to provide an avenue for constructive social work by the youth of the country is to be widely welcomed as overdue. The fact that such notables as Mrs Pandit and other well-known personages are to be associated with the programme ensures for it a public acceptance which would make it easier to function effectively.

One of the most depressing features of our national life today is the "apparent" lack of faith and idealism in most of the younger generation born or brought up in the post-Independence era. The word "apparent" is used advisedly, since youth cannot live long without faith and the lack of it is perhaps a measure of the failure of an older generation to provide the right kind of inspiration. Whereas, a decade or two ago, a Gandhi or a Nehru could fire the imagination of youth by his thought and deed or by his very presence, there seems to be no one today on the Indian political horizon who can similarly quicken young blood and weave a magic spell around them.

One remembers wistfully the stormy days through which the freedom struggle passed; while the great non-violent fights of the twenties and thirties are only memories, one remembers well the stirring episodes of the 'August Revolt' of 1942 as a treasured experience. Those were, indeed, days to remember : a vision, an ideal, animated young India. There was a cause to fight for, and even to die for.

Need for Idealism

But with Independence, a strange torpor came to seize the youth of the country. The momentum of the Great Revolution has by now petered out. There were flashes of the old fire in some of the utterances of Jawaharlal Nehru but with his passing away last year, the light of faith and idealism seems to have finally been put out. Where there was faith, there is now, cynicism; where there was idealism, there is, in the words of Mr Asoka Mehta, an "obsessive preoccupation with monetary values".

But one ought not to blame the young alone; there is still a vast reservoir of energy and idealism in the youth which, if channelled, can be productive of much good to the community and to themselves. Perhaps, it is we that have failed to live up in a full measure to the ideals we had in our youth; there is need too for a concrete organisational framework which would provide opportunities to the youth to demonstrate in practice their desire to serve the country.

WHEN John F. Kennedy became President of the United States in 1961 he told the youth of America: *Ask not what your country can do for you; ask what you can do for your country.* He did not rest content however with making the call; he established the Peace Corps to provide young Americans opportunities to work in other lands and the programme today counts more than 10,000 persons spread over fifty countries and earning good-will for their country on a person-to-person basis.

More recently, the National Service Corps has been set up in the USA—an idea conceived by Kennedy himself before his tragic death—to enable the young people to work in the *backward sections of their own country*—Negro slums, tribal reservations, centres for the aged, handicapped and juvenile delinquent.

So compelling has been the attraction of the Peace Corps to the young that two other prosperous countries, Canada and West Germany, emulated the example and set up service organisations of the youth. It is now being suggested that a "counter" Peace Corps programme may be set up by which the youth of other countries may work in the United States on community service projects.

Two Years for Country

If such a programme is needed in a prosperous country like the United States, how much greater is the need in India when the tremendous challenge of building a new nation is being faced! In this vital task, there is work enough for thousands of young men and women with zeal and enthusiasm. As the Deputy Chairman of Planning Commission said at the Convocation of the Vallabh Vidyapeeth in December, 1964:

Something for Youth to Live for and a Fitting Nehru Memorial

"Is it difficult to find 5,000 or 10,000 young persons from amongst the university-trained, who would want to enlist for a period of two years to further the course of development at grass-roots?" He suggested the formation of a "Vikas Dal" which would make the tasks of our time "exciting and meaningful" and which would provide the youth "opportunities for their own distinctive and unique 'Discovery of India' ".

Worthwhile Expense

If one were to assume a period of service of even one year for each volunteer, the 'stipend' paid to them need not exceed Rs. 1,000 a year which would be adequate for them to live in modest comfort in a village. Assuming 2000 volunteers a year, the cost to the nation (including overheads) would not exceed Rs 25 lakh per year or about Rs 1.25 crore in the Plan period—which is almost one half of one-hundredth of one per cent of the proposed outlay in the Fourth Plan—a small price to pay for a programme with such immense potentialities. If the service period is two years, the cost would be Rs 3.75 crore over the Fourth Plan period.

Recruitment to the service corps can be done through State agencies and a volunteer may be required to possess a university degree, normally in arts and basic sciences, since those embarking on professional careers in medicine or engineering can ill afford to spare an additional year to their already over-burdened schedule. A degree, however, is helpful to ensure a maturity of mind which can absorb and appreciate the full impact of the rural experience. Volunteers can be assigned at the rate of four or five per district to work in recognised private institutions or Government agencies in whatever field interests them. The bulk of them will go to teaching or work at the primary health centres or participate in special programmes such as family planning, malaria eradication, etc.

Knowing the Villages

Even apart from the utility of the specific jobs they would be doing, the intangible benefits of such a programme are most impressive. By providing to 2,000 young men and women on the threshold of life the rich experience of rural life, "bridges of understanding" would be built between the urban areas and the countryside, between whom the gulf seems to be widening in recent years. Mere idealism is not adequate unless tempered with realism, and a close understanding of the problems of the village can be an invaluable asset to those who have to run the country in the decades to come.

National Integration

By a judicious location of volunteers, it is possible to serve the cause of national integration, which has always been, and still remains, the country's Number One problem. Nothing brings home the essential unity of the country as the kinship of the common people facing the same problems and sharing the same aspirations. A young man from Kerala working in Kashmir and a girl from Bombay working in Bengal can become powerful forces to bring the country together and weave invisible bonds of unity between different parts of the country.

Is it indeed too much to expect that out of the tens of thousands that stream out of our colleges every year, there are not to be found 2,000 youths who would answer the call of the service corps for a year of service in rural areas with pride and joy ? Theirs will be certainly no Sunday picnic but, at times, hard and even depressing work; but, on the other hand, they would have the glow of satisfaction of participating in the great and exciting adventures of nation-building in which our late Prime Minister used to invite all to take part. Perhaps there can be no greater memorial to Jawaharlal Nehru than a National Service Corps for the Youth which could well bear his name and certainly his spirit of joyful dedication to the cause of the country.

TOURISM

(*Continued from Page 10*)

modern sanitation and decent food at a reasonable price, say between Rs 15 and Rs 30 per day. These facilities are needed both in the large cities and in the smaller towns, hill stations and historical sites. They should be constructed with Government assistance, or even by the Government if required.

5. TRAVEL SHOULD BE MADE EASIER. Reduce the number of forms that must be filled in by the tourist by providing him with a single, compact *Tourist Introduction Card* that would serve for priority railroad reservations and discounts, hotel reservations, cheque cashing privileges, liquor purchases, etc.

6. IMPROVED METHODS FOR MEETING THE PEOPLE. Many European countries have visitor reception bureaux at major airports and railway stations which have lists of residents of the country who are interested in meeting and entertaining foreign visitors. These lists are classified by occupation and interests, so that, for instance, a school-teacher who wants to meet other school-teachers can easily be placed. Traditional Indian hospitality could be well expressed through such a plan.

7. PUBLICISE THE IMPROVEMENTS: Air India already does a very effective publicity job abroad, but the activities of the Government of India tourist offices abroad should be increased, with better trained staff and more funds.

India's potential earnings from tourism are almost unlimited.

In 1962 the U.S. Department of Commerce estimated that expenditure on international tourism exceeded $ 7,500 million (Rs 3,700 crore) per year. India last year received less than 1 per cent of that expenditure.

With the current ease of international travel via 550 M.P.H. jets, and the exciting promise of the supersonic jets of the 1970s, India's effective distance from the homes of most of the world's tourists can be measured in hours. Greater affluence in the West and growing vacation time mean that more and more individuals will have the time and money for major travel in the coming years. The average Western tourist in India spends about Rs 1,500 during his stay, *exclusive* of international travel costs. An increase in the number of tourists coming to India could, therefore, have a major impact on India's balance of payments deficit (estimated at over Rs. 300 crore last year).

If India prepares a proper welcome for these new travellers, it should be possible to attract even 1,009,000 persons a year in the 1970s. The expenditure of this number of tourists would total well over Rs 100 crore.

Books

PLANNING IN FRANCE

Economic Planning in France by John Hackett. Asia Publishing House. 55 pages. Rs. 3.

R.G. Nayak

THE book under review consists of three lectures delivered by Dr John Hackett, Principal Administrator, the Organisation of Economic Co-operation and Development, in December 1964 on the subject 'Economic Planning in Developed Countries of the West' under the auspices of the Council for Economic Education, Bombay.

France is the first country in Western Europe to have followed planned economic development. Though before the Second World War planning was regarded as an attribute of a socialist society, the planning mechanism set up in post-war France was not notably socialistic in inspiration. The realisation that the economy of France had suffered damage during the war, that the Government would have to play an important role in the post-war reconstruction of the economy, and that France had lagged sadly behind other progressive countries, favoured the adoption of planned economic development without tying it up with political ideology.

The approach adopted in French planning is somewhat interesting. They call it "indicative planning", as opposed to planning practised in communist countries. But the role of planning in France is much more active than the term suggests. Broadly about 40 per cent of the gross fixed investment expenditure in the French economy is controlled by the State in the light of planned targets.

Immediately after the war, when there were widespread shortages, the plans formulated were deliberately unbalanced. As conditions improved, it became possible for the French authorities to look at the economy in the proper perspective and encourage the public and private sectors to work out their plans as part of future national development.

The second lecture in the book is devoted to the French planning experiment. By now France has implemented four Plans and the fifth one for the period 1966 to 1970 is under formulation.

The French Plan passes through two important stages in the process of drafting. At the first stage the normative objectives of the Plan are fixed which provide the framework for the second stage of detailed drafting of the Plan. The French Plans have persistently set ambitious annual growth targets of about 5 per cent G.D.P. or nearly 4 per cent per head of population. Objectives like a certain rate of growth of private consumption, increase in the incomes of the lowest paid workers, growth of less developed areas etc. are also set in the Plans.

There is an Economic and Social Council group consisting of representatives of employers, farmers and workers together with a number of independent experts. The Council tenders advice to the Government but the Government is not bound to follow the advice, though it is given the most careful consideration. The draft Plan is submitted to Parliament for approval and finally adopted. It is important to note that the Plan is not voted as law. Strictly speaking, the Plan is not an obligation but a combination of objectives, options and goals which the Government undertakes to do everything possible to implement or to attain.

The role of the public sector in the execution of the Plan is to maintain the overall balance in the Plan and to facilitate the achievement of specified targets. The achievement of targets for indirectly productive investments (e.g. social services) and directly productive investments (mainly public utilities) are facilitated by a permanent arrangement under which the amounts of investment required are financed as and when required. The principle of balanced regional development receives high priority.

For the implementation of the programmes included in the private sector, the Plan provides general environmental facilities like adequate supply of trained manpower, the expansion of scientific and technical research, the improvement of financial mechanism, etc.; specific stimuli like the purchase policy of the public sector, the taxation policy, monetary and credit policy, etc.; and interdictions like the conditions for access to long-term funds through the capital market, price controls and building licences and such.

In the opinion of the author the degree of conformity of achievement with the Plan targets in French planning has been quite close on the whole if considered in highly aggregative terms like increase in G.D.P.

On the other hand, private consumption, after a lag during the Third Plan compared with Plan targets, is now tending to grow faster than the target. Since 1963 signs of developing imbalance – too rapid growth of private consumption and a deterioration in current account position of the balance of payments—have called for measures to restrain the growth of internal demand and to correct a disquieting rise in prices. The French Plans have been more successful in achieving growth than in maintaining price stability.

In the last lecture the author has studied the problems of short and the medium-term plans, of planning in an open ecoonomy, of sharing the fruits of plan expansion, and of reliability of long-term forecasts and the importance of having perspective long-term studies of the requirements of the economy. He concludes that there is a trend towards convergence in the public and the private sectors. "The idea that planning and market mechanisms are mutually exclusive alternatives appears non-acceptable. Rather the plan and the market reinforce each other."

The main emphasis in the three lectures has been on the descriptive

aspect of the planning process in France. An equal emphasis on the techniques of planning adopted in formulating French Plans would have been useful to the Indian readers. Probably this would not have been possible within three lectures.

C.D. IN ALIPORE

Community Development, Co-operation and Panchayati Raj in Alipore—A Pilot Survey. Ranjit Singh Gupta. Indian Co-operative Union, New Delhi. 30 pages. Rs. 2.

R.K. Parashar

THIS study has been carried out in one of the most widely known Community Development blocks of the country in the Union Territory of Delhi. According to the author, however, "No attempt has been made by the block to implement or even formulate village development plans. There has not been any (*a*) planning of land use, (*b*) determination of targets, long-term or short-term, (*c*) linking of development programmes and government assistance to production targets and land use, including allocation of seeds, fertilisers, etc., according to plan, and (*d*) attempt to formulate any appropriate price policy."

The author traces the causes of poor performance to the formulation of plans "without any regard to conditions prevailing in the block, including its resources, needs and requirements". In his view the pace of development activities, especially in the field of agriculture, has "considerably slackened" over a period of eleven years from 1952 to 1963. The proportion of overheads to total outlay has considerably increased. There seems to have been no improvement, as a result of C.D. activities in the block, in employment, production, self-help, self-reliance, utilisation of local potential, etc. Nearly two-thirds of the respondents approached say they have not come in contact with any C.D. worker ever since the programme was introduced. In short the block has not achieved the objective of developing into a permanent unit of planning. Concludes the author: "The programme cannot, therefore, be said to have followed a course commensurate with its stated goals."

Writing of Panchayati Raj the author feels that there has been no genuine transfer of power and responsibility to the panchayats. The resources made available to them have been inadequate. No concrete efforts have been made to canalise the development programme through them. Far from being an organ of local government the panchayats are merely functioning as an agency for the execution of local development works. The introduction of Panchayati Raj has only added to factional quarrels in the villages.

In the field of agricultural co-operation, however, there has been "a spectacular rise" of about 236 per cent in the amount of credit or loans advanced to the members as also the progress in terms of per society or per member. An examination of the societies covered shows that the contention that small cultivators have generally been excluded is not valid. On the other hand the method of advancing loans has not been found to be linked with either production plan or marketing or credit-worthiness of cultivators. And the use of loans advanced has not been subjected to any technical supervision.

From the foregoing survey, it would seem that while several shortcomings in the programmes of Community Development, Co-operation and Panchayati Raj have been brought out by the author, he has not listed any outstanding achievements on their part. A programme attempting to bring about organic and structural changes in a society has to be judged not by the shortfalls in its execution but by the degree of change brought about by it. One has to look at the programme in the longer time span and with an objective eye, instead of taking the partisan and limited view of the present. On the Indian horizon, Community Development, Co-operation and Panchayati Raj are the three aspects of a programme striving to change the outlook of the rural masses from supine resignation to active discontentment. This change in outlook, thinking and values counts for far more than the mere physical targets fulfilled or left unfulfilled.

Students of the Indian scene know that the present-day rural masses are not what they were in the early 'fifties at the start of the C.D. movement. Their agricultural techniques are catching up with modern practice. There are more tractors, disc-harrows, trolleys, iron ploughs, and so on. More rural masses are literate. Every village has a primary school within four or five miles. Almost all the villages are now connected by approach roads. There are now primary health centres in the countryside where none existed earlier. Panchayati Raj, moreover, has accelerated the process of political enlightenment and provided training ground for political aspirants. A few failings of the agricultural co-operatives programme pointed out by the author are administrative rather than fundamental in character. Co-operatives are in fact taking root in the countryside, and this is no mean ahcievement.

If the author had objectively listed the pluses and minuses in Alipore and seen whether the achievements, if any, had been brought about by Community Development, Co-operation and Panchayati Raj, and pointed out whether the drawbacks were also due to faulty policies, his effort would not have been in vain. In the absence of such an analysis his opinions give the impression of being lopsided.

Secondly, the shortcomings pointed out by the author are already widely known in the broader national context. However, inasmuch as his findings are based on a field survey they cannot be treated as off-the-cuff statements. They are of added importance at this juncture when many of the earlier blocks in the country, as for example the Alipore block itself, have completed their Stage II and have now embarked or are entering the post-stage II of their career.

The author has made no effort to relate the three parts of the monograph to one another, and treat them as parts of one organic programme. An analysis of the interrelationship and interaction of one programme on the other would have been very useful and illuminating. Another drawback is that he has nowhere explained the methodology followed by him in carrying out the survey, with the result that the reader cannot judge for himself how scientifically valid the conclusions are. All this, however, does not detract from the general usefulness of the findings.

Our Farmers Need Doctors for Their Fields

By Jwala Prasad Jyotishi, M.P.

GREATER production through intensive cultivation is one of the methods by which we can tackle the food problem. The productivity of our lands is among the lowest in the world. There is ample scope for raising it. This low productivity can be attributed to our primitive methods of cultivation. The age-old plough is plodding the age-old furrows. India has progressed in other realms. But in agriculture the traditional methods are preserved as a sacred heritage. Science and technology have seldom been applied in the fields.

Among the millions engaged in agriculture very few know about soil classification, the needs of a crop or the scientific advances made by other countries in regard to these. Our cultivator does not know what chemicals his soil lacks. He does not know what ingredients are needed for the healthy growth of a crop that he is growing. He is completely dependent on nature's whims. A drought may push him and the whole nation to famine. A frost may kill not only his crops but also affect the fate of a whole region.

The cultivator loves his field all right. He fondles it like an ignorant father completely oblivious of the fact that a malignant disease is eating the vitals of his child. He is not aware of the pests that attack his crops. Like an old mother, who shies away from a doctor's injection needle, the farmer hides his field from the scientists, who will suggest that the field should be injected with fertilisers or sprayed with insecticides.

I remember something that took place in my own village. We had a neighbour whose wife presented him with a child every alternate year. There used to be a lot of rejoicing at every birth—singing and feasting and Satya Narayan Katha and *havan*. In spite of immense care and affection the new-born child would invariably have a very stunted growth and would ultimately die. By and by the young couple began to be sullen and crestfallen at the birth of each new child. Gone was the rejoicing. My wife suggested to the mother that she should be medically examined. It came to us as a surprise that the simple folk did not believe that deficiency in the mother could be the cause of the children's death. Ultimately they were persuaded to consult a good doctor who administered the right drugs to set right the deficiency. Our next-door neighbours are now the proud parents of two happy children.

So also, Mother Earth is sometimes deficient in certain things. She has grown weak due to centuries of suckling and rearing. In this case also only a doctor can diagnose the ills and suggest remedies. The doctor for the land is the agricultural scientist.

The Community Development Department is trying to spread scientific knowledge among farmers. But when we consider the magnitude of ignorance and superstition that have to be tackled, the present efforts seem to be very meagre. The cultivator, who is extremely conservative, looks with derision at Community Development workers. He says that these people who wear pants and suits cannot work on the fields. He says that they cannot distinguish between a gram plant and a wheat sapling.

If there is a farmer who knows what needs to be done, most often he is too poor to afford the remedy. Because of acute poverty, he cannot build bunds when and where needed, conserve soil and water, attempt the Japanese method of cultivation.

Even if the cultivator is converted to scientific techniques, have we enough agricultural scientists to examine the soil and suggest remedies ? How many are there who can tell our people the malady the Mother is suffering from ? And have we enough medicines ?

Water is another major problem. Neither man nor land can grow without water. We have built irrigation canals. But are the cultivators using them ? Have we built enough feeder canals to the farmer's fields ?

These are some of the problems of Indian farmers and they are colossal. The poor peasant should get to know his problems first. Then he will take to the scientific methods suggested to him.

BRIGHT SPOT

The production of the Khamaria ordnance factory near Jabalpur has gone up by 250 per cent since the declaration of emergency. The factory, which was set up in 1942, has a vital position among ordnance factories in India. It has a 33 mm aircraft ammunition plant which started production last year.

Lothal : New Province of Old Culture

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worship of fire. In several houses in the Lower Town, rectangular or circular enclosures of mud-brick or mud containing ash, potsherds, triangular terracttoa cokes, were noticed. At two places in street 9 similar altars built of burnt bricks were encountered. One of them has a porthole and semi-circular groove in the walls. A beautifully painted jar was placed near it.

The Lothal folk also practised animal scarifice. A rectangular altar in a house in street I was found to contain charred bones of a bovine. a gold pendant. painted potsherds, a carnelian bead and a small quantity of ash. Thus the religious practices of the Lothal folk differed considerably from those of their brethren in the Indus Valley. The cult of the Mother Goddess was hardly known at Lothal, nor is there any trace of the so-called phallus worship. The seals from Lothal do not depict any human or divine figure. Hence the question of identifying the figures with the horned deity of the Indus Valley does not arise.

It may be added here that the cult of the Mother-Goddess and the worship of the so-called horned deity or Pasupati were not at all popular in the Ghaggar and Sutlej Valleys at Kalibangan and Rupar. On the other hand, fire-altars are found at Kalibangan also. Thus there is increasing evidence of the religion in the provinces being divergent from that of the Metropolitan centres.

The cosmopolitan character of the population of Harappa, Mohenjo-daro, Lothal and Rupar should be remembered in this connection. Perhaps in the Indus Valley too, there might have been evidence of widely differing religious practices which might have escaped the notice of the early excavators. Lothal and Rangpur, another Harappan site in Saurashtra, have yielded evidences to show that the Harappan had full knowledge of rice and horse. In the light of the evidence it is necessary to exercise caution before asserting that the religion of the Indus people was wholly Dravidian.

DISPOSAL OF THE DEAD

As in Harappa, Rupar and Kalibangan, in Lothal also, the people buried the dead, but a unique feature of the funerary practice at Lothal was joint-burial. In each of the three out of five graves of the mature Harappan phase two bodies were found buried together. An anthropologist has identified four females, two of which must have come from the joint burials in which case a form of *Sati* (self-immolation by the wife on the death of her husband) appears to have been in vogue. This practice seems to have been given up later on. Both dolichocephals and brachyccphals have been found among the skeletons examined. The cosmopolitan character of the Lothal population is beyond dispute.

In the field of arts Lothal made a substantial contribution to enrich the Harappa culture. It developed a provincial style of painting earthenware with 'animals in their natural environment' as the theme. They are highly realistic and deviod of the conventional motifs and overcrowding. In metal-casting and modelling the Lothal artists were in no way inferior to the metropolitan artists. The copper figures of a dog and a hare and the terracotta figures of a bull, a rhinoceros and a ram bear testimony to their skill.

THE recent excavations at Kalibangan have thrown some light on the existence of a pre-Harappan culture. It is widely distributed in the Ghaggar Valley and bears affinity with the Kot-diji culture in the Indus Valley. In Saurashtra too the indigenous culture represented by the Micaceous Red Ware people forms a substratum of the Harappa culture. It is however too early to say whether the Harappa culture was derived from these local cultures.

As regards the end of the Harappa culture, there is ample evidence of the destruction of the Harappa settlements in Gujarat by frequent floods in *circa* 1900 B.C. and the consequent degeneration of the culture. In the course of a few centuries the effete Harappa culture transformed itself into the Lustrous Red Ware Culture, named after the pottery found in Rangpur and survived almost up to 800 B.C. In the Indus Valley too there is ample evidence to show that Harappa and Mohenjo-daro were frequently threatened by floods. The final destruction might have been due to several causes, the most important being flood as in Lothal, Rangpur etc.

The theory of destruction by the invading Aryans advanced by certain western scholars is now being discarded in view of the substantial evidence to the contrary at the Indus cities. The invaded (Harappans) did not exist at Harappa when the invaders (cemetery

(*Continued on Page 24*)



Well-laid drains at Lothal

K. Venkatappa

Painter, Musician and Fiery Recluse

V. SITARAMIAH



Courtesy : Lalit Kala Akadem

K. VENKATAPPA was a dedicated soul, fiercely independent in matters connected with the dignity and calling of an artist.

To some he appeared a trifle extreme; but the lack of courtesy to which artists are exposed by patrons, critics and the public needed a person of his type to keep them sane. If a Tahsildar or an office executive can insist on hours and conditions of visiting, an artist has at least as good a claim, when his work needs more intense meditation and care to get done; any interruption or disturbance is sure to affect his *samadhi* and ruin the piece of work on hand.

So Venkatappa insisted on formal permission, and did not allow all and sundry to visit him. When any work was completed, he would notify that it could be seen on certain days and at certain hours. Anyone could get in then to see it. He would accompany those who were interested in understanding the delicacy or point in a piece of composition and aid them in appreciation. A pretender would get short shrift; neither status nor other trappings of power nor secular eminence would save him.

He fixed his rates for the sale of his pictures or sculpture pieces and stuck to them. He would not loan his paintings to exhibitions except under conditions which guaranteed their proper display and return in proper condition. Normally he would not let them be used as illustrations in books and journals for it was his belief—and in those days it was true—that colour-printing in India was not fine enough to bring out the subtleties of colour and tone. If anyone could not afford to pay for block-making and printing in a foreign country, he would volunteer to finance the printing when he agreed to lend his work.

All this was misconstrued and a legend grew up round him that he was difficult, rude and inaccessible. This did not hurt his art, but it hurt his reputation and the reception of his work. Not being bothered with praise and blame he kept out of the din and dust of contre and the world's strife.

Yet when a controversy bore substantively on some aspect of art near his heart he was quick to join issue in the fight, as for example about the number of *srutis* in music in the early years of this century. Actually he even made a *sruti-veena* to demonstrate that the number was 22. The name of each *sruti* is inscribed on it in beautiful Devanagari script.

His Place in the Tradition

He did water-colour painting primarily, *bas-reliefs* and figure motifs in plaster of Paris and ivory miniature and in each the work was finished to its uttermost. Shoddy or temperamental work never commended itself to him; for he took art as the finest embodiment of what a vision presses an artist to present. Time and labour needed for that task were never grudged. Whether one saw it from near or far, with bare eyes or with a lens, tone and line, light and shade and the balance of the composition could be felt in every grain of his work. There was no thick daub, no wash or sweep, no fluff or flourish not part of the subject. When he was asked why so much detail was laboured at, he said he was presenting a richness; why should others expect him to give, and he give less, than what the subject demanded?

This exposed him to the charge that he was more a craftsman than an artist. But to any eye that was conversant with the classical tradition and the art practices

of two thousand years, it was consummate articulation; vision matching design to yield the beauty of a thing which lived and spoke. His fingers were steady and skilled to execute any tone, shade or nuance, the finest line was a child of the brush and shown up against a tonal lining in his Ardhanarishwara picture which he did in the early years of this century and which, to his sorrow and anger, somebody walked away with. One of his bird-studies is as exquisite as the finest extant bits of Persian or Moghul schools.

It was works like that that made Rothenstein say that he would be happy if he could persuade Venkatappa to succeed him. Venkatappa was not after any office of profit or honour for he wanted to be free to pursue his own inclination or purpose. When the principalship of Calcutta School of Art fell vacant, it is said that only if Appa refused it, it would be offered to another. He seems to have declined it.

Early he took a vow of no gifts received, and kept to it till he was physically helpless. When he became an invalid and realised that he would be good no longer for art he allowed his sister and nephew to look after him. Rejecting all medical treatment he prepared in his manly way for the exit.

In Mysore, Madras and Calcutta he had received all the training that schools and teachers could give, copied the finest specimens of Indian art when he accompanied Lady Herringham to the caves at Ajanta and had shaped his own style. But landscape and portraiture are not fashionable today and even when they are taken up, post-impressionistic technique and international modes affect practice and taste and judgement in a way which make his work *de mode*.

Venkatappa may be considered one of the last great masters of the Classical tradition in India which combined the best elements of the Rajput and the Moghul schools. His landscape studies at Kodaikanal and Ooty are marvels of colour, composition and design, presenting moods of nature which for rank, refinement and subtlety of tone are unique by any standards. His ivory miniature of Abanindranath Tagore and the Maharajas of Mysore and Cooch Behar are masterpieces in their kind.

The plaster of Paris reliefs are equally vital and dramatic. Sakuntala, Ekalavya, Hanuman and Siddhartha can adorn the best halls even as the friezes and the Gandabherunda can. His bust studies of Rabindranath Tagore, Veena Seshanna and the hotel *mani* are vibrant with life, sensitiveness and character. If all his work could be gathered in a place as a gallery, in commemoration of his name, we should be having a treasurehouse of Indian art of one of the truest practitioners of the Indian tradition.

Music and Mellowness

Till the last he practised *brahmacharya* and was austere in his devotion to his art. I remember how, when I conveyed to him a message from his master Abanindranath Tagore that he should marry and leave some young Venkatappa behind, he said: "Did the old one say that now ? He was the one who enjoined on us the *mantra* that art is mother and father, wife and child, master and God, aspiration and ideal; that one may live in service to his art."

Venkatappa was equally accomplished on the Veena, where his accomplishment is all too hidden. Once I provoked him to a small demonstration by observing that our Chakravaka was more mechanical than Saurashtra and a glory of exposition was vouchsafed to me the next day when I listened to him giving not merely the two but a *varna* and a *daru*. Another day he was good enough to give me a comparative account of tonal ranges and subtleties when the same was played on two Veenas, one the old instrument on which he was practising for thirty years and the other which he made of special size and quality. That day he gave me a *pallavi* exposition preceded by the *ghana raga tanas* which play magnificently on the Veena.

For some time he had neglected painting and in answer to a query from his master 'Abanin' he painted a picture called "Mad after the Veena" which as self-portraiture is a great piece of work; the brushwork showing him in that lost condition is powerful and expressive in a way he had never used before.

The death of Venkatappa at the age of 89 removes from the Indian scene an artist of a rare quality of soul, of resoluteness, courage and love of independence. He was jealous of the name and status of an artist and uncompromising in the pursuit of it.

Otherwise as a person he was amiable and affectionate. He would feed, teach and render aid liberally. But all his love was for art alone. It behoves the Lalit Kala Akademi which honoured him recently and the lovers of art and friends to persuade the Government of India and the Government of Mysore to see that a suitable monument or institution is created to show up and perpetuate his work and to bring into existence a school where artists are trained in the highest traditions of Indian art.

All Venkatappa's compeers have more or less gone from the scene and their period deserves to be cherished and propagated. Not that the old was right and the new is wrong, but the alter side is as legitimate as the one in vogue and both sides of the picture need to be placed before young minds to get a view of the whole.

LOTHAL EXCAVATIONS

(*Continued from Page 22*)

'H' people—Aryans?) came. Further there is a time-lag between the two. At Mohenjo-daro also the so-called massacre does not belong to the final phase, nor is there any substantial evidence left by any invaders at the site. Hence the destruction of Harappa and Mohenjo-daro by the invading Aryans is more imaginary than real.

After the destruction of the Indus Valley cities the Harappans moved into the Ghaggar and Ganga Valleys. They survived for a long time in Saurshatra and elsewhere even as other chalcolithic cultures with an inferior material equipment held ground. Some welcome light is thrown on the dark age of India by the excavations conducted by various organisations including the Archaeological Survey at Rangpur (Saurashtra), Hastinapur (Uttar Pradesh), Maheswar (Madhya Pradesh) Ahar (Rajasthan) and Nevasa (Maharashtra).

Small River, Big Power

THE second of the ten turbo-generators of the Sharavathi power project in Mysore has been commissioned. This project which generates power at the cheapest rate in India will, when completed, be the largest in South Asia.

Sharavathi, one of India's smallest rivers, will help to generate annually 4,700 million kwh of electricity—more than twice the output of Bhakra Nangal.

The benefits of its power production are gradually being extended to the entire South Indian region.



DURGAPUR EXPANSION

More than half of the Durgapur steel plant's expansion work has been completed. The capacity of the plant is being raised from 1 million to 1.6 million tonnes. This expansion involves the addition of 34 units.

Out of 60,000 tonnes of plant and equipment, refractories and structural steel received at the site, 20,000 tonnes have already been erected. The coke ovens, the by-products plant and the rolling mill are expected to start operation by October. The fourth blast furnace is likely to be commissioned by the end of the year.

TEST WATER LET IN CHAMBAL CANAL

Nearly 80 per cent of the works on the Chambal right main canal has been completed. By way of testing, water has been allowed to flow through the upper canal which has been completed up to 180 kilometers. Also, 735 kilometres of distributaries and minor canals have been dug.

The Madhya Pradesh Government has prepared a scheme to reclaim six lakh acres of the dacoit-infested Chambal ravines and to resettle displaced persons from East Pakistan on nearly 2.2 lakh acres. The scheme will cost Rs 7.66 crore.

The earnings from nationalised road transport in Madhya Pradesh will be used to create a 'Road Development Fund'.

SNIPPETS

THE net premium income in general insurance business in 1963 was Rs 30.01 crore—an increase of Rs 3.5 crore over the previous year.... Bangalore will soon have one of the biggest factories in India to manufacture electrical transformers, motors and switchgears. The Mysore State Government is establishing it in collaboration with a West German firm....Scheduled Caste and Tribe trainees in Industrial Training Centres will get Rs 45 a month instead of Rs 25, and also hostel accommodation....About 80,000 people working in the industrial area of Delhi will have a new 924-bed hospital by next year. It will cost Rs 2.2 crore.... Twenty eight new Central higher secondary schools will start working from this month. With this the number of such Central schools will be 82....The Central Electronics Engineering Research Institute has developed an industrial type counting machine which has a speed of about 300 counts per second. This will be useful for counting freight wagons in a marshalling yard, tablets and phials in the pharmaceutical industry, etc.....The first consignment of cross bar telephone exchange equipment from Belgium to be installed at Bombay automatic trunk exchange has arrived.....A spinning mill with 25,000 spindles is being set up at Jagdalpur in Dandakarnya.

NEW FINDS IN OIL

There is likelihood of even more oil in Gujarat. If the findings of a survey prove productive, there will be a new oilfield, one of the biggest in India.

There are prospects of finding rich deposits of oil and gas in the Noagam area near Srinagar.

Off-shore drilling will soon be started in the Gulf of Cambay by E.N.I. an Italian concern.,

Crude Oil : More than 1.4 million tonnes of crude oil were sold in 1964 by Oil India Limited to the refineries at Gauhati, Barauni and Digboi. This has resulted in the saving of Rs. 10 crore of foreign exchange. Oil India, a partly government owned concern, has made a profit of Rs. 3.36 crore in 1964.

Barauni Output Up

Refining : The Barauni refinery, Bihar, has begun production at the rated capacity of 1 million tonnes a year.

The Noonmati refinery in Assam processed more than 81,000 tonnes of oil in May.

Oil Imports : India's imports of oil products from the Soviet Union will be double last year's. This year 1,215,000 tonnes of Soviet oil products including 325,000 tonnes of diesel fuel will be shipped to India.

N.C.C. BEING DOUBLED

The National Cadet Corps will have 30 lakh cadets in the Fourth Plan. This will be double its present strength. Now the senior division of the N.C.C. has 10,53,200 cadets and the junior division 5,78,600. It is proposed to raise their strength to 15 lakhs each.

Nearly 2,400 senior division cadets and 100 officers of the N.C.C. will hereafter stay for four weeks every year during the summer vacation with regular army units and will be given more intensive training.

Working for Welfare

PRODUCTION MUST BE FIRST GOAL

Virendra Agarwala

OUR planners claim to build a society which promises the minimum needs to the neglected section of our people, namely the landless of the countryside and the urban destitute, as also the large masses of the small-holders and urban groups with a family income of less than Rs 100 a month. A planner recently confessed that there are certain sections of people who have not derived much benefit from economic development and among these are the tribal classes, agricultural labour, some members of the scheduled castes, the lower middle class and the fixed income groups earning salaries up to Rs 400 a month. A national leader who claims to represent these classes has asserted that there is not a single project in the series of plans which is meant to provide direct material assistance to the backward communities.

A welfare state means nothing but that the mass of the people must have such incomes and assets as can reasonably guarantee them a decent standard of living. There cannot be two opinions about the need for raising the living standards of the lowest income groups at the earliest. This is more urgent if social transformation and cultural change have to be brought about through parliamentary democracy. It is unfortunate that after thirteen years of planning, the basic problems of poverty and unemployment have remained unsolved.

The Mahalanobis Committee has made a study of the problem in respect of what has been the additional national income between 1950-51 and 1960-61 and where it has gone to. The national income increased from Rs 88.5 billion in 1950-51 to Rs 127.5 billion in 1960-61 with a rise of about 44 per cent over the decade. Government expenditure rose from Rs 5.2 billion to Rs 10.3 billion. Savings rose from Rs 5.0 billion to Rs 10.4 billion showing an increase of 108 per cent. This was brought about by curbing private consumption which had increased by only 36 per cent over the decade against a rise of 44 per cent in income.

The total additional income earned during the ten-year period was Rs 190 billion of which a part, Rs 25.5 billion, was used to increase Government expenditure over the decade. Another part, Rs 25.2 billion, represented the additional domestic savings in ten years. The sum of these two parts, namely Rs. 50.7 billion, may be considered to have been used for purposes of development and expansion of investment to promote future economic growth.

The balance available for increase in private consumption was Rs 150.3 billion for the ten-year period. Simple calculation would show that Rs 85.6 billion were absorbed to provide the new entrants into the population during the decade with a per capita consumer expenditure at 1950-51 level. The balance of Rs 53.7 billion was the net amount available for increasing the average per capita consumption of the whole population. Distributing this amount over the average number of persons over the decade we get Rs 2.5 as the share of each person in the increase in consumer expenditure. With Rs 219 as the consumer expenditure per person in the base period 1950-51 the rate of increase was about 1.1 per cent per person per year.

The expenditure on various social services and Community Development included in the two Plans amounted to Rs 1,370 crore, which included Rs 115 crore on backward classes and Rs 305 crore on Community Development. These figures are enough to show that while the poor might not have become poorer no significant benefit had been derived by the lowest income group.

The two basic factors responsible for the unfavourable conditions prevailing in the country may now be summed up. First, the rate of growth has been so low, particularly in comparison with the rate of population growth. Secondly, the return on investments made during the decade is inadequate. The inefficiency of the public sector has contributed to the hardship of the poorest classes.

There are many who believe that Indian planning has considerably helped in concentration of economic power in a few hands. A recent study by the Tax Research Unit of the Finance Ministry shows that income concentration is on the decline and that there is a distinct shift of income in favour of lower and middle classes. It is true that we have a highly progressive tax system and we have taxes which even advanced countries with better administrative systems have not attempted. The estate duty, gift tax, wealth tax, capital gains tax and income tax will, over a period of time, ensure dispersion of property and income. Any attempt to make these taxes still steeper in the name of socialism would have disastrous consequences on productive effort and make the administrative system more prone to corruption. The corporate sector is subjected to State regulation in so many ways through control of production, prices and distribution. An economy that functions through controls, restrictions and watertight sectors cannot expect its 'produce more' slogans to make an impression on producers.

As pointed by the Mahalanobis Committee, industrialisation has its own logic and neither economies of scale nor full utilisation of scarce talent can be ignored with impunity. Modern industrial technology, in the way it has been evolved, requires large-sized production units. The optimum size of a unit is so large that a developing economy, with a limited market to begin with, cannot accommodate many such units if the industry is to become economical. There is no doubt that the spread effect of progress will be best secured from using the best admixture of large-scale and small-scale business, but it is the capacity of large enterprise rather than that of small industry that leads to higher growth and higher degree of managerial skill and worker-efficiency.

The justification for private sector is that it can attract the most advantageous collaboration from abroad in building modern industry, and also leads to efficiency. To cry against big business would mean that we prefer to be inefficient. Concentration has no doubt to be discouraged, but it is vital that India should possess large-scale organisations so long as they fit into a pattern of live and let live, in which the national interest endures above all.

Monopoly is generally taken to connote the private sector. It is well to remind ourselves that the public sector has also an overpowering trend in the direction of monopoly. This is not only because the public sector without competition will remain inefficient (and raise prices for the consumer) but also because the process of decision-making here is controlled by political considerations which override economic ends. Concentration of both economic and political power in the State might prove a serious danger to parliamentary democracy. Hence the need for actively fostering small and medium industries to compete with large-scale industries. That is the pragmatic cure for the evils of concentration.

It is believed that the most effective way to check concentration of economic power in the private sector is to build up countervailing economic power and this is done by enlarging the public sector, especially industry. The contribution of the public sector is expected to increase the 1950-51 level of less than 2 per cent to nearly a fourth (by the end of the Third Plan) in organised manufacturing industries and from less than a tenth to over a third in mineral production. Investment in public sector industry and minerals during the Third Plan alone is expected to be Rs 1,530 crore as against only Rs 1,050 crore in the private sector. Mr Asoka Mehta, Deputy Chairman of the Planning Commission, has predicted that by 1975-76 nearly two-thirds of the produced tangible wealth would be owned by the State sector.

Such large investments ought to be reflected in increased national income. But a mere increase in aggregate national wealth is not enough, there is the aspect of distribution of this additional income. Economic growth must make a difference to the level at which the people at large live —which in our country is one of bare subsistence. There is a widespread belief that wrong priorities are making it certain that the people will remain poor for all time to come, and that Indian economic development is held back by ideology.

We have two long-term objectives: to lessen economic inequalities and to promote economic growth. But a little thought should show us that production should be the immediate priority and any attempt to hamper or lessen production amounts to injuring the national interest. In particular, public undertakings need better administration so that they are able to show adequate profits to be ploughed back into further investments. Also, we have to go slow on policies of restriction if the living standards of the lowest income groups are to be raised. For if poverty is allowed to continue, it will be difficult for India to survive as a nation.

PROJECT PLANNING

Fifty Technical Officers Take Part in Courses

THE Management and Administration Division of the Committee on Plan Projects, Planning Commission, recently organised, in collaboration with the Indian Institute of Public Administration, two four-day courses on 'Project Planning and Scheduling.'

These courses were intended to impart knowledge in some of the latest techniques of Planning and Scheduling, namely, PERT (Programme Evaluation and Review Technique) and CPM (Critical Path Method). Fifty senior technical officers drawn from fifteen public and four private sector enterprises attended them.

Mr S.G. Barve, Member (Industry), Planning Commission, who inaugurated the first course, stressed the need for better planning and control in public sector projects. He said, "Large sums of money have and are being invested in the public sector projects and it is vitally important in the economic development and industrialisation of the country that these projects be executed with utmost speed, economy and efficiency. In the past some of our projects have been delayed and have incurred overruns of cost due to lack of proper planning in the pre-construction phases. This state of affairs makes the particular project not only uneconomical but affects many other projects which are dependent on it and thereby upsets our overall economic plans. Hence it is very essential that we employ better techniques and tools of planning and execute projects in time and with the least possible cost."

The course in Project Planning and Scheduling, the first of its kind in the country, emphasised the practical application of the PERT/CPM technique in the planning and control of construction projects. The mode of instruction used in the course was "The Case Method of Teaching", originally developed by the Harvard School of Business Administration. This method lays emphasis on learning by working the problem and class discussions. The participants, after having learnt the theory of this new technique, were given a case problem (developed by the Management and Adminis-

tration Division on the basis of the experience derived during study of several public sector projects) in planning and construction of a fertiliser project.

PERT and CPM, commonly known as the networking technique, has made considerable impact all over the world as a technique of planning and scheduling and construction, research and development and maintenance projects. It was evolved only a few years ago in 1957, in the United States. Its first major application was in Polaris Missile project where it helped U.S. Defence authorities to reduce the schedule by two years. This has gained much popularity and is now widely used by industrial and commercial establishments.

The Management and Administration Division has, with the help of four foreign consultants obtained through USAID, formed a nucleus of staff trained in the application of these techniques and the Division has made a beginning in installing this system in the Fertiliser Corporation's Durgapur plant and FACT's Alwaye plant.

After the first two courses, the participants were of the unanimous opinion that knowledge of the technique would help in their job of planning and scheduling the work on new projects that their corporations might undertake.

Following the success of these two courses, the Management and Administration Division is considering organising a few more courses throughout the country to train larger number of personnel in the use of this new technique.

NEW LOANS

Two loans adding up to Rs 250 crore were issued by the Union Government on July 1.

The United States will give us two loans totalling Rs 92.3 crore. The larger, for Rs 90.5 crore, will be used for a wide range of vital industrial and agricultural imports.

Another agreement providing a loan of Rs 6.6 crore to India as the first instalment of Britain's aid in 1965-66 for our Third Five Year Plan has been concluded.

a man with a rose

We saw him from the ridge where we sat watching the sunset—a sunset as beautiful as you see only in Aurangabad. He pedalled furiously up the road that skirted the hill, flung his bicycle down at the foot of the slope and started walking up.

His shirt was a deep blue; his *dhoti* caught the light of the sun and fluttered pale gold in the evening breeze. Attractive, and very unusual, we thought as we watched him climb up and then turn in our direction although he was some distance away.

Time to go home, we decided reluctantly, and scrambled up, brushing off the burrs that stuck determinedly to our clothes, the little wisps of dry grass that clung to hands and elbows. We picked our way down the other side of the hill to meet the newly laid road which climbed up and around the back. The baby fell and her father picked her up to comfort her with funny faces and strange noises. Between her sobs we heard a voice hail us cheerfully. We looked up, and there, looking down at us over the edge of the wall that rounded into a turret at that point was the man in the blue shirt. Twinkling eyes in a merry face smiled at us in disarming friendliness. He called out that he too had come a long way to this beautiful spot just for the sunset. A kindred spirit. We waved, grateful for his appearance as it had distracted the baby and stilled her sobs.

Still carrying her we got to the road and hastened our steps homeward. A little further and we saw him waiting for us at the far end; a fine sprinter he must be, we said admiringly, he covered that distance fast, didn't he ?

As we drew near we both noticed that his *dhoti* was yellow—it wasn't just the sun after all. But, really, how unusual! A rich blue shirt and a yellow *dhoti,* so colourful it seemed to suit the cheery, bright-faced young man.

Suddenly, as we walked past, he sprang down, opened the navy blue handkerchief he held in his hand, drew out a rose and said he would like to give it to the child. Meena took the proffered rose graciously. Thank you, her father smiled.

Could you give me five annas, said the man in blue.

Meena's father looked crestfallen and apologetic. I have no money on me, he said. Nothing, he tapped his pockets and drew out his keys.

Just five annas, the young man pleaded.

Five ? But why not four, I thought idly. Or two, or eight? Was he, perhaps, addicted to the metric system even though he had obviously not got the hang of the paise routine?

I ask you as one human being to another, only....

Come with us, I interrupted. We live near by; come to our place and we will give you the money.

He looked dubious. Hesitated. Then made up his mind. "No," he said. "But give me back my rose," and took it back.

Please come with us, I urged again, as Meena's mouth began to droop alarmingly. But he cut me short.

"It is not that I don't have any money," he said. Look, I have plenty, and shook his side pockets which jingled reassuringly. "A sudden desire —the evening was so beautiful— I felt I would like to have five annas. And offered you a rose instead of just demanding the money; that was a fair exchange, wasn't it? Well, never mind," he said, as I started to speak again. "Be on your way— *khuda hafiz.*"

And with that he bounded up and over the mound and out of sight. As we rounded the corner of the road we caught a glimpse of him again, cycling. He came to a stop, dismounted, carefully picked up some bricks that had been carelessly left on the road and piled them neatly on the side. Then he jumped on his iron steed again and as he sped away into the distance, scattering rose petals on the evening air, a snatch of his song drifted back to us.

NEELA D'SOUZA

Merry Mixture

Outside Eastern Court, the big post office of New Delhi, there are four post-boxes in a row: a red cylindrical pillar box and three double barrelled boxes in three different colours: a green one for local letters, a blue one for foreign letters and a red one for outstation Indian letters.

A *Yojana* man recently walked up to the battery of these boxes with three letters to post; it happened that one was for Bombay, another was for London and the third was for an address within Delhi. He carefully dropped the right one in the right box.

Hardly had he done so than a postman came from within Eastern Court. He opened the locks of each of these boxes and pushed the contents into the same single bag he had brought.

Our man was non-plussed. Why separate boxes if the letters after all are to be mixed up ? He asked the postman. "Sorters kis ke liye hote hain ji?" ("What are sorters for ?") he was told coolly.

Our Bird

Whenever we see a good egg we think it must have come from a Rhode Island Red or a White leghorn.

How many of us know that hens are original inhabitants of India and travelled to other countries of the world from here ?

Poultry Keeping in India, a publication of the Indian Council of Agricultural Research, gives this and other facts. The chicken moved from India to lands in the north and the west until it reached Greece in 525 B.C. Iranians carried it to Israel.

All the breeds of poultry known at present, according to the book, are descended from the wild jungle fowl inhabiting Central and South India, Ceylon, Assam, Burma and other South Asian countries. The book also observes that cock-fighting was as much responsible for the domestication of fowls as the demand for food. An Indian breed of fighting cock, the Aseel, is said to have been in great demand all over the world.

So it is not only the peacock !

Falling Standard

Eight hundred sixty British boys were recently asked how they would set about getting a job after school. Most of them knew that they had to approach an empolyment bureau; but when they wrote down the answers very few knew how to spell "bureau". Believe it, the 860 lads managed to spell the word in 109 different ways: from beareo to bruro to burow.

The Daily Telegraph, which reported this, had an article on spelling. The author has tried to analyse why schools are no longer so fastidious as before on spelling. One reason for giving up the three-times-a-week dictation period, according to him, is the feeling that in a democracy it is not right to dictate.

The man who acquires a foreign tongue always tries to speak it more "methodically"; therefore English spelling is more important to us than it might be to Britons. Anyway, in India competence in any field is still measured in terms of a man's familiarity with English grammar and spelling. Go to any secretariat in our country, you can in a few minutes collect a bagful of the derisive remarks that senior officials make about the English of their superiors, the ministers, and of their clerical subordinates.

Elderly Wisdom

So much dust has the language problem raised that it has prevented clear thinking. In this disturbed atmosphere, it is refreshing to know that the subject was considered more thoughtfully and dispassionately sixty years ago, long before it acquired the sharp edges of current controversy.

As early as in 1907, *The Indian Review*, that pioneer journal of a pioneer educator, G.A. Natesan published an article by M. Rangacharya, Professor of Sanskrit, Presidency College, Madras, making a case for Hindi "as a common vernacular for India". The basic argument which this member of the old Indian Education Service put forth holds water even in the changed circumstances of today, although one may differ on certain points. About English he says: "Like Fr[illegible] England after the Norman [illegible] English will surely cont[illegible] many centuries to be the [illegible] of Western thought and culture in India; it will be t[illegible] age of law and politics and as a strong binding link b[illegible] India and the British throne. Nevertheless, the conditions seem to be such as will not enable the English language to do more than touch the higher peaks of thought and life in our land. English cannot descend into the lower valleys".

Mr Rangacharya continued : "There is such a thing as a naturally ordered agreement between what is called the genius of a people and the genius of their language; and to those who see the underlying unity of Indian civilisation, the idea that Hindi may well be encouraged to become, as far as possible, the common vernacular of India can never appear to be so strange or unpractical as not to deserve attention. Hindi is already a language of the valleys in Indian life and can, therefore, flow readily from valley".



IGNORAMAN
Wants to Know

How will India celebrate the International Rice Year? By importing more of it?

Reg. No. D-876



MASTER CRAFTSMEN-II

by Usha Chettur

PARAMESHWARACHAR

ture, the two media, stone and wood, are closely linked and are often used in temple construction to complement each other.

Some fine examples of wood panels and friezes depicting mythical themes were an early evidence of the young sculptor's skill. The unrelenting Linganacharya, however, drilled him for some more years in seeming dramatic subjects like chariots and small idols and images. The handling of stone, which every prospective sculptor has to do, came almost naturally to Parameshwarachar. In fact, in a few years' time he was free to handle both wood and stone with the same remarkable ease.

Parameshwarachar's grandfather then placed him under the famous art teacher Shilpi Siddhanthi Siddhalinga Swamy of Mysore. It is in the decade spent under the guidance of this master that Parameshwarachar developed into an exponent of the classical sculptural tradition of South India.

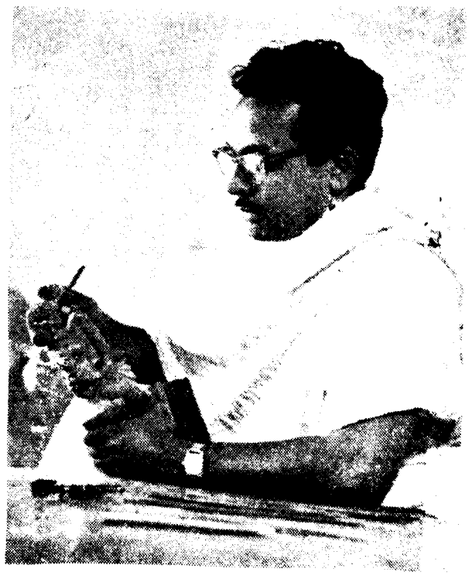
Parameshwarachar was commissioned soon after by the Maharaja of Mysore to model two new temples in that city. He carried out these early assignments with strict adherence to traditional methods of temple-building as well as image-making in stone and wood. In 1957, when he was barely 30, he was appointed as the master craftsman in stone and wood carving at the Regional Design Centre of the All-India Handicrafts Board, Bangalore.

Today Parameshwarachar is an unusual combination of traditional knowledge and youthful innovational ability. He sees a future for traditional handicrafts in South India, thanks to the role played by the Handicrafts Board.

Parameshwarachar has grown [illegible] influence of the temple [illegible] South India. He comes [illegible] well versed in all [illegible] temple construction over [illegible] There is little to be [illegible] the fact that he has won [illegible] award for master craftsmanship in wood carving.

Parameswarachar had his first lessons from his grandfather, Linganacharya, who was a great sculptor in his time. A strict taskmaster of the old school, Linganacharya made his young pupil pass the rigours and the racking tedium of construction of stone temples. Parameshwarachar had to show his proficiency in the laborious construction processes before he was allowed to take up the stylised carving of stone or wood. He had to learn restraint and maturity before becoming an artist on his own.

In time, when his keen perception and agility were recognised, Parameshwarachar was singled out for an initial phase of training in wood-carving. In South Indian sculp-



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TENTH YEAR

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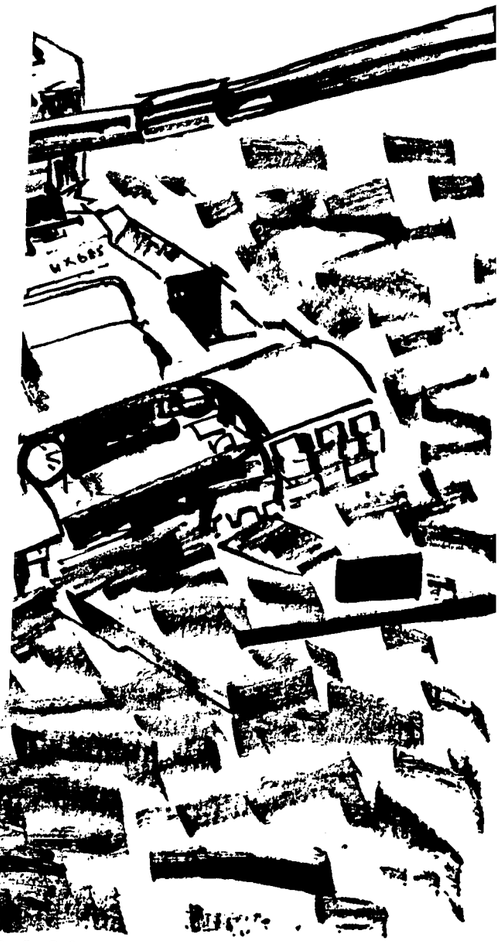
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INDIA'S OWN TANK

KEEPING PRICES DOWN

PRECISION INSTRUMENTS

25 PAISE

YOJANA seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion on problems of social and economic development.

It is issued every other Sunday in two separate editions, English and Hindi.

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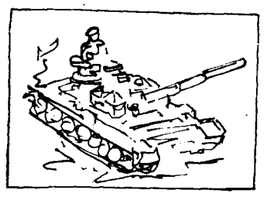
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YOJANA

This Issue

Vijayanta, India's Own Tank



With the formal inauguration of the Avadi tank factory and the ordnance plant at Tiruchi, India has crossed another milestone on the road to self-supporting national defence. 'Vijayanta', the first India-made tank, symbolises the spirit of self-reliance in defence production. For an assessment of progress in this field, turn to Page 4.

INCENTIVES FOR FARM WORK

On Page 12 is an article suggesting a scheme of incentives for farmers as well as extension workers, necessary in order to activise the human in-put in agriculture.

EDUCATION FOR TRIBALS

On Page 5 Mr Tarlok Singh, Member, Planning Commission, writes a thoughtful article on education for our tribal people.



SUPERBAZAR

New Delhi's Super bazar and the consumer co-operative stores coming up all over the country are the subject of an interesting report on Page 2.



PRECISION INSTRUMENTS

For an informative, pictorial report on the Precision Instruments Factory at Kotah, turn to Page 9.

COVER :

VIJAYANTA, a drawing by Rangaswamy Sarangan

YOJANA

July 24, 1966 | Fortnightly Journal Published on behalf of the Planning Commission | Sravana 2, 1888

Vol. X No. 14

GAPS IN TOURISM

It is always interesting to know how many foreigners come to our country and why. Tourism is more than a trade, more than a dollar-earner; it builds bridges of understanding between countries and peoples. According to figures released officially in New Delhi, a total number of 1,47,900 foreign tourists, excluding Pakistani nationals, came to India during 1965. The vast majority of them were from the Americas, Europe and Australia—a total of 99,622. This is natural because tourism is a pastime of the affluent. The largest single block of tourists came to India from the United States, nearly 40,000; followed by tourists from the United Kingdom, over 22,000. There were nearly 16,000 tourists from Africa and nearly 33,000 from Asia.

While the number of tourists visiting India has been increasing from year to year, this country is certainly capable of attracting many more provided it has adequate facilities for tourists. Even in the present number of tourists coming into this country, there are interesting and significant gaps. For example, we seem to attract a very few tourists from Scandinavia in spite of the fact that the economy of the Scandinavian countries has reached a high peak of affluence and the Scandinavians are as much lovers of travel as anybody else. From West Germany 6,452 tourists came to India last year and from France 5,507. In Africa, while 7,640 tourists came from Kenya and more than 4,000 from Tanzania and Uganda, there were practically no tourists from south of the Sahara or from West Africa. The vast majority of the 5,000 tourists who came from West Asia belong to Aden-Oman and Bahrein-Qatar. Very few Arabs seem to be coming to India either from West Asia or North Africa. In Asia, Malaysia and Ceylon sent the largest number of tourists, most of them probably Indians domiciled or resident in those countries. It is heartening to note that 4,600 tourists from Japan came to India last year. But in Asia, too, there are significant gaps. Very few tourists seem to be coming to India from Burma, Thailand, the Philippines, the Indo-China States and Korea.

Occupation-wise, the largest number of tourists who came to India are educationists and scientists. Nearly 34,000 of them were in this country last year. There were 26,000 businessmen and more than 33,000 belonging to "other occupations". The majority of the tourists seem to be men and women in the younger age-groups—between 13 and 50. Of the total number of tourists, 94,000 were men and 48,000 women.

These figures show that the interest in India is not confined to any particular profession or age-group but sufficiently widespread to lend itself to further exploitation. More than 92,000 tourists came to India for "pleasure", which shows that this country can give the affluent traveller a good, enjoyable holiday.

Business interests brought about 26,000 tourists—a sign of increasing international interest in the Indian economy. Nearly 4,000 came for studies, not an unflattering figure.

Super-Bazar Makes Its Debut In Delhi

SUNEET VIR SINGH

Part of a Countrywide Complex to keep Prices of Consumer Goods in Check

ESCALATORS, computers, super-bazars—symbols of the jet age in which India lives. The super-bazar which was formally opened a few days ago in New Delhi's Connaught Circus, not by a VIP, but by a group of customers, is, of course, something more : it is also the symbol of how the country is going to organise a modern, socially-oriented system to supply to a very sizable portion of the community articles of daily use at reasonable prices. The superbazar can also be described as one of the first positive results of devaluation.

An event of unusual social and economic importance, the super-bazar caught headlines in the press and the imagination of people all over the country. The very fact that it was put into shape and brought into being in two to three weeks of the formation of the Consumer Co-operatives Association shows the urgency that now attends the task of keeping the prices of essential articles in check.

A tremendous amount of organisational work was packed into those two to three weeks. The Pant Market, originally designed to house a network of individual shops, did not easily lend itself to be used as a superbazar which is a huge department store, the first of its kind in India. The walls which divided the floorspace into a honeycomb of shops, had to be broken down ; each floor was converted into four wings. The remodelled interior which fascinates the customer is largely the work of Mr Jhabhwallah ; the attractive interior decoration, that of a batch of workers lent by the Indian Co-operative Union.

A department store which wants to cater to 2,000 customers at the same time, selling a countless variety of goods—ranging from vegetables and fruits to footwear, textiles and medicines—must have many novel features. First, the sales personnel must be easily recognisable. Could the Association provide the 700 sales girls and men with uniforms ? That would have been too costly. So, the sales staff wear coloured overalls. A big problem in re-designing was : how to avoid congestion and over-crowding. The superbazar has six street entrances, and four large lifts to carry customers to the upper floors. Soon there will be an escalator. Those who have seen huge department stores and supermarkets in Europe and America know how important it is to provide for quick entrance, movement and exit of people ; this is being done at the Delhi superbazar too. In addition to the lifts, there are stair-cases leading from one floor to another. Ventilation was another difficult problem—solved with remarkable engineering ingenuity.

The superbazar will have, in due course, another building fitted with escalators and connected with each floor of the present department store.

The lay-out of the shops has been done keeping in view the needs of the customers. Vegetables, fruits, groceries, household articles and medicines are on the ground floor—these will draw the biggest crowd of buyers. Textiles, books and other articles are on the second floor. So also is the cafetaria. The five other floors are yet to be opened.

The superbazar is not quite "super" yet, with only two of the seven floors made use of. But it will be, before long. When in full bloom, it will have a beauty saloon, hair-dressing saloons, a family planning clinic, a playroom for children, a library, and travel agents' counters with direct phone links with the major airlines. The idea is to make it much more than a bazar—a community centre where people could spend time usefully and in happiness, where marketing is not merely jostling with people and bargaining with shop-keepers. It is also planned to organise a community chest where customers could drop coins in charity during big festivals and the money could be given over to five selected welfare organisations.

Care is being taken to check the quality of goods sold at the superbazar. The organisers have sought the help of the Indian Standards Institute and other bodies to check the quality of goods supplied by manufacturers. The Home Science department of Lady Irwin College has agreed to help in testing the quality of certain articles in its well-equipped laboratory. The Nutrition department of the College will test the quality of food articles such as spices, bread, and dehydrated food, as well as food served in the cafetaria.

The New Delhi superbazar will have branches all over the capital including the Old City. It will be part of a chain of superbazars coming up all over the country—two major ones in Bombay and Calcutta, seven smaller ones in Madras, Bangalore, Ahmedabad, Kanpur, Hyderabad, Nagpur and Lucknow. Each of these department stores will have a network of branches. When this countrywide marketing complex is set up, the Consumer Co-operatives Association will become the biggest marketing organisation in the country.

How will it operate? Naturally, it will buy in bulk from the manufacturers and the mandis, and since in many cases it will be the biggest single customer, it should be able to buy according to its own specifications to suit customers' needs and tastes. While the Association may not be able to influence the manufacturers' prices, it will certainly eliminate all the middlemen who count their own profits at various stages of a commodity's journey from the factory to the consumer. It is wellknown that in our country it is the retail seller who makes the best of the fluid price situation, charging almost any price from the consumer if an article is in short supply.

The Consumer Co-operatives Association expects to have a first year sale of about Rs. 5 crore, and it can, therefore, afford to sell at very competitive and reasonable prices. Of course, the superbazar will have to pay a large rent for the building, and take into account every other factor that goes into price fixing. Nevertheless, the mark-up is not likely to be more than ten per cent of the manufacturer's price. This should be a sure guarantee that the customer will get a price clearly lower than what he has to pay to the ordinary retailer. The Association hopes to be self-supporting within a short period, once it has been able to set up a chain of department stores all over the country.

The Association also intends to select retail merchants in different cities to act as its agents. They will get supplies from the Association and sell them at prices fixed by it. The Association will also give them managerial advice.

Will the supermarket scheme succeed ?

The answer is : IT MUST. For many years there has been much talk about bringing the prices down and holding them in check by rescuing the community from the limitless greed of conscienceless profiteers. It has been agreed that the only way to do this is to organise a countrywide organisation of consumer co-operative establishments. A comprehensive scheme to set up a chain of department stores was submitted to the Planning Commission by Mr. L. C. Jain several years ago. The Commission as well as the Government have been seized of the matter for years. It is only now, in the wake of devaluation, that the first bold steps are being taken on a countrywide basis to bring a large section of the retail trade under co-operative social control. The present scheme is also to cover college and university students as well as employees of large commercial and Government establishments. Although our experience in this field is still limited, no consumer co-operative store, run efficiently and on sound business lines, has failed ; some have indeed been doing very well, especially in Delhi and Madras. The ration shops, fair price shops and consumer co-operative shops will, in the near future, add up to a huge countrywide complex, with a pronounced effect on retail trade.

There will, of course, be teething trouble. And some resistance. In Delhi, for example, the retail shop-keepers' organisations do not exactly smile upon the superbazar and the consumer co-operative stores movement. Some merchants have been heard as saying that they will try their best to under-cut the superbazar even if they have to face a loss for some time. Their aim is to defeat the whole philosophy behind the consumer cooperative stores movement.

They are not likely to succeed, however. The community has now enough understanding of the whole problem, and it will certainly support the new price-regulation movement. The people know that prices are controlled not by laws and ordinances, but by concrete actions. The superbazar is one such action, on a grand scale.

And yet it is necessary to remind the consumer of one or two essentials on which the success of the superbazar movement may depend. First, the superbazar, its branches and agents will need his full support, even in the face of whatever diversionary tactics private retailers may temporarily employ.

Secondly, the superbazar is not merely a market, but also a community centre. The customer has to follow certain discipline when he enters the building. He must help in dissolving over-crowding, in the orderly movement of human beings. While the sales personnel will do their best to attend him, he too must help them discharge their duties. There will be a large volume of self-servicing at the stores, which means the customer must lift his articles with care, and leave the shelves tidy.

He will enjoy marketing at the superbazar. But he must see to it that others too enjoy it as much as he does.

What was originally planned to be a honeycomb of small shops has now bloomed as India's first superbazar in New Delhi's Connaught Circus. The superbazar is only partly finished. In full shape, it will be a supermarket as well as a community centre, where marketing will be a pleasure. But the real objective is to bring retail marketing under social control.

A Milestone on Road to Defence Self-reliance

'VIJAYANTA'

EXCLUSIVE
YOJANA
REPORT

—India's own Tank

THE inauguration of two more arms factories early this month, one producing medium tanks for the army and the other small arms for the infantrymen, symbolises the significant progress the country is making towards the goal of self-sufficiency and self-reliance in defence production.

The various ordnance factories in the country, turning out arms, ammunition, armaments and equipment provide the sinews of strength to the armed forces. A strong production base, therefore, is the *sine qua non* of a sound defence system.

It was a proud day for India when her first tank, appropriately named *Vijayanta* (ever victorious), rolled out of the factory at Avadi, near Madras, in December last year. The formal inauguration of the factory by the Prime Minister on July 3 has added to this glorious chapter.

A medium tank with 105 mm gun, *Vijayanta* is powered by Leyland L-60 engine and has a high degree of manoeuvrability and mobility. It is a tribute to Indian engineers and technicians that they have been able to achieve a relatively high percentage of indigenous content in the very first tank produced. The indigenous content of the first tank is the same as was originally estimated as an average for the first hundred tanks. In the next three or four years, the percentage of the indigenous content will rise to 80 or more. A considerable amount of foreign exchange has also been saved in the capital cost of this Rs. 16-crore project.

The Avadi factory has been built to the schedule in every detail. Training of technicians had been given the highest priority : it commenced even before the foundation-stone of the factory was laid. The tool room preceded the machine and fabrication shops and was the first to be placed on double shifts. The management have, thus, been enabled to combine the establishment of the new product with that of the new factory within the time-schedule of a single operation. The result is that we had produced *Vijayanta* about the same time as the collaborators in the U.K.

Even though the Government of India had entered into agreements with various firms in the U.K. and the British War Office for technical collaboration *in the design and development of the tank, all detailed planning has been done by Indian technicians.* It is not a turn-key factory ; right from the project stage to the establishment of production, skills of our own men have accounted for much.

UNIQUE

In the quest for self-reliance, the civil sector in the country has also a significant role to play. The contribution of the civil industries backing up production in the ordnance factories in respect of the various electronic communication and control equipment, optical and vision instruments for '*Vijayanta*' is praiseworthy. In fact, the guiding principle of the Department of Defence Production is to further this progress in harmony between the civil and defence resources.

The factory at Avadi has another uniqueness about it. It is perhaps the only tank-producing factory in the world where most of the main assemblies, including the engine, gear box, the final drive and the assembly of the tank itself is done under one roof.

Compared to armoured vehicles, small arms may seem easier in production. But the personal weapon of the soldier, which will count ultimately, has undergone considerable changes with the social and technological progress of man. From the crude club and axe and through the sword, dagger, spear, bows and arrows we have come to the most modern automatic rifles and machine guns with a high destructive power.

INDIGENOUS

The Tiruchi factory will produce automatic rifles, cabines, and light machine guns besides the conventional infantry rifles. *The factory has been set up without any foreign assistance or collaboration.* In the Rs. 13-crores project, the foreign exchange element is only about Rs. 3 crore.

Tiruchi is the fourth ordnance factory to be commissioned since 1962. *Among the new factories, it is the first to be designed and set up entirely by Indian technicians, all from the Ordnance Factories Organisation.* Indigenous resources have been utilised to the full. New types of machines have been designed to meet special requirements of the factory, the electrically operated milling machine providing a good example.

The main factory building accommodates under one roof almost all its shops—the tool room, heat-treatment shop, barrel shop, and the maintenance shop. The proof range has been equipped with the most modern facilities, including a closed-circuit television system.

Need for unified development of tribal people in areas where they predominate. Education must be related to economic and social growth.

EDUCATION IN TRIBAL AREAS

A considerable proportion of India's tribal people live in areas which are predominantly inhabited by tribals. Examples of these areas are groups of districts in Madhya Pradesh, Bihar, Orissa, the hill districts of Assam and other areas in the north-east region of India. Elsewhere, there are smaller concentrations and the bulk of the tribal population lives in the midst of non-tribal populations. In predominantly tribal areas, as an aspect of economic and social planning, it is possible to evolve schemes of integrated development covering various aspects of life and activity. Such unified development will give to the tribal people a sense of continuity as well as change and will go a long way to bring them into a harmony with the processes of national growth and integration and create a feeling of confidence in their own future.

In predominantly tribal areas, three tasks stand above all others. These are, firstly, development of communications; secondly, transformation of the present system of shifting cultivation into a developing agricultural economy, including care of forests, improved systems of shifting cultivation, settled cultivation and pasture; and thirdly, development of a system of education related to the scheme of economic and social development and responsive to the cultural and economic needs of the people.

In a general sense, in any community, education best fulfils its purpose if it is closely linked to the requirements of economic and social development. However, in a developed community, a variety of institutions and services, both governmental and non-governmental, work together to achieve this object. At each stage of development, certain gaps emerge between the educational process and the needs of development and, as new needs arise, efforts are made continuously to reduce this gap. In predominantly tribal areas, under relatively simple social and economic conditions, from the beginning there is a chance of developing a system of education which would be in accord with economic and social requirement, and education and development can proceed together, each supporting and stimulating the other. On the success attained in devising such a system of education will depend how two essential needs are met. These are, firstly, availability of trained manpower in the numbers needed for undertaking development,

TARLOK SINGH

and secondly, emergence of leadership amongst tribal communities which will help identify the population with the country as a whole and will, at the same time, command such influence and respect among their own people as to be able to secure their full participation in the processes of economic and social development.

Different tribal people are at varying stages of economic and cultural development. There is much difference in the skills they have attained and in the technology they employ. Therefore, in predominantly tribal areas, each group and the areas in which it lives should be studied closely and, appropriate patterns of development worked out in close cooperation with the people. It is in terms of such a design of development that educational programmes, institutions and priorities should be proposed. A uniform approach as between different tribal areas, applied in a mechanical manner, will not secure the purpose in view.

To be able to do justice to the tasks and problems of tribal education, it is important that the Ministry of Education at the Centre and Departments of Education in those States which have sizable tribal populations should be equipped with special sections or units whose task it would be to study the needs of the tribal people and assist in developing educational systems best calculated to promote their welfare and development.

Aspects of tribal education which might call for special attention would vary from area to area, and no pains should be spared in understanding the problems which arise in different contexts. Some aspects which came specially to notice during the study of the problems of hill districts in Assam, and to which attention has also been drawn in the course of the discussion in the seminar on tribal education held at Udaipur in September, 1965, can be briefly mentioned.

PEOPLE'S SCHOOLS

In many tribal areas, the population lives in scattered hamlets. Progressively, as settled cultivation develops, villages with somewhat larger numbers of families, say 30 or 50 or more, are likely to develop. Meanwhile efforts have to be made to provide facilities for primary education as near the homes as may be possible. At the middle and secondary levels, however, the necessary facilities have to be provided at centrally situated schools which are equipped with hostel accommodation on an adequate scale.

Mr Tarlok Singh is Member of the Planning Comm ission

In many tribal areas, there is a great deal of enthusiasm for education, and efforts are being made by the people to start schools on their own initiative under such labels as 'venture schools', 'proceeding schools', etc. Invariably, these schools are ill-equipped, do not have trained teachers and can only provide education of an indifferent quality. Almost entirely, such schools lack in facilities for the teaching of science, and the teaching of mathematics is also poor. Products of these schools will later face not only problems of unemployment but also of maladjustment within the society to which they belong. This becomes a growing factor of discontent, specially in those areas in which the demand for education outstrips the facilities available and the standards attained.

CONSOLIDATION

In many predominantly tribal areas, in view of the development of education which has occurred but without adequate consideration of all related aspects, there is need for a deliberate phase of consolidation and improvement of existing educational facilities. The principal elements in this would be (a) training of teachers, (b) provision of hostel facilities, (c) improvement in the teaching of mathematics, (d) introduction of science teaching and (e) provision of vocational courses such as would enable school leavers to fit into the agricultural and other programmes of development proposed to be undertaken in the respective areas. These development programmes have also to be continuously intensified and strengthened so that their absorptive capacity increases in keeping with the increase in the number of those leaving school. There is urgent need also for making suitable text-books and teaching materials available, for removing certain deficiencies in the existing educational administration, for instance, in the matter of paying salaries to teachers in remote places, and for provision of additional coaching facilities in the secondary schools. At this latter stage, it should be possible to pick out boys and girls who could be trained for vocations requiring long periods of training, for instance, as teachers, doctors, nurses, engineers and other specialists. By providing additional coaching facilities at this stage, and ensuring financial and other support until the entire period of education and training has been gone through, it should be possible to secure from amongst the tribal areas trained personnel in increasing numbers in accordance with the requirements of development.

FREQUENT TRANSFERS

Because of the special cultural, economic and social problems which tribal areas present, generally speaking, educational personnel, including teachers, are not attracted to work in tribal areas. Transfers are frequent and for long periods many positions remain unfilled. To work among the tribal people requires more than the competence to administer and to teach. It calls for a feeling of sympathy and identification with the people themselves and a willingness to share their life and their difficulties. For a considerable period a large proportion of the personnel required will have to come from non-tribal groups. Therefore, it is essential that in States which have sizeable tribal populations living in more or less concentrated groups, as part of the educational cadre of the State, there should be a sub-cadre for work in the tribal areas. Those who form part of the sub-cadre would be available for work in the tribal areas for a period of ten or fifteen years and would receive special orientation and training. Because of the difficult conditions in which they have to work, they would receive appropriate compensatory allowances. Over a period, an increasing proportion of the personnel needed at the grass roots level would become available from among the tribal people themselves. In the Fourth Plan, financial provision has been made at the Centre for a 75 per cent contribution towards the cost of sub-cadres in different fields, leaving the States to bear the balance of 25 per cent of the additional costs involved.

The Fourth Plan envisages that Tribal Development Blocks should be established in areas in which the tribal population accounts for 50 per cent or more of the total population as against the limit for two-thirds which has prevailed hitherto. It is further envisaged that, depending upon the physical conditions, the nature of the population and their economic needs, groups of tribal development blocks should be formed into Development Areas. In each such Development Area, most of the schemes will be implemented at the block level, but aspects such as communications, irrigation, secondary and vocational education and processing industries can be planned at the area level. In the Fourth Plan financial provision has been made at the Centre for such administrative strengthening as may be required at the district or area level to facilitate implementation of the approach of Tribal Development Areas. Outside areas in which tribal development blocks may be established, there are groups of villages which may be conveniently described as tribal pockets. Such tribal pockets should receive special attention as part of the district and block programme and their needs should be fully studied. In areas in which scheduled tribes are mixed up, as it were, with the rest of the population and constitute the relatively smaller part, special attention has to be given to ensuring that they receive a fair share of the general developmental benefits available. To secure this object, resources available under the Plan for the welfare of backward classes should be used specially for providing additional coaching facilities to a number of selected students, so that thereby they become better equipped and can avail themselves of the general facilities on their own merits.

There are several nomadic and semi-nomadic groups in the country whose educational needs have been hitherto neglected almost completely. It will not be easy to provide educational facilities for such groups. To the extent possible, such groups have to be assisted in developing more settled ways of living. This calls for a degree of fundamental reorganisation in their economy and their way of life, and, therefore, for close study of their problems with a view to evolving solutions which will meet their needs and secure their cooperation. While such a process of change could only be carried out over several years, efforts have to be made to provide marketing, credit, health and educational facilities in a mobile form wherever there are sizeable nomadic groups. Similar facilities are required for communities which migrate from their homes for several months in a year.

BETTER TOOLS FOR BETTER FARMING

Introduction on a mass scale of improved agricultural implements is of utmost importance in any crash agricultural programme. This aspect, however, did not receive adequate attention during the first two Plans. The leeway was sought to be made up by appointing, in 1962, an Agricultural Team headed by Shri A. P. Jain, a former Food Minister. The Team which conducted extensive studies on various aspects of improved agricultural implements has since submitted its reports on a number of individual States. An all-India report on the subject is under preparation. In the meantime a Digest has been prepared which outlines the problems facing the programme of introducing improved agricultural implements, and spells out the measures required to streamline it. Here are some of the more important findings of the Team.

FACTORS governing the adoption and introduction of improved agricultural techniques and tools can be grouped under three main heads namely, research, manufacture and popularisation.

Research is the key to the manufacturing process, and it implies proper designing and production of prototypes to suit various conditions. A defective tool could kill the farmer's initiative and make him allergic to modernised farming. It is, therefore, necessary to perfect the design and test the prototype thoroughly in the research station as well as in the field before an implement is finally approved for manufacture.

Manufacturing has to be streamlined from two angles; first, by improving the quality and workmanship of the implement through the use of up-to-date manufacturing processes and machines, and second, by keeping the cost within limit by observing economies of scale and cutting down unnecessary overheads. Unless the new implements are within their financial reach, our farmers cannot be expected to adopt them.

The third step in the process is to convince the cultivators of the advantages of using new implements, and once they show their preference for them, to make these available at their door-step.

The Team takes note of the fact that the Agricultural Engineering Sections in various States who are mainly responsible for introduction of new and better implements, cannot function effectively for lack of adequate staff and co-ordination with concerned Departments. Co-ordination is particularly lacking in the field of research and there is often duplication of effort.

Scarcity of raw materials, black marketing in controlled items of iron and steel allotted to the manufacturers of implements, adherence to old manufacturing techniques, and the inability of the manufacturers to raise sufficient financial resources, are some of the serious hindrances in the way of the manufacturing programme. There is also an acute shortage of small horse-power engines ($\frac{1}{2}$ to 2 H.P.) required for plant protection equipment. High horse-power engines, besides being very costly, are not easy to handle.

The structure of marketing farm implements which at present is built up on the subsidy base needs urgent reform. It is rightly feared that the moment the subsidy is withdrawn, the whole programme would receive a serious set-back. The Team has recommended that the subsidy scheme, except for new approved implements, should be progressively replaced by a scheme of loans on easy terms.

Then, there is the problem of repair and maintenance of improved implements. The village artisan who has been traditionally responsible for such work is woefully lagging behind the developments in the countryside. To remedy this situation there is need to strengthen training programmes at all levels.

RECOMMENDATIONS

The Team has recommended complete reorganisation of research in the States. Intensive research of farm implements, including the hitherto neglected hand tools and garden tools, has been suggested. Provision of raw materials has to be made according to the installed capacity and manufacturing programmes. Parts requiring high carbon steel, which is in short supply, must be manufactured in bulk in the Government workshops and supplied to fabricators to be fitted in the implements manufactured by them. Provision of land in the industrial estates for the manufacturing of improved implements, earmarking a part of the loan-amount available to small-scale industries for the entrepreneurs who undertake such industrial activity, arranging of processing facilities, standardisation and quality-marking of implements are some of the other useful suggestions put forward to boost

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A Report of the Kota Plant

by S. P. JAIN



MAKING PRECISION INSTRUMENTS

In the *India Productivity Year 1966* our slogan is *maximum production in each and every field of economic activity*. Productivity is said to be the measurement of the result of the human effort—both managerial and labour in the utilisation of capital. In large industries, however, it is the process control instruments which, to a great degree, are responsible for producing quality goods, for reduction of waste and for increase in productivity. Steel, fertilisers, chemicals, and oil refineries, are some of the large industries requiring process control instruments.

Our country has so far been importing the entire range of process control instruments required for our industries. But soon this will not be so.

The production of such instruments is a complex art and Government of India has taken up on itself the production in a planned and systematic way. Two factories, one at Kota in Rajasthan and the other at Palghat in Kerala State, will meet the complete requirement of instruments for our growing industries.

The Kota plant is now in an advanced stage of construction. Construction work is nearing completion and the erection of machinery has begun. The plant is likely to start functioning by the end of this year. The annual turnover, when the plant achieves its optimum capacity, will be about Rs 11.5 crore. The capital outlay, including the township and the training centre, will be about Rs 7 crore of which the foreign exchange element will be Rs 2 crore to be met out of a Soviet credit.

The factory is scheduled to start making components in September next, and take up assembly work in December this year. The first instrument will be ready for sale early next year, and before 1967 is out, the factory will be able to make complete range of instruments worth about Rs 1 crore. It expects to attain full production by 1971.

The factory is about six months behind the original schedule of its construction programme. This was because of very hard rocky ground encountered in laying the foundation. The rock would not yield to shovel but only to dynamite. But production is to start according to schedule. The management has started the production of components in the training centre. This serves a dual purpose. Trainees get practical experience and the initial problems of design and execution are analysed, identified and tackled. Thus the prototype of components will be ready before they are to be produced in the factory. The moment the machinery is installed, mass production



can start on the basis of these final prototypes. Thus the time gap of about six months will be wiped out.

Another feature of the plant is that a special bureau is being set up for designing new instruments and to develop new technological processes. The bureau will take up designing of complete systems suitable for the different plants.

A training institute equipped with workshop and hostel facilities has been set up. The training of the first batch of 44 artisan trainees, which began in November 1965, is progressing. A second batch of 40 trainees started work last month. The training centre is designed to accommodate 120 trainees at a time to meet the requirements of Kota and Palghat plants.

Fifty-nine engineers and technicians have already returned to India after training and 24 more are now undergoing training at enterprises and institutions in the Soviet Union. The return of engineers has been so phased that they can be associated at the appropriate time with setting up the plant and implementation of production schedules.

Integrated Plant

The Kota plant is an integrated one and is equipped with modern equipment in all the shops for manufacture of precision instruments. In addition to process control instruments, it will meet the requirements of precision parts, precision castings, light weight precision control mechanism, time delays, and relays survo mechanism, for industries, power plants, and technical establishments. The plant also envisages the production of very small synchronous motors, vibrators and reversible motors.

The Kota plant will mainly produce electro-magnetic indicating instruments; electronic automatic indicating, recording and control instruments; and transmitters and sensing elements.

The Palghat plant will produce mechanical, hydraulic and pneumatic instruments of the following major categories:

(1) Temperature indicating, controlling and recording instruments; (2) pressure measuring instruments; (3) flow measuring instruments; (4) level measuring instruments; and (5) mechanical, hydraulic and pneumatic controlling devices and ancillary equipments.

The production programmes of these two plants are designed to be complementary so as to supply complete systems of indicating, recording and controlling devices for industries.

For the Palghat plant, preliminary work such as acquisition of land and land survey has been completed. The capital cost of this plant will be about Rs 7.55 crore and the annual turnover is expected to be Rs. 9.7 crore, when the plant achieves full capacity.

On reaching the rated capacity, the Kota plant will manufacture 1,38,000 instruments and 4,00,000 transmitting elements of various types annually. The Palghat plant will have a total annual production capacity of 2,871 tonnes of mechanical, hydraulic and pneumatic instruments.

The establishment of the plants is an important break-through in the industrial advance of the country. It is a pioneering venture in the manufacture of highly sophisticated instruments involving complex skills. When the plants go into full production, they will offer employment to about 4,000 people, build up specialised technical expertise and skill and save foreign exchange to the extent of about Rs. 20 crore annually, with less than Rs. 15 crore of initial capital expense.

ACCORDING to the Rajasthan Chief Minister, there will be no difficulty in finding resources to complete the Rajasthan Canal project, now that the World Bank has made a loan. The Central Government has agreed to give Rs one crore this year for colonisation of the Canal area, in addition to Rs 6 crore for constructing the Canal.

FOREIGN VOLUNTEERS HELP IN FOOD PRODUCTION

FOREIGN volunteers as a form of technical assistance as middle-level manpower have been used for over five years in the developing countries in Asia, Africa and Latin America. During 1965-66, Peace Corps had 32%, Britain 21%, West Germany 34% and Canada 13% of their volunteers in Asia. Of these, 10%, even less, are assigned to food production programmes. India, however, is now using approximately 50% of foreign volunteers in agricultural programmes and expects to increase this to about 80%. India has already used more than 1,000 primarily in one or the other aspects of food production, and only secondarily in school teaching, rural health and small industry.

So far 423 American and 102 volunteers from other countries have come to India to assist various State programmes in food production. Their specific assignments have included poultry development and management, marketing and hatchery operations, cooperation and dairy development, agricultural extension, applied nutrition and nutrition education. By October next, over 700 volunteers are expected to be engaged in food production programmes in 13 out of the 16 States.

Volunteers have contributed individually as well as in teams working in projects. They have helped increase hybrid maize production, initiated several village level food production drives and started cooperatives for commercial vegetable farming. Several successful egg marketing schemes have been started by volunteers in Maharashtra, U.P., Rajasthan and Delhi. While operating in some of the current projects, volunteers are going into newer fields, like seed production and multiplication, soil testing, credit and marketing and demonstration of fertiliser application. It is not easy to run a successful volunteer project. If the volunteers do some homework before they arrive, it is possible to reduce the administrative work regarding placement, adjustment and transfer. It is as important for the supplying agency to maintain an efficient administration in the host country as it is for the host country to establish similar arrangements to run effective and successful programmes. Continued and growing cooperation and enthusiasm on both sides would be needed.

It is one thing to know a skill, another to demonstrate its technical advantage, and quite another to persuade people to adopt it. Whereas in some countries, volunteers may fill a gap in respect of middle-grade manpower in some selected sectors of the economic plans, the experience in India has been that they can be best used in strengthening, improving, modernising, activising and energising our own efforts in self-help operations. It has been realised that volunteers can make a handsome contribution in the efficient implementation of our food production and allied programmes set out in our successive Five Year Plans. Apart from expanding the planned activities, they can help produce changes involving new methods and improve standards, and, at times, in devising new programmes. The physical result of their participation may be small, but what is really impressive is the effect they produce by living, working, demonstrating and proving what they propagate, applying science and technology, urgency and impatience at the level where they are most needed.

THIS INDIA

YOJANA invites contributions to this new feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

I have been seeing him for the last ten years: he sits at the same place from dawn to dusk, in the same posture, with an unshaven, grown-up beard, begging in a heart-rending tone—'Babuji, I have been starving for the last ten days, please show mercy on this poor, unfortunate wretch...'

The temptation to give him something is irresistible—is he not, with his lean and hungry looks and emaciated body, poverty personified ?

Seeing him every day, I wondered many a time how he could live without food for "the last ten days"—for the last ten years!

This enigma haunted me till, at last, the mystery unfolded before my very eyes.

One day, shortly after dusk, when the street had almost worn a deserted look, a rickshaw stopped near the beggar. He got into the rickshaw and it was about to go.

Some inner urge prompted me to call the rickshawallah aside and ask him about the beggar. His reply startled me—"Sir, he is not as poor as his looks are. This rickshaw is his. He owns three more rickshaws. Begging is his profession and pastime too."

Visakhapatnam *C. S. N. Sarma*

I and my brother had started on a motorcycle trip with a cardboard strip "Delhi to Dhanushkodi" rather immodestly strung across the handlebar. When I was packing, I put some rolls of biscuits into a bag. To a friend who asked why I was loading myself, I said: "In case we should be forced to pitch camp in between towns". He laughed and said: "In which case I would depend on the hospitality of the villagers. The villagers are still nice and good".

The fortunes of this ambitious tour were cut short by an accident. After we had left Guna in the Malwa plateau, I was driving with my brother on the pillion. An irate cow—said to be common in the plateau—chased the chugging machine and ran across the road at one place sending me, the motorcycle and my brother down a steep embankment. With much effort we stopped the engine, and, though we were bleeding, brought it up to the road. Some villagers on camel back rushed to us and one of them set off to bring fresh water to drink.

We landed in Sarangpur hospital some 10 miles away, the same afternoon driving the motorcycle. Though we had talked brave, it appeared the injuries were rather deep. When I woke up at 4 p.m. I could hardly move. My brother's condition was worse as he had been burnt by the engine block. I saw some villagers singing Ram Dhun at the foot of the cot. I inquired and was told that they were the same persons who had helped us at the place of the accident. An old man was in tears and, it seemed, was weeping over the cruel fate which was killing two brothers at the same time. I assured him that we would not die. I was only worried about the safety of the vehicle.

We were moved to Indore as we had to be X-rayed. When I inquired about the motorcycle, the doctor said: "Do not worry. Two villagers are mounting guard over it. Even the police will not be so vigilant."

Two days later the motorcycle came —with the two villagers watching its movements.

New Delhi *K. Srinivasan*

A young anthropologist colleague of mine and I were recently returning to Bhubaneshwar from Phulbani after a short spell of field work among the Kondh tribesmen.

The bus in which we travelled was crowded but more and more passengers got in on the way and an obliging conductor welcomed them. Among the newcomers were (as we discovered later) an elderly Kondh woman, a middle-aged relative of her and their legal adviser, the village tout. The younger of the two women meekly asked the fashionably dressed girls occupying the ladies' seats to give her a little room, but the response was a haughty scowl. My friend offered the seat next to him to the older woman and persuaded the gentlemen on the front bench to accommodate the younger woman.

Being anthropologists, we could not resist the tempatation to look for data.

After an enjoyable hour of conversation my friend said, "Now Mausi, tell me your name."

With a smile came the reply: "What is the use, young man, wanting to know my name? I am so old." (Among the Kondhs, asking a young woman her name is a prelude to romance).

"Please tell us her name," said my friend to the younger woman.

"I can't" she replied. "She is my husband's elder sister. I shouldn't speak her name".

Madras *A. Aiyappan*

FOR BETTER FARMING

BONUS SCHEME FOR FARMERS AND DEVELOPMENT WORKERS

We have to enthuse the human factor in agriculture, the farmer and the development officers who help him raise his output. The writer puts forward a scheme of incentives for the human factor, which he believes will go a long way to build up the right kind of enterprise and initiative in the fields.

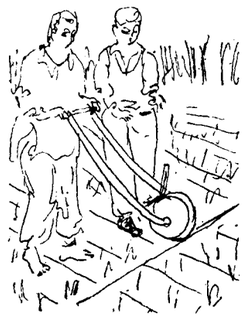
N. C. SAREEN

IN our effort to increase the output of agriculture much attention is being paid to physical inputs. But enough attention has not been paid so far to the all-important human factor—farmers who have to work out agricultural plans and village level and block level workers who have to help the farmer in the use of physical inputs and play a supervisory role.

The importance of the human factor in an agricultural breakthrough has been emphasised by many specialists. The FAO Director General, Dr B.R. Sen, has, for example, expressed the hope that in the next phase of FAO's programmes, more attention will be given to the human factor "since the ultimate goal of our endeavour as well as the instrument for achieving it is : man."

Dr Sen has also said that "the greatest single obstacle to increased production is the lack of any real incentives to cultivators in many countries to increase their production for the market, especially their production of basic foodstuffs."

In India there are two human factors involved in agriculture—the farmer, and those who man the Governmental developmental agency. Any practicable incentive scheme must cover both. It must activise the people who operate on behalf of the Government in helping the farmer with physical inputs and practical and scientific know-how. It must also benefit the farmer himself, making agriculture an increasingly profitable occupation. Both the field worker and the farmer have to be made to realise that they will stand to gain considerably by achieving the targets of agricultural production laid down.



The principal categories of field workers in the Community Development blocks, who are exclusively or mainly concerned with agricultural production, are the agricultural extension officers and village level workers. A practicable incentive for these people will be the grant of *an annual proficiency bonus* either in cash or in National Savings or Defence Saving Certificates. The exact amount of proficiency bonus will have to be carefully calculated, but, in this writer's opinion, an amount of Rs 500 per year for the extension officers and Rs 275 per year for the village level workers is a reasonable amount if they can show an increase of 10 to 20 per cent over the current output of foodgrains in a year. If bumper Rabi or Kharif crops are made the respective base, then the percentage of increase to be adopted for the award of an incentive bonus could be fixed at a lower figure; but if lean crops are fixed, then the percentage of increase will have to be fixed at a higher figure.

The amount of proficiency bonus has been suggested more or less on the basis of 20 per cent of the minimum of the basic pay scales of A.E.O. (Rs 210) and V.L.W. (Rs. 110). The period of 12 months is to be reckoned from the beginning of the agricultural year in each State. The proficiency bonus should be continued from year to year until we are in a position to export food-grains.

The amount of incentive bonus suggested will not be much more than the overtime allowance earned annually by Government servants. Some persons may think that the village level worker has the least capacity to guarantee any performance and is the most harassed of all field workers. If the V.L.W. does not have the capacity, then who else at the village level does? If there is no such official, then there is a vacuum which should be removed immediately. If the V.L.W. is the most harassed of the lot, then surely his burden should be lightened. He should be given intensive training in scientific methods of cultivation so as to equip himself to sell ideas on agriculture to the farmers. These two measures would give the V.L.W. the capacity for guaranteeing performance. The old method of assessing an officer's work by his superior officers and giving him promotion or credit has failed to obtain results for the simple reason that the scope for promotion is very limited. In fact, in spite of 14 years of community development, we have not been able to produce for the V.L.W. an incentive in the official hierarchy. Knowing that this orthodox method has failed, we should break the inertia by implementing the incentive bonus scheme.

INCENTIVES

Similarly, the farmers should also have concrete incentives for increasing production. The farmers in the villages under a VLW's circle, who increase their production by 10 to 20 per cent over the previous crop, should be given a *remission in land revenue or be supplied with specific quantities of fertilisers or improved seeds at subsidised rates or given the bonus either in cash or in the form of National Savings Certificates.* This incentive for the farmers should be in addition to the assurance of a minimum price for their produce. The incentive bonus (not necessarily in the form of remission of land revenue) could be disbursed through the Panchayats.

It was the late Dr P.S. Deshmukh who had initiated schemes for rewarding the best cultivators by awarding them "Krishi Pandit" certificates and also for adjudging the best field workers. It was one way of recognising the importance of the human factor. The value of "Krishi Pandit" certificates or prizes, however, is limited; they goad only those farmers who have fertile land and the wherewithal to aspire for top positions in crop competitions. They cannot provide any incentive to poor cultivators who have second or third class lands, and no tractors, nor enough money for fertilisers, better seeds and good implements nor much irrigation facilities. Mr Nehru was rightly intrigued why the prizes for the best producers did not make a significant impact on the vast majority of farmers.

The incentive proposals, on the other hand, have the advantage of firing the imagination of each and every A.E.O. and V.L.W. and each farmer who are the principal *dramatis personae* in the drama of food production. In other words, instead of having a competitive test in which only the rich farmers can aspire to secure top positions, we would be required to increase his present yield by a stipulated percentage to become eligible for the incentive bonus.

The idea of remission of land revenue in the case of those farmers who achieve the prescribed target may not be favoured by the State Governments on account of financial difficulties. It may also be argued that, as far as the cultivator is concerned, the only incentive would be additional production and income that would accrue therefrom. The



amount of land revenue is, however, not very large. *Even then if the State Governments hesitate to forego it, the Centre can always reimburse it to them either in full or in part.*

The most important point in connection with the grant of incentives to field workers and farmers is that the food output should be assessed through an impartial agency. The impartial agency should be a non-permanent agency for two reasons. First, the non-permanent agency will not be a permanent liability on Government; and secondly, it cannot be bribed by either the field worker concerned or the farmer, as it would not be in existence when the farmer or the field worker is rewarded on the basis of actual results.

One of the possibly cheapest and best agencies could be students of colleges and institutions, who do not have to appear for the final examination. These students should be trained in the methods of random sampling. As the students would constitute an *ad hoc* assessing agency, it is not possible for the field workers or for the farmers to corrupt or bribe them.

This proposal will not only introduce students to the rural areas, but would also give them a sense of participation in the most vital work of the nation, food production. The services of the District Statistical Officers and college teachers can also be utilised for exercising supervisory functions. In order to put the students on their best behaviour, some marks could be awarded for their conduct and performance during the assessment operation. In fact, there can be no bar to the technique of crop-cutting experiments being included as a subject in colleges and technical institutions and a period being allotted to the subject once a fortnight or so. Provision of transport facilities and residential accommodation for the students when they visit the rural areas should be the responsibility of the Collector concerned. No regular staff, except for technical direction and imparting training to the students, would be needed.

Even if the A.E.O. and all the 10 V.L.W.s in a Block achieve the target, the proficiency bonus would cost only Rs. 3,250 (Rs 500 for the A.E.O. and Rs. 275 × 10= Rs 2,750 for the V.L.W.s) per Block per annum. The expenditure on 5,209 Blocks in the whole country would amount to about Rs. 1,70,00,000. If we send 20 students for conducting, say, 100 crop-cutting experiments in each Block at the time of each principal crop and pay each student Rs 2 per day as daily allowance, the total number of students for all the 5,209 Blocks would be 1,04,180 and the expenditure on daily allowance for 45 days in a year, i.e. for three weeks at the time of reaping each of the two principal crops, would come to about Rs 94,00,000. An equal amount could be provided for their transport.

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Mr. Sareen has been closely associated with block development work in Punjab. Now in the Union Home Ministry, he was formerly Chief Secretary, Andamans and Nicobar Islands.

Incentives for Farmers

(*From Page 13*)

In other words, the total expenditure on the students in a year for the country would be about Rs 1,88,000. Each crop-cutting instrument would cost about Rs 80. We would need in all 52,090 instruments at the rate of one instrument for two students who would cover roughly one V.L.W.'s circle. The cost of these instruments would be about Rs. 42,00,000. This amount would be a capital investment and not a recurring charge. The total recurring expenditure would be about Rs 3,58,00,000 per annum, i.e. (Rs 1,70,00,000 on account of incentive for A.E.O.s and V.L.W.s and about Rs 1,88,00,00 on account of daily allowance and transport of students) if all the A.E.O.s and V.L.W.s pass muster. Otherwise, it would be less. *This expenditure is only a fraction of what we spend on the purchase and import of food-grains.* By spending a comparatively paltry amount we can achieve spectacular results and the whole atmosphere would become surcharged with zeal.

If for one reason or another, it is not considered possible to utilise students for supervisory work, alternatives could be thought of; there is no dearth of manpower in the country.

SCALE OF EXPERIMENT

While working out the financial implications of the proposals, it has been assumed that 100 crop-cutting experiments will be conducted in each Block at the time of each of the two principal crops. This scale of experimentation is likely to give annual Block level estimates with about 3 per cent to 4 per cent standard error and, thus, should normally be adequate to decide the admissibility or non-admissibility of incentive bonus at the Block level. The scale of experimentation can be enhanced, if needed, depending upon the availability of students. Recourse can also be had to the procedure of taking a larger number of visual observations, say, 500 (or some simplified procedure



of physical observations) which, in conjunction with the data of crop-cutting experiments, would give the Block level estimates still greater precision. Since the visual observations will be used indirectly, these can be of great value even if they happen to be consistently biased. The work of visual observations can, therefore, be safely entrusted to the existing revenue agency of Patwaris.

As regards the V.L.W.'s circle, an ideal thing would have been to have, say, 50 crop-cutting experiments in each circle for each principal crop. But since this would be a gigantic task, we can make use of the statistical technique of allocating the increase, observed at the Block level, to the V.L.W.'s circle in proportion to the increase reported in each circle through 40 or 50 visual observations and 10 crop-cutting experiments conducted in the circle.

With this incentive the A.E.O.s and V.L.W.s will go to each village, contact each individual farmer and persuade him to use the right quantity of manure and explain to him the right time and technique of sowing each crop, provide him with pesticides, hire tractors, bring to his knowledge improved implements, secure good seeds, and expedite the sanction of loan for digging wells, where necessary—in fact, do all that would help give a fillip to food production. Instead of the farmer running after the field worker, as at present, the field worker would run after the farmer. Those field workers who fail to increase the yield would be exposed.

Due allowance should be made for natural calamities which are generally confined only to limited portions of some States and do not normally affect the whole country at a particular time of the year. The incentive bonus may be deferred until the next crop or the next year in such adversely affected areas. But the scheme need not be deferred until the average of three to five years' crops are available for a statistical basis. For one thing, we cannot wait that long; for another, crops over a period of three to five years may be open to natural calamities or favours, which would minimise or destroy the sanctity of an average. While adjustments in the targets for the award of incentive will partly make allowance for the effect of weather, the benefit of unadjusted weather effects should go to the field worker and the farmer. If the Union Government agrees to meet the paltry cost involved in its entirety or a portion thereof, then the extra expenditure need not be a burden on the State Governments or on them alone.

INDRAVATI BASIN

TOPO-SHEETS studies conducted in the Indravati basin in Orissa State have shown that there are possibilities of developing 35 multi-purpose irrigation and hydro-electric schemes.

Investigations are in hand on the Upper Indravati Project in Kalahandi district which is part of the developmental programme. They are expected to be completed by the Orissa Government in the current year.

An investigation team was set up in August 1964 by the Union Ministry of Rehabilitation to assess the hydro-electric and irrigation potential of the Indravati basin. It has recommended in its report that field investigation in respect of the Upper Indravati project should be expedited and that the trans-basin and inter-State implications of the project should be got cleared before deciding on the final features of the project.

When implemented, the Upper Indravati project is expected to irrigate over 2 lakh acres of land in Kalahandi district and generate about 600 MW of electricity.

INDIAN MINDS

AN Indian editor drew a protest from an American reader of his paper to his attempt to penetrate the "Texan mind" of President Lyndon Johnson. Are there in India a Punjabi mind, a Tamil mind, a Bengali mind or a U.P. mind? asked the American reader. To which the editor's polite reply was: perhaps there are.

Mr Nehru once said there were three hundred and fifty million problems in India. Each problem has, willy nilly, a mind of its own, or should have, if India is to function as a democracy. But our editor had in *his* mind some very different minds. All the three Prime Ministers India has had so far, have belonged to Uttar Pradesh, and yet nobody can say that Mr. Lal Bahadur Shastri did not have a mind very different from Mr. Nehru's, or that Mr Indira Gandhi hasn't a mind very distinctly her own. It is an intriguing question whether a South Indian or a Bengali or a Punjabi Prime Minister of India would have looked at problems at home and abroad differently from Mr Nehru, Mr Shastri and Mrs Gandhi. We have had Home Ministers at the Centre from Gujarat, Madras and Uttar Pradesh and Finance Ministers from Madras, Maharashtra, Gujarat and Bengal. Have the approaches of the respective Ministers differed according to the regions where they belong, and, if so, how and in what manner? Here is a subject that waits the assault of political, social and economic psychologists.

Too Many Logists

THIS is the age of logists. There are the Kremlinologists who know everything about the Soviet Union. There are the Pekinologists who claim to know more about the thoughts of Mao Tse-tung than perhaps Mao himself. Now to this growing tribe of logists have been added three new groups, Johnsonologists, Castrologists and Sukarnologists. Soon there will be the Nasserologists and even perhaps some Kamarajologists. The more complex the character, the greater its attraction for specialists.

A Sukarnologist has recently attempted a profile of the Indonesian President, now captive in the hands of the new forces that hold sway in Indonesia, very different from the New Emerging Forces of his own vintage. The profile unfortunately depends too much on Dr Sukarno's autobiography which, as far as one knows, is still unavailable in India. The Sukarnologist quotes copiously from Dr Sukarno's amazingly candid amorous confessions, and then goes on to describe his five wives. Which would suggest that there is as yet only one Sukarnologist in the world, and his name is Dr Achmed Sukarno, a road and waterworks engineer who has been largely responsible for making Indonesia what it is today and whose twilight, like that of many a great man, is perhaps going to be a melancholy business, sans power, sans limelight, a President who is silent in a thousand tongues.

One wonders why there has been no Nehrulogists or even Gandhilogists in the western world. Are Indians too transparent to attract the specialist anxious to unravel the deeper mysteries of minds and systems?

A National Debate

A democracy's temper heats up in an election year. When the various aspirants to power confront one another in a multiple bid for people's votes, many issues gather verisimilitudes which, in soberer and quieter moments, may appear more amusing than provocative. Yet election year controversies do serve their purpose. They bring into public focus all nuances of problems the nation has to face, and the voter is thus better prepared to make his or her own decisions. The parties can best serve the voter if they concentrate their histrionic and semantic power on major issues, although in a vast and varied country like India even local issues often assume greater importance than national ones, for sizeable portions of the population.

Since a democracy derives its strength and vitality from a national concensus, debate and discussion are its blood vessels. Democracy becomes stronger if the country's minds are engaged in a passionate search for alternatives in its continuous tryst with problems. In this context the current debate on the Government's economic policies is a healthy democratic development, especially in an election year which also happens to be a year of vital economic decisions.

One charge which could perhaps be legitimately made against our Government is that it is, except in extraordinary moments, far too much on the defensive, and does not often put across its views with telling force of conviction. The present is one of these extraordinary moments when this defensive stance is broken. Faced with accusations that Government has been deviating from some of the established economic and social policies, official spokesmen have now started to join the debate with increasing self-confidence. This has made the debate a stimulating and fruitful national enagagement.

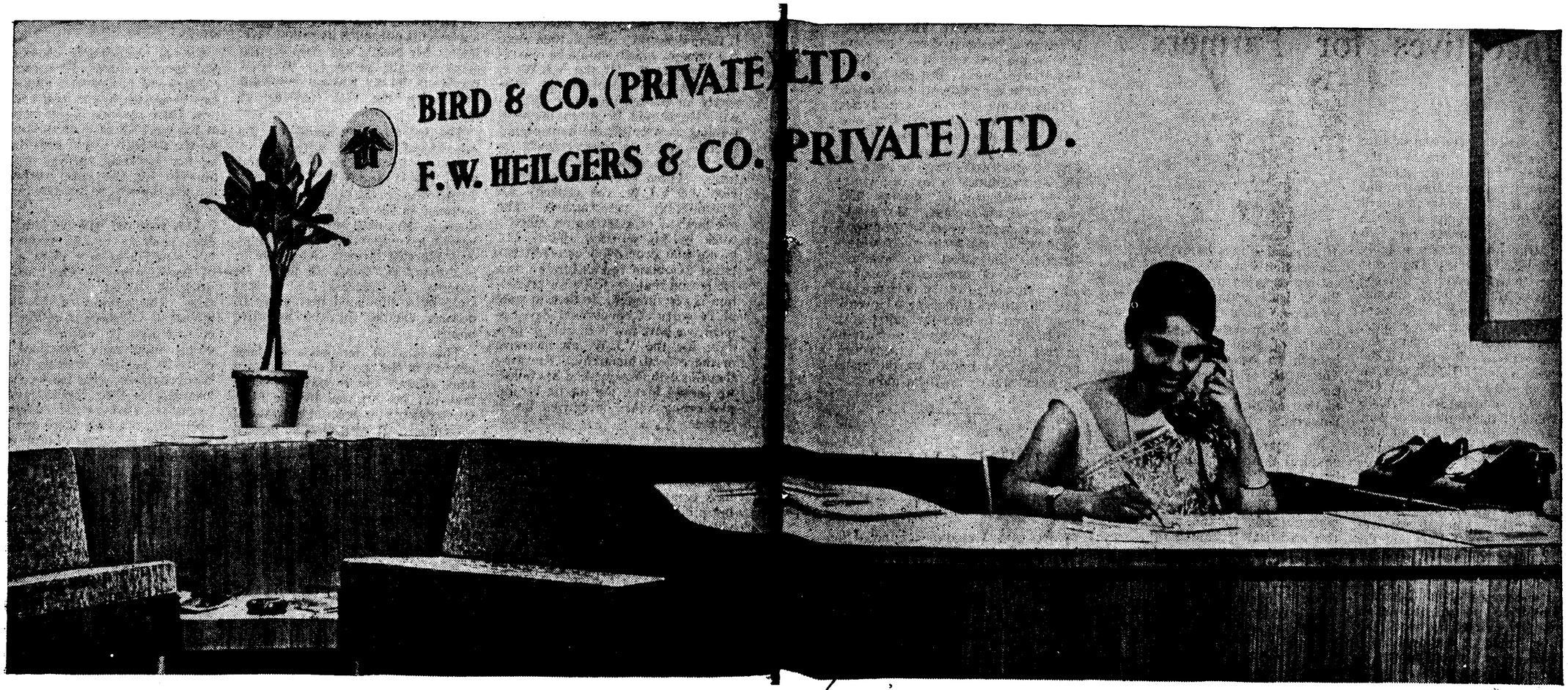
— B.S.G.



IGNORAMAN

Wants to Know

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Books

Education for The Child

Maria Montessori : The Advanced Montessori Method ; published by Kalakshetra, Adyar. 421 pages. Rs 20.

T. N. Dhar

MARIA Montessori, though she had to suffer a long exile from her country, has exerted tremendous influence on the education of the children of what are called the pre-school ages. This was partly due to her zeal and energy and partly because she, in spite of her old age, visited many countries such as America, India, the Netherlands and Britain and gave personal direction to her disciples. The methods and the apparatus that she devised are still used, with little modification, in the Montessori schools.

The premise, which is basic to her educational ideology and practices, is that of giving the child "perfect liberty" to develop. For her, worthwhile education is "auto-education", that is, once the child is familiar with the general nature of the task, he is able to proceed by himself. The mistakes that he may commit he will discover and correct. If he fails in a task, it is so, Montessori believed, because the child is not yet ready to do it. Perfect freedom to develop does not, however, lessen the importance of the teacher —or directoress, as the Montessorians call her. Instead of being redundant, as it were, the teacher becomes an "observer of individuals, who select their activities and decide for themselves, when to change". The directoress has also to carefully organise the child's environment. For auto-education, Montessori developed special materials known as the "didactic" materials, through the graded use of which children are to gain skills of manipulation and judgment through the senses, physical and intellectual development thus being associated throughout. As she started with the education of the subnormal children, sense and muscle training received special emphasis in her system.

The Advanced Montessori Method —in two volumes—is a translation of her work first published in Italian as early as 1918. Apart from discussing the factors that govern the growth and development of the child, the book—the second volume—deals with methods and techniques of teaching basic skills of reading, writing and reckoning. The second volume should particularly be of use to the teacher as it provides, apart from the basic principles, substantial illustrative material for the teaching of languages, mathematics, drawing and music.

Some of the basic psychological premises, which Montessori propounded, have been challenged, specially as a result of the latter-day research in the psychology of development and of learning. The belief that her sense exercises are "true intellectual exercises" has been challenged on the ground that this represents nothing but another version of the theory of transfer of training, Further, though she advocated "perfect liberty" for the child, "the manipulation of the child's environment" in a definite "manner", by arranging tasks and occupations, meant, as Stern stated, "a premature transfer of school methods to a child's life which is not ready for the hard and fast system and the consciously fixed aims of school life". For, at this period of growth, "everything the child handles or sees is the object of involuntary learning".

As the materials were developed for subnormal children, it is often doubted whether they are suitable for the education of normal children.

Nevertheless, Montessori's works, the present book included, have resulted in a tremendous impact on the educational arrangements for children. With her writings she was able to arouse the social consciousness of mankind against the prejudices rampant in her days about bringing up and educating children. Hers was essentially a campaign in favour of childhood and the rights of the child, and it is partly her pioneering work which has led to the setting up of pleasantly furnished and well-provided classes for children of pre-school ages. She was also greatly responsible for developing education as a science, based on the findings of empirical research.

The *Kalakshetra* has done a signal service in bringing out a beautifully printed translation. The two volumes should prove of use at least for providing worthwhile illustrative material. Being active in the field for a considerably long time, the *Kalakshetra* could very well undertake original research and investigation in addition to translations which would help in the formulation of techniques and methods as also the devising of materials and apparatus which would be more suitable in Indian conditions.

FINANCE FOR FARMING

Agricultural Financing in India by S. N. Ghosal; published by Asia Publishing House. 199 pages. Rs 16

S. K. Sengupta

IT is now accepted, without controversy, that we can ill afford to neglect agriculture in our over-enthusiasm to diversify the economy. Contributing about 43% of the national income, agriculture continues to be the kingpin in any strategy for economic development. Development of agriculture is, however, confronted with several bottlenecks and handicaps, one of which is non-availability of adequate credit. In his book Dr S. N. Ghosal deals with problems of agricultural finance, mainly long-term credit needs.

It appraises the working of the land mortgage banks in India, the U.S.A. and certain European countries. It discusses in detail financial, legal and administrative problems of land mortgage banks in India. As the present set-up has failed to provide adequate credit to the farmer, the author suggests a new structure based on the agricultural development corporation, as a subsidiary of the Reserve Bank at the national level, and land development banks or public corporations operating at the State level and functioning at the block level through simple loan committees.

The author has not convincingly discussed how a simple change in structure is likely to tackle successfully the immense problem of planning the credit needs of about three million farms, providing credit, supervising its use and ensuring its timely recovery. This is an over-simplification of the problem with which the economic administrator is not likely to agree. Apart from credit, it may be difficult to provide competent investment consultancy on the scale envisaged. Even if the plan suggested is sound, it may not work because of organisational failures like lack of coordination between related departments in the State Governments.

Moreover, there are many other factors, social, political and psychological, which, though non-economic, are real and may hold back fast development of Indian agriculture. In view of the immensity of the problem, the Reserve Bank has now appointed a high power committee, with Mr B. B. Venkatappiah as Chairman, to review the supply of rural credit and allied matters in the context of the Fourth Plan, and, in particular, of the requirements of the intensive programme of agricultural production in different parts of the country.

In brief, students interested in a study of land mortgage banks would find the book very useful. The author has made a sincere effort to collect a lot of data about these banks. To the policy-maker, however, the 'solution' may not appear to be a very considered and realistic one, though it does provide food for thought.

'HINDU' SURVEY OF INDUSTRIES

The Hindu Annual Survey of Industries, 1965

M. R. K.

THE HINDU has kept up its distinguished tradition by bringing out yet another competent survey of Indian industries. As is naturally to be expected, the accent is on Defence and Development. Self-reliance gained an additional edge in the wake of the Indo-Pakistan conflict. More than the shooting war, the cessation of aid, dislocation of trade and uncertainty about economic relations in general obscured the prospects for the future. It is against this background that *The Hindu* has brought out last year's survey of industries.

What emerges from the large number of articles and reviews by experts in various fields is that, in spite of the uncertainty about the Fourth Plan and the general mood of despondency prevailing in the country, we have the necessary natural and human endowments for growth. It is the *extra* effort that makes all the difference between stagnation and progress.

As the Survey tellingly drives home, the problems we face are, of course, formidable. The agricultural situation could not have been worse. Prices are causing concern. The foreign exchange situation is critical. And industrial output is much below expectation. But, if we look a little beyond the present landscape and assess our progress in perspective, we find that the picture is not too bleak. The Survey has done well in impressively bringing out the credit side of the balance-sheet. We are, for example, on the threshold of the "take off" stage in industrial machinery. We now make the bulk of cement, sugar and textile machinery we need and a wide range of machine tools. In the near future we will be in a position to fabricate steel machinery. New vistas have been opened by the discovery of oil and natural gas. The economy is entering the wonderful world of petro-chemicals. The potentialities of plastics, synthetic fibres and numerous chemicals are indeed amazing and may completely revolutionise the industrial economy.

The Survey depicts a panoramic image of the Indian economy, which is, in spite of occasional set-backs, thrusting forward and expanding in new directions.

PROBLEMS OF CASH CROPS

Indian Agriculture—A Survey published by The Associated Chambers of Commerce and Industry of India, 92 pages.

THE booklet deals mainly with the problems of certain Indian crops, namely jute, cotton, tea, coffee, sugar, tobacco and oilseeds, on which are based important industries of India. These crops also bring in a lot of foreign exchange. Programmes relating to irrigation, fertilisers, seeds, plant-protection and administration in relation to these crops are also discussed in the book. It briefly reviews the performance of the first three Plans in regard to agriculture.

Although many of the suggestions for improving agricultural production in general and particularly of the various cash crops have already received attention in the Plans, yet they bear repetition. The relationship between food zones and crop planning is a vital issue that it discusses.

There appears to be some jugglery of figures. The number of cultivators given (99 million) should have been 70 million. Similarly, while in the case of the Third Plan outlay for agricultural production has been given, the outlays for agricultural plan as a whole have been cited for the First and Second Plans.

The booklet is well written and should help persons engaged in agricultural planning in India.

THE Atomic Energy Establishment at Trombay is setting up a Food Irradiation and Processing Laboratory. It will conduct research in applying ionising radiation for preserving perishable food and for disinfecting stored foodgrains. Experiements have shown that the strorage life of potatoes, mangoes and other articles can be doubled by means of ionising radiation.

LAND REFORMS IN U.A.R.

SURESH CHANDRA MATHUR

EGYPT has a total area of about a million square kilometres or nearly 238 million feddans (a feddan is 1.038 acres). Only about 5.8 million feddans, that is, 2.5% of the total area, are cultivated. The total cultivable area is estimated at 10 million acres. On this limited area subsists a large, increasing population. The total population increased from 16 million in 1937 to 26 million in 1960, 62% of which reside in villages. On an average there are 724 persons to a square kilometre in the Nile Valley and the Delta.

At the time of the Revolution of 1952 Egyptian agriculture was characterised by glaring inequality in the ownership of land, prevalence of leasing of land, insecurity of tenure, exorbitant rents and stagnant agricultural production.

More than 2.6 million or 94% of the landowners had less than 5 feddans each and held less than two-fifths of the cultivated area. On the other hand, big landowners holding above 200 feddans, though hardly two thousand in number, held one-fifth of cultivated area.

The size of cultivation holdings over bulk of the area was, however, small. The big landowners got the land cultivated generally through small tenants. By 1952 the rented area had increased to 60.7 per cent of the cultivated land. The most common method of renting was cash rent ; crop-sharing being adopted in 27 per cent of the tenanted area. Cash rent was preferred by absentee landlords as it facilitated collection of rent. As the tenants had no security the rents were arbitrarily increased. The standard rent index per feddan increased rapidly unaccompanied by increase in productivity.

Soon after the 1952 Revolution, the new regime enacted land reform legislation (Law 178 of 1952) imposing ceiling on landholdings, regulating tenancies and fixing maximum rents. Since then a number of legislative measures have been adopted improving the principal legislation.

The main features of the agrarian reform measures undertaken in the United Arab Republic are briefly summarised below.

(1) A ceiling of 100 feddans has been imposed on all holdings. Certain categories of land were originally given exemption. These exemptions were subsequently withdrawn. A provision was also originally made for payment of compensation at 70 times the assessment. This provision has recently been repealed and no compensation has been paid for the lands which have vested in the State.

(2) Nearly a million feddans, that is, 1/6th of the total cultivated area, have thus vested in the State. The bulk of this area was held by tenants. After conducting a social research survey of the prospective beneficiaries the surplus lands are distributed to tenants and agricultural workers preference being given to those already cultivating the land. Each beneficiary is allotted 2 to 5 feddans depending upon the number of members in his family, irrespective of the extent of land cultivated by him before distribution, and 647,054 feddans have thus been distributed.

(3) The beneficiaries are given permanent rights with restricted transferability. It is obligatory to become a member of the multi-purpose co-operative society specifically set up for surplus land for each village or group of villages, observe specified rotation of crops and abide by instructions of the agricultural supervisors for efficient cultivation of land. The purchase price which was originally fixed at 70 times the assessment has now been reduced to 17½ times the assessment and is payable in instalments.

(4) For implementing land reform programme the Higher Committee directly responsible to the President was set up in 1952 which has since been replaced by the General Organisation of Agrarian Reform in a specially constituted Ministry of Agrarian Reform and Land Reclamation. It has its independent staff at provincial, district and village level for taking over, distribution and management of surplus lands.

Mr Mathur, Senior Research Officer, Planning Commission, visited the UAR for a month under a FAO Fellowship. His study of the UAR land reforms has been published by the Planning Commission. This article is a summary of his study.

The Prime Minister's visit to Cairo coincided with the celebration of the 14th anniversary of the Egyptian Revolution. One of the first actions of the Revolutionary Government which took over in Cairo in July 1952 was to introduce sweeping land reforms. These reforms have been enlarged and consolidated over the years.

Dr. V. K. R. V. Rao, Member, Planning Commission, says in the Preface to the Study of UAR Land Reforms by Mr. S. C. Mathur, "While the land reform programme adopted by them was broadly similar to the one adopted in India, elimination of feudal exploitation, ceiling on land holding and regulation of tenancies, the measures taken by them for implementation deserve attention."

(5) In respect of surplus lands distributed by the State the technical, credit and marketing facilities are provided to the beneficiaries through co-operative societies under supervision of the special staff of the Agrarian Reform Organisation. For every 750 feddans there is an agronomist who supervises cultivation. The credit facilities are provided interest free by the State-sponsored Agricultural Credit and Cooperative Bank. To ensure proper utilisation as far as possible credit is given in kind.

(6) Since 1953, three hundred thousand feddans have been reclaimed. The policy and procedure adopted for distribution and management of surplus lands has also been adopted in respect of reclaimed lands. The allottees are selected from congested regions in the country and, after a social research survey, allotted 3 to 5 feddans per family. The allottees are given permanent rights with restricted right of transfer. They are provided facilities for cultivation through cooperative societies.

(7) In areas which have not been affected by ceiling, tenancy arrangements still prevail on a considerable scale. They cover 51% of the cultivated area. Provision has been made for regulation of rents and security of tenure.

(8) Rents are not to exceed 7 times the land assessment which generally varies from £ E 2 to 4 per feddan. In case of produce rents which prevail in 27% of the tenanted area, the maximum is laid down by law at half the net produce (normally 1/3rd the gross produce). The maximum rent payable for different classes of land in each village is displayed prominently in the office of the village cooperative. The tenant has an option to pay rent through the cooperative. Stringent penalty has been provided for charging rent in excess of the prescribed maximum including arrest and imprisonment up to 3 months and a fine up to £ E 200.

(9) Since 1952 tenants have been protected from eviction. Future tenancies are to be for not less than 3 years. In 1955 the landlord was given a right to resume one-half of the leased area from a tenant. The right was foreclosed in 1958. Since then ejectments have been stayed in respect of the entire holding of a tenant. Substantial rights have not so far been conferred on tenants as the future pattern in respect of tenanted lands has not been finally decided upon. There is a proposal to purchase the interests of landlords and redistribute the lands on the lines the surplus lands are distributed. For the time being the tenant has been given all assistance in cultivation and it is ensured that he is not dispossessed. He has been made member of the cooperative society and all facilities for cultivation are directly given to him.

(10) All cultivated lands have been cadestrally surveyed. Besides the usual village records maintained by the Land Tax Officer (of Finance Department) and those maintained by the Surveyor of the Irrigation Department (who records the name of actual user-tenant in case of rented land), a Tenure Register is maintained in each village and land tenure cards maintained for each cultivator in which land taken on lease is indicated. These documents are kept in the village cooperative.

All subsisting and future tenancy agreements are to be in writing. A copy of every tenancy agreement is also to be recorded in the village cooperative. In case the landlord hesitates to sign the agreement, the cooperative will draw the contract which will be binding on the landlord. In future all tenancies are to be created through the cooperative.

Thus there is proper record of tenancy and the link between the landlord and the tenant has been weakened ; there is a general belief among the tenants that this too would soon be broken.

(11) Cases of illegal evictions have come to notice. To ensure effective implementation of tenancy provisions and step up agricultural production, on an experimental basis, the General Organisation of Agrarian Reform has been made responsible for supervising cooperatives not only of distributed lands but also of all other lands in two provinces. It is proposed to extend this arrangement of supervised cooperatives to other provinces as trained agronomists become available. At present the implementation of the tenancy provisions is looked after by the Agricultural Cooperative Organisation while matters relating to agricultural production are looked after by the Agriculture Department in respect of lands within the ceiling limit of owners in other provinces.

Ceiling on Holdings

The law of 1952 as originally enacted provided that no person was to hold land in excess of 200 feddans. Transfers after commencement of the law were to be disregarded. The landowner was, however, permitted to transfer ownership in the following cases :

(a) to his children at a maximum of 50 feddans per child subject to a total of 100 feddans ;

(b) to small farmers up to October 1953 provided they satisfied specified conditions (about 145 thousand feddans were thus disposed of in 6 months) ;

(c) to graduates of Agricultural Institutes, orchards up to 20 feddans.

In 1961, the law was amended reducing the ceiling limit to 100 feddans for a person. It has been laid down in the Charter of 1962 that by 1970 this limitation of 100 feddans will become applicable to the aggregate area held by a family—consisting of father, mother and minor children.

Each surplus holder was required to intimate within specified period in prescribed form the lands held by him, the lands to be retained and surrendered and names of tenants and agricultural workers cultivating surplus lands.

The process of redistribution requires prolonged and detailed study to ensure allotment on sound basis. A group of social workers are entrusted by the Agrarian Reforms Organisation with undertaking a socio-economic study of the living conditions of each beneficiary together with a comprehensive agro-technical study of the lands for distribution and the income which can be derived per feddan of land. After the requisite data have been compiled giving details of land available in the village and the details of the applicants for allotment— names and ages of members of family, occupation of each member of the family, residence, the area already owned or cultivated, implements, cattle held if any, relationship with the head of the family—the Distribution Committee visits the village. It consists of a Special Officer from the Headquarter, the District Officer of the Agrarian Reform Organisation, Social Researchers, a member selected by the Governor of the Province, a member nominated by the Arab Socialist Union, Sheikhs, representatives of Map and Survey Department, Land Tax Collector and Registrar of Marriages, Births and Deaths. In an open meeting of the villagers the applicants are interviewed and details checked up. The committee announces the area allotted to each family according to the following formula. A unit system has been devised whereby the head of the family is given 1¼ units, dependent over 21 years of age is given 1 unit ; dependent from 14 to 21 years ¾ unit, from 7 to 14 years ½ unit and dependent below 7 years ¼ unit. Normally a family up to 4 units is allotted a minimum of 2 feddan ; for every additional unit over and above 4 units an additional half feddan is allotted. A dependent shown in the family of one person cannot be shown in any other family applying for allotment. A dependent who has some other occupation or is otherwise not entitled to allotment is not taken into account. These limits apply to tenants already working on the land as well as to new allottees.

Out of about a million feddans which have vested in the State, 647,054 feddans have so far been distributed. During 1965, it was proposed to distribute another 60,000 feddans. The balance includes weak lands which require improvement before distribution, lands reserved for public utilities, orchards which the General Organisation is managing directly and lands awaiting redistribution.

Each beneficiary is given a ownership certificate. He has to become a member of the cooperative society which advance seeds, fertilisers and insecticides without any interest and gives facilities for irrigation, traction, marketing and transport. He has also to observe prescribed rotation of crops and cultivate with due care and attention under the general supervision of the special staff of the Agrarian Reform Organisation. In case cultivation is neglected the matter is referred to a Committee with a member of the State Council as the President and two member-directors ftom the Agrarian Reform Organisation. The Committee may suggest cancellation of the allotment. The final orders are to be issued by the Council of the Agrarian Reforms Organisation. Before final orders, an opportunity is given to the allottee generally to improve efficiency.

The land is to be cultivated personally by the allottee along with his dependents whose names appear on the allotment card. He has also to reside in the village. In case he ceases to live in the village the land becomes liable to re-allotment. The village supervisor has to take orders from the Council of Land Reform Organisation before re-allotment. Preference is given to the working dependents and relatives.

Security of Tenure

As regards security of tenure, ejectments were stayed in 1952 except on grounds of non-payment of rent and gross negligence of land. In 1955 the landlords were given a right to resume half the rented area from a tenant. Data are not available regarding the number of landlords who exercised the right of resumption. It appears that there were not many cases of ejectment of tenants. In some cases persons who had left the villages but could not get secure jobs, returned to the land. Some owner-farmers who had let out part of their lands also utilised the opportunity in getting more land under their personal cultivation. The absentee landlords did not resume any land but instances were reported where they took some premium by threatening to resume. No tanant could, however, be rendered landless. The right of resumption was taken away in 1958 and the tenants are no longer liable to ejectment on the ground that the landlord requires the land for personal cultivation.

The protection from eviction is an interim measure extended from time to

time, generally every three years. The leases made after 1952 were to be for a minimum term of 3 years. By the interim measure their duration has also been extended.

It may, however, be mentioned that the tenant has been given the same status as an owner farmer in the cooperative society and is entitled to all the facilities. His position in the village is definitely much better than the non-cultivating landlord who cannot have any say in matters relating to land.

Every cultivating tenant can become a member of the village cooperative society and is entitled to get advances of seeds, fertilisers and insecticides and cash credit required for cultivation of land without any reference to his landlord. No interest is payable on such advances. The Credit and Cooperative Bank advances long term funds to cooperative societies, of which tenants are members, for purchase of tractors, agricultural equipment, irrigation machinery etc. for use by tenants. The tenant is also entitled to receive from the State through the cooperative interest free loan for purchase of cattle and for housing under a special Nasser Scheme. On the other hand, the non-cultivating landowner is not entitled to be a member of the village cooperative or to take any advantage from the society.

Right of Ownership

A tenant has been given the right of ownership only in respect of land held by a person above the ceiling limit. The future set-up in relation to the rented area within the ceiling limit of owners has yet finally to be decided. There is a proposal to buy off the interest of the rent receivers and redistribute the rented lands on the lines of redistribution of surplus lands.

The main difficulty in the proposal to take over and redistribute all the rented lands on the lines of surplus lands is with regard to financing of such purchases. The market value of rented lands is 10 to 14 times the rental value which it would be difficult to recover from the beneficiaries. The scheme would, therefore, have to be subsidised. The whole matter is under consideration.

The plots allotted to beneficiaries on distribution of surplus lands which vary from 2 to 5 feddans cannot be further partitioned. On demise of a beneficiary, the Land Reform Organisation will decide, taking account of the capacity to cultivate the land personally, which other member of the family might be given the land. If he has more than one heir capable of cultivating the land, other members are kept on the waiting list for allotment of suitable land in the village. If there is no dependent member who can cultivate the land personally, the land may be allotted to any other person.

In respect of other lands there is a legal provision restricting subdivision of a holding to plots of less than 5 feddans.

Some disadvantages of fragmented holdings are mitigated by the scheme of rotation of crops which has been introduced in the U.A.R. in respect of all lands. For the purpose of cultivation each village is divided into crop rotation blocks of 100 feddans or so. Each block is further divided into 2 or 3 sub-blocks. It is obligatory for each farmer having his holding in a particular sub-block to cultivate the same crop according to a rotation pattern to be decided by the village cooperative in consultation with the State agronomist. For example, if a village has an area of 1,500 feddans, it will constitute, say, 10 to 15 rotation areas of 100 to 150 feddans each. Each rotation area will be further divided into, say, 3 sections depending upon whether it is a 3 years' rotation pattern. In one particular year in each rotation area in one section will be cultivated cotton, in another wheat and in the third clover; in the second year wheat, clover and cotton and in the third year clover, cotton and wheat respectively. Only areas earmarked for growing vegetable are exempted from rotation. The rotations system has made it possible to adopt mass production techniques in consolidated blocks of 30 to 50 feddans or even more while maintaining individual ownership and management.

The crop rotation system in the U.A.R. has become an important method for crop planning—in fact, an important device for agricultural planning. The area under a particular crop each year is precisely known beforehand and so also requirements for seeds, fertilisers etc. A firmer estimate of produce can also be made and programmes of exports and import requirements pre-planned.

The rotation programme is being enforced vigorously in the redistributed lands and the districts where supervised cooperatives have been introduced. In other areas too a beginning has been made.

Cooperation

The cooperative multi-purpose society, which has been set up in each village, has become the main instrument of agricultural development and agrarian reform. Every person personally cultivating the land is entitled to be a member irrespective of his rights in land and to get all the facilities. Improved seeds, fertilisers, insecticides and cash credit for requirements of cultivation are given by the cooperative to each farmer without interest, to be repaid at the time of harvest. Tractors and irrigation machinery are made available to the farmers. The produce is marketed through the cooperative: marketing of all cotton through the cooperative is compulsory, and a small portion of wheat and rice. Vegetables are also generally marketed through the society. The cooperative also undertakes rural industries and provides social amenities such as construction of buildings for schools, dispensaries, libraries and mosques. It also looks after rural electrification. Drinking water has already been provided in each and every village by the Public Health Department.

Every village cooperative is independently working under the general guidance of officials. If the Supervisor does not agree with the decision of the cooperative, the matter is referred to the District Union of the cooperative and even to the General Organisation of Agrarian Reform or the Egyptian Agricultural Cooperative Organisation, as the case may be. The attempt is to throw up local leadership trained in cooperative methods and techniques. The members of the Board of Directors are elected subject to the condition that 4/5ths of the members of the Board are cultivators holding not more than 5 feddans of land. Generally there is one representative from each rotation area in the village. The Secretary and the Treasurer are also elected. Each Board member becomes Chairman by turn. They actively participate in the affairs of the cooperative. In village El-Soghra visited by me, the Secretary of the cooperative—an energetic young peasant—has become a leader in the cooperative movement, well conversant with the principles, policies and programmes of cooperatives.

The establishment of the economic and cooperative services after the 1952 Revolution has greatly facilitated the productive forces in the field of agricultural activity. In the successful provision of such services an important role was played by the Agricultural Credit and Cooperative Bank. The Bank was initially set up in 1931 to meet the special requirements of credit in agriculture. The aggregate of the loans given by the Bank increased from FE 2 million in 1932 to FE 7 million in 1948. Most of the funds were made available to individual owners and hardly 25% through cooperatives. With the setting up of the cooperatives in every village, loans to cooperatives increased steadily from FE 21 million in 1959 to FE 58 million in 1962. It has now been decided to advance credit only through the cooperatives. As far as possible the advances are given in kind with a view to ensuring their proper utilisation.

BETTER TOOLS *from Page 7*

the production of better farm implements.

The improved implements, on all accounts, have not so far produced the desired impact on our farming. This is partly due to a lack of proper communication with the farmer in the field. Apart from exploiting all publicity media, there is a great need to conduct large-scale practical demonstrations to bring home to the farmers the benefits of improved agricultural implements. Simple illustrated leaflets explaining the use and comparative advantages of various improved implements of local importance and incorporating information as to the price and source of supply need to be published in regional languages and distributed on a mass scale for the guidance of the farmers and extension workers.

The Central and State Governments are in general agreement with the recommendations of the Team. There might be certain difficulties in implementing these recommendations but the difficulties have to be sorted out to make our current food drive a success.

COORG HONEY GROWS ON TREES

AND NO BEES, TOO

C. V. RAMANI

ABOUT 20 kilometres from Mercara in Coorg is a State-owned farm where honey grows on trees. Bees have nothing to do with it, for it is a fruit.

The papaya is not a patrician fruit but the variety grown in the Chethalli Regional Fruit Research Station, known as the "Coorg Honey", is, like all *noveau riche*, a money-spinner.

Developed from a chance seedling selected at the station, the Coorg Honey is a great favourite with horticulturists all over the country not only for its delectable fruit but also for its papain content. The station has recorded an average yield of 100 kgs of papain per acre from the Coorg Honey, fetching an income of Rs 7,500 per acre per year. More than 100 kgs of the seed of this variety are sold by the farm every year.

The Coorg Honey is unique in another respect: it produces female and hermaphrodite flowers in different trees without producing any males. A tremendous blessing to the grower.

Following its success with the Coorg Honey, the station has scored another victory with the pineapple which is a tricky fruit to grow even under the most favourable conditions. The traditional method is to plant 5,000 suckers per acre. The research station has planted 15,000 per acre, raising the yield to 30 tonnes per acre as against the usual ten.

One of the banes of a pineapple cultivator is the shortness of the harvest season. The research station is currently engaged in tackling this problem by using different types of planting material, such as crown, slip, shoot and sucker, in an attempt to obtain fruit in different seasons. Growth-regulating substances are also being tried to delay or advance the harvest and to reduce the size of the crown so that the fruit may be of uniform size and shape to facilitate processing at the canning factory. If this is achieved it will be a significant breakthrough.

The 220-acre farm at Chethalli was started in a small way in a three-acre plot in 1947. By 1953 it had grown to 30 acres and by 1956 to 50. Today 170 acres are under cultivation and 50 more are awaiting development.

250 Varieties

By any standard the beginnings of the station were modest and the objective was solely fruit research. The first fruit selected for development was the orange for which Coorg was already famous. But Coorg's eminence rested mainly on one variety of the fruit. Now the research station has successfully grown 250 varieties of citrus collected from all parts of the world and it is a feast to the eye to see thousands of these trees, green and luxuriant, loaded with fruit. In mere numbers the Chethalli farm has the finest collection of citrus varieties in South-East Asia and in quality its products are said to be the equal of anything grown in California.

This remarkable collection includes 49 varieties of sweet orange, 28 kinds of mandarins, 13 varieties of lemons, five each of limes, sour oranges and pomeloes, not to mention several other members of the citrus family, including hybrids.

In this rich choice of variety the star lime is the seedless one developed at the station. This is a paragon among limes for it is large in size, full of juice, and the plant is relatively free from disease. And to crown its virtues, it is thornless. No wonder this Admirable Crichton among limes has caught the fancy of fruit farmers in the country and the demand for its budlings is growing rapidly. In the past three years over 10,000 of these budlings have been distributed to citrus enthusiasts. Admittedly, this seedless lime is superior to the well-known *kaghzi* variety and Mysore can be justly proud of this achievement.

The list of sweet oranges grown in the farm is equally impressive. The more prominent among them are: the Washington Navel, Valencia Late, Hamlin Sweet, Egg Malta and Blood Red Orange. All of them have proved their adaptability to Indian conditions and can compare more than favourably with the Coorg mandarin in yield and quality.

The collection of lemons in the station includes the Lisbon and the Seville. And then there is the grapefruit, so little known and used in this country and so popular in the West for its appetising and health-giving properties.

The Chethalli station, as it will be evident from the foregoing, has already done much for citrus cultivation. Much more, of course, remains to be done. But the casual visitor to the farm, lost in admiration of what he can see, is unlikely to realise the amount of painstaking research that has gone into it. There is no room in scientific farming for hit-or-miss methods and a research station would be hardly worth its name if it does not examine and evaluate every aspect of cultivation, consolidating what is good, rejecting the worthless and eliminating disease and waste.

An idea of what has been done and what is being done towards this end at Chethalli can be gained from the following random list of the research programme in citrus alone: (1) collection of important species and varieties for adaptive trials; (2) rootstock trials for Coorg Mandarin; (3) irrigation trials on Coorg orange trees; (4) shade and mulching trials; (5) studies on methods of picking Coorg oranges; (6) estimates of fruit losses while picking; (7) packing and transport of Mandarin oranges; (8) selection of budsports and their

perpetuation; (9) interplanting trials; (10) hybridisation; (11) weed control; (12) storage methods; (13) fertilisation and manuring; (14) growth regulation etc.,

The Research Station makes it a point in every case to lay down the guidelines for farmers.

Chethalli has an average annual rainfall of 65 inches. It is 3,200 feet above mean sea level. Its geological formation has given it a good soil. Its summer temperature rarely exceeds 95 degrees F and its average winter temperature is around 45 degrees. The relative humidity ranges between 25 and 90 per cent. All this makes it ideal for horticulture. So the station decided to expand its activities to the cultivation of fruits other than citrus, papaya and pineapple, such as avacadoes (butter fruit), mangoes, apples, peaches, pears, plums, apricots, almond, cherries etc., and vegetables like potatoes and sweet potatoes. The decision has proved that nothing succeeds like success.

This year's drought has brought to the surface one of the main handicaps of the station, namely, the absence of adequate facilities for irrigation. There is a river close by and a suitable pump can work a miracle.

In the 18 years since its inception, the station has grown in size and importance and, in the growing, has, one feels, passed beyond the capacity of the State Government to maintain and nurture it as it deserves.

Clearly the station is short-staffed and starved of the finance it needs to play its real role as an all-India nursery and research centre.

The farm came into being because of the vision and toil initially of one man and the present staff of 45 men have put Mysore on the horticultural map of India by their zeal and unremitting labour. The Government of Mysore can justly take credit for the achievement. It is time now for the Union Government to step in and convert the regional research station into a national fruit farm and nursery.

QUOTATION BOX

This is surely the last topic one wants to be discussed over lunch. If the BBC must go on with these endless talks about contraception, could it not be better to choose the late evening so as to fortify us before we go to bed ?

—'The Daily Telegraph', London

The future is a long time...

—President De Gaulle

While changing the food habits of people is still so much talk, animals and birds at Delhi Zoo have already made a beginning in this direction.

—News report in 'The Statesman'

Suit yourself, ady—go ahead and buy your vegetables from All India Radio.

—Cartoon caption in 'The Hindustan Times'

Having compromised our intellectual honesty to serve our selfish interests rather than to build up a healthy and corporate civil service, certain evil forces came to be released which, in turn, created factions and discords destroying the espirit de corps and breaking up the morale of the service as a whole.

It was then that our Ministers, getting wiser from the experience gained, discovered that we were after all tin gods who had come to develop feet of clay.

—Mr J. N. Dhamija on the IFS

There are not many mysteries in New Delhi but one that persists is a legacy from the days of Mr Nehru and Mr Shastri—the mystery of how the Government of India's foreign policy is evolved.

—NJN in the 'Times of India'

It is utter political stupidity to harp on the word 'totalitarianism' in the India of today. At least I am not such a political bankrupt as to think that totalitarianism can have any relevance for the solution of day-to-day problems of India.

—Mr K. D. Malaviya

Long hair was indeed much in evidence at Palam this night (June 5 when the three Beatles arrived in Delhi)—a tribute no doubt to the Beatles' cult, with whose advent, long hair spread from hard-core rock' n' rollers to the entire teen and post-teen population.

—News report in 'The Statesman'

We have been saying for the past 15 to 20 years that we will be able to control prices. We will book the profiteers and black-marketeers. We only say these things but do not act on them.

—President Radhakrishnan

Cows are not cows in all States of India. In some they are calves, in others they are heifers and in yet others they are simply cattle.

It is all the work of the statisticians in the various agencies and sample survey establishments.

—'The Hindu'

The cold war has been the greatest obstacle to rational thinking in my lifetime. On most other topics, a rational approach has been offered and sometimes welcomed. When I contemplate such various questions as colonial policy, sex relations or medical treatment, I am astonished at the advances which have been made and the enlightenment shown. On the cold war, attitudes have remained everywhere rigid and irrational.

—A.J.P. Taylor in 'The New Statesman'

Some gentlemen abroad are slandering us as 'destroying culture'. Yes, we are destroying the decadent culture of imperialism, modern revisionism and all ex-exploiting classes.

—Mr Kuo Mo-Jo

The country is not being sold ; like some of its exports even after devaluation, it is becoming unsaleable.

—Ditcher in 'Capital'

Surprisingly none knew the cause of the water shortage (in Delhi). The Chief Engineer (Water), who might have known it, declined to speak to the Press. "I have been directed by my bosses not to give you any information", he said.

—A report in 'The Hindustan Times

So long we had been used to student indiscipline. Now, at last, the teachers have taken a leaf out of the students' exercise books. A charming, if somewhat unconventional, proof that it is never too late to learn.

—Sisir Kumar Ghose

Paul Macartney (one of the Beatles who visited Delhi recently) had a black eye and, when asked if he got it in the Philippines, said, "No, I got this from a policeman's baton in New Delhi, and he was on our side".

—A news agency report

GALLERY

SOVIET HELP FOR OUR FOURTH PLAN

JULY has witnessed a series of important discussions between India and the Soviet Union. Three Central Ministers, Mr Asoka Mehta, Mr C. Subramaniam and Mr Manubhai Shah went to Moscow to discuss with the Soviet Government matters relating to Soviet collaboration in our Fourth Plan and Indo-Soviet trade. The climax came when the Prime Minister, Mrs Indira Gandhi, visited the Soviet capital for four days in the second week of July holding important talks with the Soviet leaders on international problems and also on strengthening Indo-Soviet collaboration and friendship.

Mr Asoka Mehta met the press within hours of his return from the Soviet Union on July 7. He said that while no commitment had been made about Soviet aid, his personal feeling was that Soviet machinery and equipment worth about 1000 million roubles (about Rs. 830 crore) should flow into the Indian economy during the Fourth Plan period. This would meet one-third of our requirement of imported machinery for the public sector. Mr Mehta said that Soviet interest in India's development was as deep and genuine as before and that the Soviet Union was willing to extend the area of assistance. The discussion between Mr Mehta and the Soviet leaders covered many aspects of the Indian economy including devaluation and these were held in an atmosphere of mutual trust, confidence and friendship.

Mr Mehta disclosed that the Soviet Union would now take interest in four more areas of economic activity—setting up of large State agricultural farms, deep-sea fishing, higher technical education and technical training at medium level, and scientific research. The Soviet authorities had agreed in principle to send a group of senior experts to help us plan our machine-building industries for the next ten years. By the end of the Fifth Plan, our requirements of machinery would go up three-fold. While today we have to import 40 per cent of the machines we need, we are keen that by the end of the Fifth Plan, we should be 90 per cent self-sufficient, Mr Mehta added.

Part of his talks in the Soviet capital covered the maintenance and construction of certain Soviet-aided projects. Soviet experts made some suggestions which were being pursued by our experts from the Durgapur Mining Machinery Unit and the Ranchi Engineering Plant.

10% CUT

THE Prime Minister sent a telegram to the Chief Ministers early this month asking them to effect an overall saving of 10 per cent in Governmental expenditure. The telegram was a follow-up of the Prime Minister's earlier communication to the Chief Ministers stressing the need for financial discipline. Most of the Chief Ministers are reported to have assured the Prime Minister that they will make an urgent scrutiny of expenditure.

Family Planning

THE Central Family Planning Council has recommended the inclusion of a question and answer session on family planning in radio programmes.

The Council has appreciated the progress made in extending the family planning programmes since January last. It has also recommended a ten-point scheme to the States for rapid implementation of family planning schemes. According to the scheme, the targets for loop insertions should be carefully worked out at the local level; the resources provided should take into account the population of the area to be served; the emphasis on sterilisation should *not* be relaxed; the rural areas should get adequate priority; the family planning programme should be co-ordinated with other programmes so that the services of extension educators for agriculture as well as other workers at the village level can be utilised for education and motivation for family planning. Intensive family planning programmes should be taken up in the agricultural "package" programme districts.

Foreign Aid

AN agreement was signed in New Delhi on July 8 providing for an American loan of 150 million dollars (Rs 112.5 crore) to finance a broad range of commodity imports to help increase industrial and agricultural production. It is part of U.S. non-project assistance in support of India's import liberalisation programme. Including this loan, the United States has, during the past 12 months, signed loans providing $ 385.3 million (Rs 289 crore) in foreign exchange.

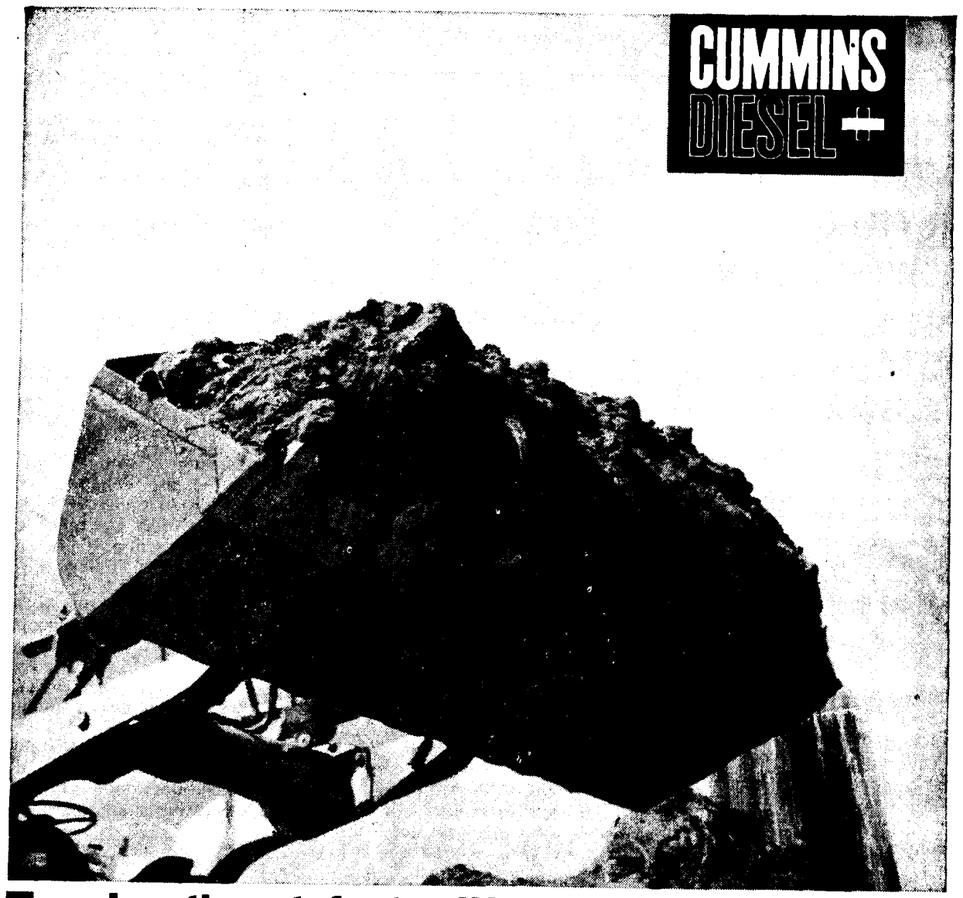
The Japanese Government has announced that it is committed in principle to subscribe to the World Bank's 900 million dollar Emergency Assistance Plan for India. Japan will take about a month to announce the size of her share.

The French Government has decided to lend India 17 million dollars through the Aid India Consortium. The French loan was announced by the Finance Minister, Mr Sachin Chaudhry, at the end of his talks with the French Government in Paris early this month.

Central Loans

THE Government of India floated two new loans on July 19 totalling Rs 260 crore, one of them of five years' maturity and the other of 25 years'.

One of the loans which was a re-issue, carries 4½ per cent interest and was issued at 99.25%. It will be repayable at par on the 1st of July, 1971. The other loan carries 5½% interest. It was issued at 99% and is repayable at par on July 1st, 1991.

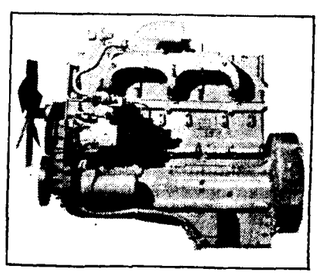


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HOW PHULLA RAM RAISES



75 Mds Of Paddy In One Acre

K. K. AGGARWAL

"PRODUCE more or starve," is the cry of the day. Intensive cultivation is being adopted extensively all over the country. The example set by Mr Phulla Ram of village Majira in Hissar district of Punjab is recommended for emulation by other farmers.

Phulla Ram has won the first prize in a State-level competition by producing 75 maunds 22 seers and 8 chhataks of paddy in one acre against a local yield of 30 maunds per acre. He hopes to compete at the all-India level in the coming months.

I met Phulla Ram and found him to be a man of great energy, silent but firm determination and devotion to work. Slim, of medium height, simple and unassuming, Phulla Ram looks just like any other Indian farmer. The secret of his success perhaps lies in his humility and unbounded courage coupled with an eagerness to benefit from the scientific knowledge of his graduate brother who constantly keeps in touch with the latest literature on intensive cultivation and methods of higher yield.

Ordinarily two crops are produced in India—the *Rabi* and the *Kharif*—and the average yield per acre per year is 62 maunds under normal conditions. But Phulla has been successful in producing about 135 maunds per acre per year. This includes about 75 maunds of paddy and about 60 maunds of wheat. His ambition is to raise it to 175 maunds per year per acre. His method is to cultivate intensively—instead of sowing four acres of land, he concentrates all efforts on one acre. The farmer will not only have to spend less on seed, fertiliser, labour and water, but the yield per acre would be much higher and more remunerative.

Phulla Ram gave the following reasons for his success:

His soil was better than that of others because he had improved it by sowing *dhaincha* and *barseem*.

In all he has 26 acres of land, out of which 16 acres were *banjar* and valued at less than 36% of the average cost of land. He had reclaimed this land after six years of hard and patient toil, destroying its alkaline properties by burning *dhaincha* and sowing *barseem*.

He got better and continuous guidance from his brother.

He used better fertiliser and more farmyard manure at regular intervals.

His cultivation is clean. He does not allow grass or superfluous growth to flourish in his fields.

In addition to canal water, he irrigated his land with tubewell water.

Against the average yield of 100 to 150 maunds in his entire field of 26 acres in 1960, his yield last year was more than 2,000 maunds. He hopes to still improve it to 3,000 maunds.

His method is scientific. He uses the Japanese method of sowing with the help of rope and planting at a distance of 9"×6".

He used to drill superphosphate mixed with CAN followed by puddling with bar harrow and ploughing with *Sohaga*.

In all he watered his crop 20 times—15 times with canal water and 5 times with tubewell water.

Before sowing paddy, he used 20 kilos of *Dhaincha* which was kept there for 21 days. He then prepared the soil by ploughing several times with a tractor, by rollerlevelling and finally Indian ploughing. He also put in 20 tonnes of farmyard manure before transplanting the paddy plants.

Mr Phulla Ram explained the following treatment of his paddy crop:

Nursery: He divided his one-acre plot into 20 small plots of 25'×4'. In each small plot he put about 25 kilos of farmyard manure. He mixed ¼ kilo of calcium nitrate with an equal quantity of superphosphate and applied it on the bed of each plot. After Indian bullock ploughing, he irrigated it. In the first week of June he put 10 kilos of foundation-type seed brought from the State Agriculture Department. He also mixed one chhatak of salt along with agrosan to keep the seed clear and pure. Then he covered the seed with an ½ inch layer of farmyard manure which he humidified with a small quantity of water. He kept the nursery for a minimum of three and a maximum of four weeks by watering it every week.

He has to start preparing his field in April for transplantation by June. He uses at least six ploughings first by tractor, then by ordinary plough and then four times by Hindustan plough. Twenty kilos of Jhona 349 paddy seed (coarse rice) is sufficient for one acre.

Transplantation is done after the soil is prepared with *suhaga* and after one quintal of superphosphate is drilled in. If green manure is used, no nitrogen is needed. Transplantation is done in 2-inch standing water. Another watering is required after four days. After 15 days, when roots are established, top-dressing is done with the help of one quintal of CAN followed by hand-seeding with the help of *khurpa*.

Plant Protection Measures: Agrosan is used only once. The plants are dusted with B.H.C. 10% against *mataṅga* or rice bug in the morning at the milking stage.

ANATOMY OF A MADRAS VILLAGE

FORUM EVENTS
Reporting the Activities of College Planning Forums

THE Planning Forum of the Nagercoil Scott Christian College, Madras, conducted a socio-economic survey of Varnanvillai village in Kanya Kumari district. The survey team included 40 students and 8 staff members.

The total population of the village was 923 in October 1965. Of them 49.3% were males and 50.7% females. Children below 15 constituted 40.7%. Fortyone per cent of the males and 41.5% of the females were married. The average number of members in a family was 5.

Four hundred and twenty three persons, that is 46% of the entire population (aged more then 5 years), were literate. Out of them, 22 men and 3 women had passed SSC; 3 boys were studying in B.Sc.; and two were graduates in law.

The villagers were generally healthy. There was no Government dispensary in the village. The Government hospital was situated four miles away.

Agriculture in the village was backward. Improved seeds and fertilisers were not commonly used.

Ownership cultivation was common. Land was highly fragmented. Seventytwo persons in the village owned on an average less then half an acre of wet land; 97 persons owned 695.65 acres of dry land.

Farmers were poor and so livestock was underfed. Cattle suffered from foot and mouth disease.

The main occupation of the villagers was agriculture: ninety people were fully employed, 145 were underemployed and 63 were unemployed. A large section of the population was not engaged in any primary economic activity. Families sometimes migrate temporarily to other places for employment. Since the majority of the people remained underemployed or unemployed, they wanted that some subsidiary industries like beekeeping, mat-making, coir-making and ambar charkha should be started.

The per capita monthly income of the villagers was Rs 18.4 and expenditure Rs 19.5. The major portion (Rs 12.30) was spent on food. Villagers depended on moneylenders even for meeting their daily needs. Those who were able to save did not invest in banks, in shares or in bonds. They used the money for lending to individuals. None had bought the National Defence Bonds. Most were ignorant of the Bonds. Electricity had been extended to the village but very few houses had electric lights.

The villagers' views on Government policy in the field of agriculture, development projects and community service were ascertained. A majority of them said that there was improvement through Community Development. They could get loans for buying seeds, manure, cattle and for digging wells.

The villagers said that they got loans from the Government for making improvements in agricultural operations.

After independence Government had renovated old canals and constructed new ones. Villagers wanted Government to give loans for constructing wells for drinking water and for renovating old tanks.

The villagers stressed the need for widening the roads and constructing a link road.

Only 46 villagers read newspapers. Although some wanted to read, they could not afford to buy newspapers. But the majority were not concerned about national or international affairs.

Most of the villagers were happy with the Panchayat's working which was helpful in preventing litigation.

The main feature of the village economy was its backwardness. Employment opportunities were lacking. Land was unevenly distributed.

Villagers were keen to serve the nation duringthe emergency. Although they were unable to save, they were prepared to send their sons to the army. They were aware of the grave situation and were keen to maintain the territorial integrity of the nation.

Highlights

THE Union Territories of Dadra and Nagar Haveli have come under the purview of the Planning Commission for the first time since their liberation from Portuguese rule. More than Rs. 53 lakh have been allocated for the development of these Territories during the current year.

PLANS are being finalised to set up another fertiliser plant in the Namrup region in Assam. It will produce three lakh tonnes of urea per year. The first fertiliser plant being put up at Namrup is expected to go into production by the end of 1967.

A tractor will be awarded this year to the farmer who can produce the highest quantity of paddy in the country. The second prize will be Rs. 3,000 and the third prize Rs. 2,000.

AT Thumba, a rocket was successfully fired on July 7—it was the first rocket whose equipment and payload were entirely India-made.

TWENTY per cent of the work of the Farakka Barrage has been completed. The Barrage Control Board estimates that 30 per cent of the outlay has been spent. The barrage will be ready by 1970-71 if the behaviour of the Ganga is normal.

A new type of oven, designed by the Council of Scientific and Industrial Research, is being progressively adopted by the iron and steel industry. These ovens will help save Rs. 15 crore a year in foreign exchange.

As a result of collaboration between the Council of Scientific and Industrial Research and the automobile industry, wholly indigenous tractors and scooters will soon become available.

A testing laboratory is being set up in Orissa to ensure quality control of goods manufactured in the State.

THE Essential Commodities Act is being extended to Jammu and Kashmir.

THE Union Government is considering a proposal under which new Vanaspati manufacturing units will be entrusted only to the co-operative sector.

Letters

Tainan-3 Festival

THOTTUMMUKHAM and Kizhmad in North Kerala went gay on May 2, when the Tainan-3 paddy harvest festival was celebrated under the auspices of the State Agricultural Department. Tainan-3, the high-yielding rice variety was recently introduced in India from the Philippines.

The farmers of Kizhmad and other places enthusiastically participated in the harvest *utsavam*. Two caparisoned elephants accompanied by *Chenda* (drum) music and girls dressed in traditional style carrying flower *thalis* marched in procession from the Thottummukham camp-site to the Kizhmad fields. It had all the appearance of the Trichur Pooram festival.

The golden caves of Tainan-3 were indeed feasting to the eyes. Each cave had 250 to 300 grains and there were 50 to 75 branches in one plant. The plants do not lodge. They stand erect. The average yield is 5000 *paras* an acre while the average yield of paddy in Kerala has been only 1500 *paras*.

Tainan-3 has been sown in 700 acres in Palghat, Trichur, Ernakulam and Alleppey districts. Cherp in the Trichur district cultivated it in 100 acres.

Alwaye C.K. PILLAI

ANCIENT COSMETICS

IT is said that our civilisation sprang up from places bordering the banks of the rivers that crisscross our sub-continent. Looking back into the years gone by, one remembers the good olden days spent on river banks and on the banks of village tanks before and after the morning bath. The womenfolk would stand drying their dishevelled hair and mending it after a refreshing cold bath. Some would be busy setting right their windswept saris. It was considered an art for a woman to partially loosen up her dress swiftly and prepare herself for the bath. It was a dexterous operation to change one's wet clothes for dry ones with lightning speed so as to make the onlooker overlook the fair sex. Sporting in water, teen-age girls would leisurely take a plunge into the water. Those who could swim would exhibit their art of swimming. Elderly women would lend a helping hand to small girls in the application of turmeric paste and indigenous toilet powder or toilet paste.

Fridays and Tuesdays would see these girls and women take an oil bath in the river or in the tank. With oil smearing over the forehead and neck, girls would apply fragrant indigenous toilet powder over their head and body mixed with water. As they rubbed their body with the toilet paste, oil would go out. Fragrance would pervade the whole atmosphere.

Madras S. MEENAKSHI

Looking Back

—From *Yojana*, July 28, 1957

A few years ago when I was teaching Hindu law, my favourite question to test the knowledge of my students—all of whom were graduates—was to ask them whether they had ever heard of the name of Dr Annie Besant. (This was not wholly irrelevant as the most important case on the Hindu law of adoption concerned her adoption of Krishnamurthy). Every year I repeated this question to a new batch of students. Never did the number of those who raised their hands exceed five. Then I proceeded to ask them if they knew who Krishnamurthy was. Many more hands used to go up. In most cases the answers were wrong e.g. strong man of South India who could stop a car with his hands; famous tennis player etc. etc. The trouble is that most of us are extremely ill informed on subjects outside our particular field. I knew of an eminent lawyer—who has perhaps the largest practice in the sub-continent today—who believed that Dr Sun Yat Sen was an eminent Bengali physician. What was more, when I expressed my amazement at his belief, he turned indignantly to me and said he did not see why knowing the nationality of Sun Yat Sen was so important.

Yojana Bhavan Diary

THE fortnight witnessed hectic activity in the Planning Commission to finalise the Draft Outline of the Fourth Plan. Disscussions have been going on since early June on the different chapters. The discussions are expected to be completed by the end of this month and the Draft Outline presented to Government early next month.

In the meantime, Mr Asoka Mehta, Deputy Chairman, paid a visit to the Soviet Union to discuss matters relating to the Fourth Plan with the Soviet authorities. He left India for Moscow on June 28 and returned on July 7. The officials who accompanied him included Mr Pitambar Pant, Adviser, Perspective Planning Division, Planning Commission, Mr Ajit Mozoomdar, Joint Secretary, Ministry of Finance, and Mr T.R. Gupta, Chairman, Heavy Engineering Corporation.

Among those who called on the Deputy Chairman after his return from Moscow were, Mr Chester Bowles, U.S. Ambassador, Mr Salim Ahmed Salim, High Commissioner of Tanzania (July 14), Mr John Scott of *Time* magazine, and the children's delegation going abroad.

Mr M.S. Thacker, Member, Planning Commission, left Delhi for Geneva on July 15. There he will attend the meeting of the UN Economic and Social Council to be held from July 16 to 23.

Mr Ram Surat Singh, Chief, Agriculture Division, Planning Commission, will soon go to Berlin as a member of the Indian delegation to attend a seminar on agricultural planning in growing economies.

Mr Pravakar Sen, Deputy Secretary, Planning Commission, went on July 15 to Puerto Rico to attend a Conference on social planning to be held under the auspices of the University of Puerto Rico from July 18 to 22.

Mr B. Chatterjee has joined the Planning Commission as Director of the Power Division. He was formerly Deputy Director in the Central Water and Power Commission.

Regd. No. D-876

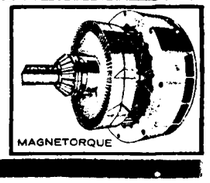


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YOJANA

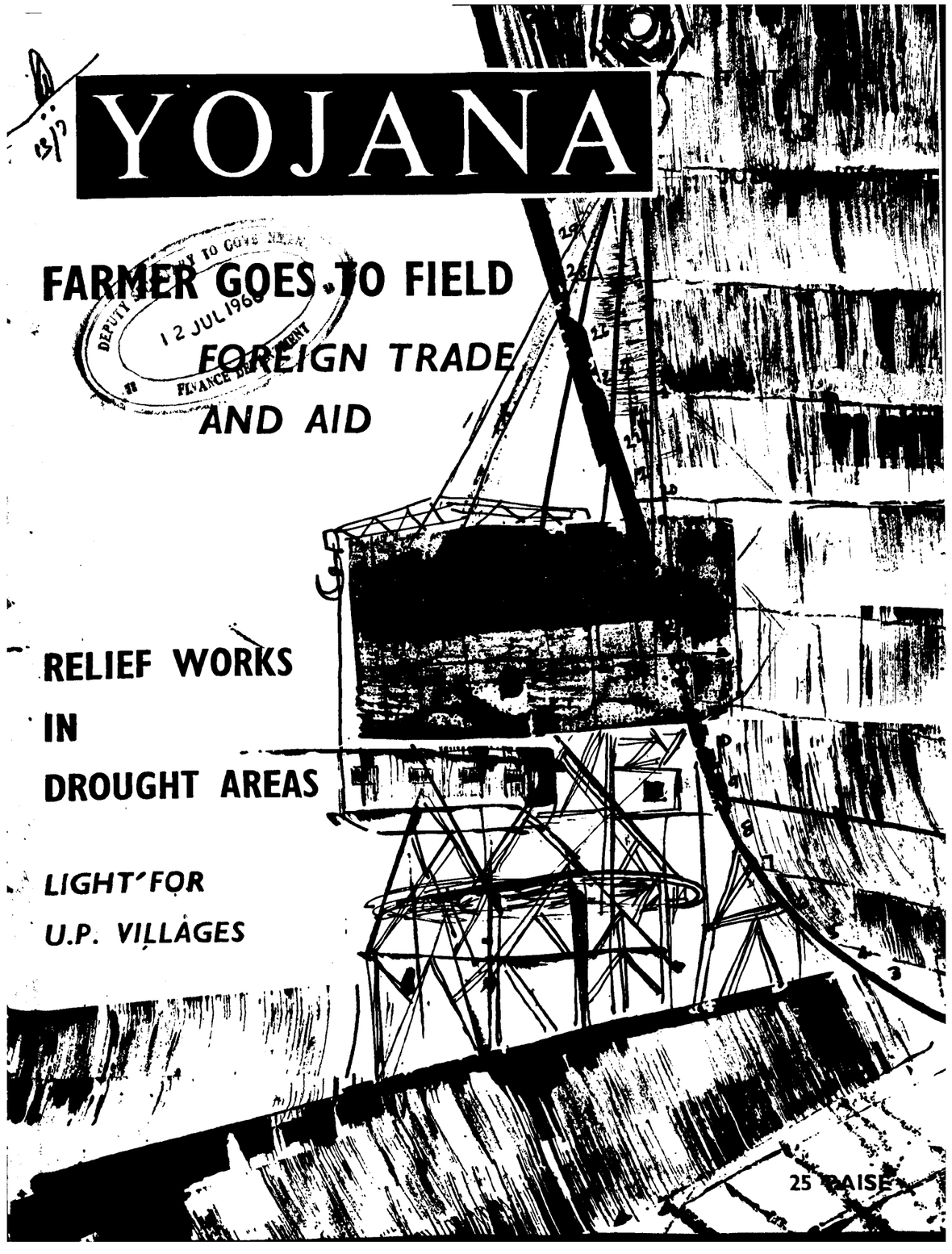
DEPUTY MINISTRY TO GOVT. INDIA
12 JUL 1960
FINANCE DEPARTMENT

FARMER GOES TO FIELD

FOREIGN TRADE AND AID

RELIEF WORKS IN DROUGHT AREAS

LIGHT FOR U.P. VILLAGES



25 PAISE

To Make Scarcity Scarce In Future

25 Lakh People Building 38,000 Relief Works In Seven States

YOJANA STAFF REPORT

More than 25 lakh people have been found employment in some 38,000 relief works which have been started in the drought-affected areas in seven States: Andhra Pradesh, Gujarat, Madhya Pradesh, Rajasthan, Maharashtra, Mysore and Orissa.

The vast majority of the relief works have been designed to improve the minor irrigation potential in the drought-affected areas and, as such, they are expected to have a durable impact on agriculture in these areas. The drought and the consequent scarcity affected 142 lakh acres in Orissa, 28,000 villages in Madhya Pradesh, nearly 16,000 villages in Mysore, more than 14,000 villages each in Rajasthan and Maharashtra, nearly 12,000 villages in Andhra Pradesh and more than 5,000 villages in the Panchmahals in Gujarat. The total number of people living in the scarcity areas are roughly four crore and sixty lakh.

Apart from the relief works taken up in the various States with Central assistance, a large number of community feeding centres have been opened to look after the aged and the young as well as the physically-handicapped and those who are too under-nourished to be fit for manual work. Nearly 25,000 tons of milk powder, 900 tons of biscuits and huge quantities of vitamin tablets have been distributed to the scarcity-affected people, particularly, mothers, children and under-nourished adults.

The drought in the seven States led to a marked fall in the Kharif harvest in 1965. The production of fodder was also affected. Livestock was in danger. The relief measures were, therefore, aimed at intensifying food and fodder production.

Where at least some water is assured, the effort has been to raise an additional crop by supplying seeds, fertilisers, pesticides and agricultural implements to farmers and by intensifying extension work. The unrealised potential in recently-completed irrigation projects and in land falling within the command areas of new irrigation projects is being brought under cultivation. In the last quarter large programmes of sowing tuber crops like potatoes and sweet potatoes and tapioca were undertaken. The campaign for growing more vegetables, especially in urban and semi-urban areas and in kitchen gardens, was intensified. Wherever possible, a short or mediumduration crop was raised.

Minor Irrigation

The major effort and financial outlays have been directed towards agricultural production, irrigation, development of power in rural areas primarily for irrigation and all industries which assist in increasing inputs in agriculture and in processing and preserving food. Apart from this, particular attention was given to the following types of quick-yielding minor irrigation programmes :

(i) sinking of new wells and small tubewells
(ii) improving existing wells by deeper boring and widening
(iii) restoring the old tanks and diversion channels
(iv) installing lift irrigation devices on rivers and streams where water is available
(v) making available pumping sets to peasants wherever tanks and river beds hold water
(vi) intensifying electrification programmes in rural areas to collect pumping sets and tube-wells
(vii) reducing the period of closure of canals and co-ordinating the water supply schedule with multiple croping patterns.

The following is an incomplete report of relief works undertaken in some of the scarcity-affected States:

Mysore

At two soil conservation centres in the Tumkur district, contour bunding on 3,000 acres has been taken up, out of which 1,000 acres have already been completed. The first stage of the Tungabhadra high level canal has almost been completed and distributaries have now been taken up. In Chitradurga district, work on the Bhadra project canal has also been nearly completed by 3,000 workers who are now digging distributaries. The works already taken up include minor irrigation tanks, soil conservation schemes, village afforestation, sinking of wells and restoration of tanks.

In May last 251 soil conservation centres were started for scarcity relief in addition to 151 normal works and the number of people employed was 30,000. An area of 94,000 acres has been bunded at a total cost of nearly Rs 47 lakh. More than 2,100 minor irrigation schemes are in progress in the scarcity-affected areas. It is proposed to complete more than 800 works by the end of the year. The area likely to be brought under irrigation is estimated at 48,000 acres, including nearly 23,000 acres of new land. The Land Development Bank in Mysore has taken up a programme of sinking 6,000 wells of which 4,000 are in the scarcity areas. The State Government expectes to complete the construction of 4,000 miles of village roads by the end of the year.

Orissa

The drought problem is being tackled on three fronts—an expanded works programme, gratuitous relief and free feeding centres for the indigent people.

The works programme includes relief works and minor irrigation schemes. The relief works generally consist of repair of village roads, desilting of tanks and water supply schemes. They are generally small in size and cannot be taken up once the rains set in. The minor irrigation programmes, on the other hand, are capable of being taken up through the rainy season.

The State Government has taken up more than 11,000 temporary surface wells and has completed 5,000. Eighty-eight permanent surface wells have been completed as against 1,499 taken up. Sixty tube-wells have been dug and many more are in progress. The total number of people engaged in all the relief works in Orissa is 3,29,834.

Gujarat

One lakh sixty-four thousand people are engaged in relief works in the Panchmahals district. They are employed on 488 works, including forest trenching, soil conservation, rural roads and restoration of tanks. Most of the tank work undertaken is for the supply of drinking water to villages and most of these are likely to be completed before the end of the year. In order to undertake the largest number of soil conservation schemes, six more sub-divisions have been opened in the Panchmahals district in addition to the four already existing. By May last some 16,000 workers had already gone to places in Kutch and Saurashtra to build strategic border roads. They were given free transport by the Government. Five hundred *kuchha* wells are being dug in the Panchmahals district.

Maharashtra

The State Government has been providing relief employment to all able-bodied persons above 14 offering themselves for work on medium and minor irrigation schemes, soil conservation and afforestation.

Madhya Pradesh

To meet water scarcity in the drought-affected districts more than 4,000 *nullahs* have been bunded so far. Two medium irrigation projects are in progress at Panna and Satna.

Rajasthan

High priority is being given to irrigation, soil conservation and pasture development schemes in all the scarcity-affected areas. Wells have been deepended in order to make drinking water available to the people. Where there is no drinking water, Panchayats have made arrangements to bring on water camels or bullock carts.

70 More Ships

Seventy vessels are to be added to its existing fleet of 36 by the Shipping Corporation of India during the Fourth Plan period. These will include oil tankers to transport crude oil to the public sector refineries. The Corporation has placed orders for construction of 19 new vessels in India and abroad. Out of these, Hindustan Shipyard Ltd., Visakhapatnam, is to construct 10 vessels of 89,200 GRT, while orders for three dry cargo vessels of 24,000 GRT have been placed in Poland. Yugoslavia is to supply three coastal colliers of 27,000 GRT. The Hindustan Shipyard will deliver the vessels to the Corporation between 1966 and 1969 for employment on overseas routes. The three cargo vessels from Poland would be received during 1966. The three coastal colliers from Yugoslavia would also be received during 1966, while the remaining three bulk carriers are due for delivery during 1968.

Subsidised Housing

The Government of India have decided to integrate the Subsidised Housing Scheme for the industrial workers and the Rental Housing Programmes for the economically weaker sections under the Low Income Group Housing Scheme into one Scheme. It will have a uniform pattern of Central assistance, that is, 50 per cent as subsidy and 50 per cent as loan in respect of projects undertaken by the State Governments or their designated agencies. In regard to the projects undertaken by the employers of industrial/mine workers or co-operatives of such workers, the existing pattern of financial assistance will continue.

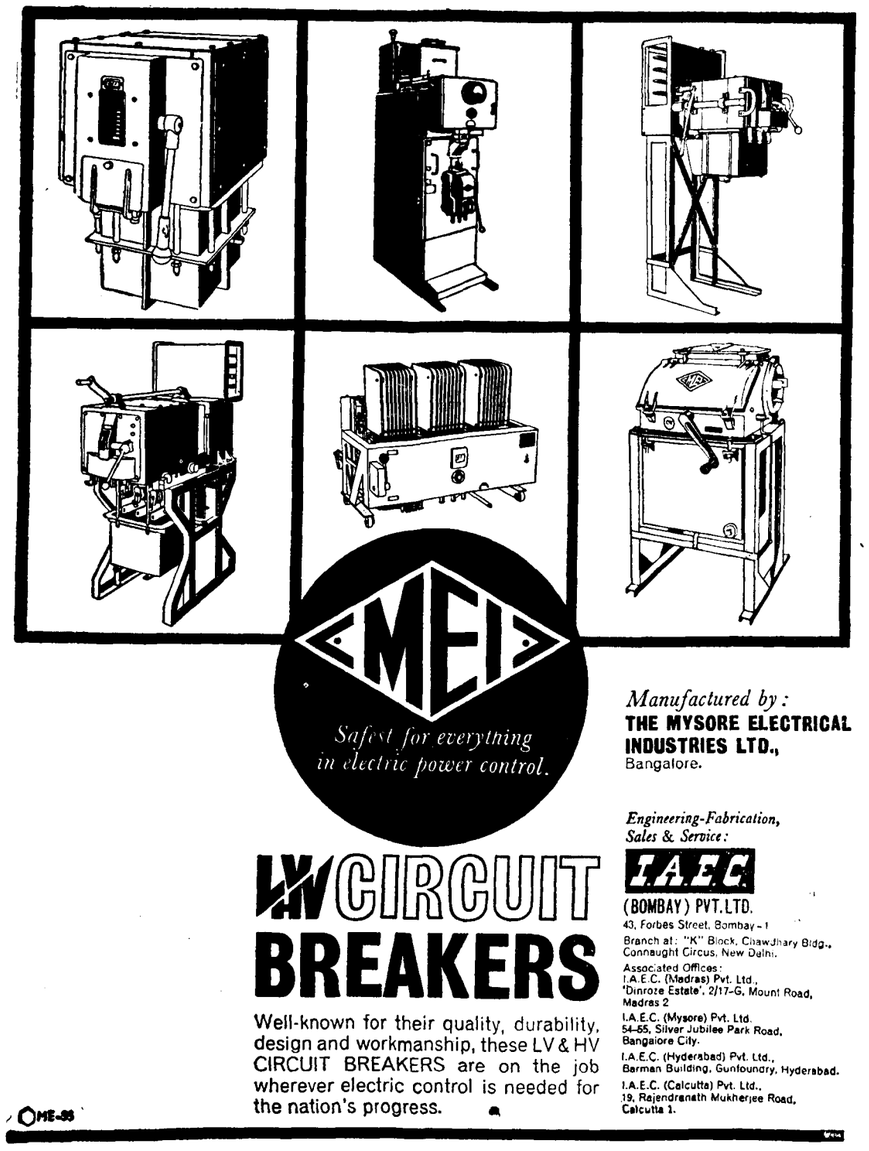
For projects undertaken by the employers—the Central assistance will be 50 per cent as loan and 25 per cent as subsidy, the balance 25 per cent to be provided by the employers as subsidy. For projects undertaken by the co-operatives of industrial workers, the Central assistance will be 65 per cent as loan and 25 per cent as subsidy, the balance 10 per cent being provided by the co-operatives.

Fertiliser Plant for Mangalore

India is to have another big fertiliser plant. The new plant, to be located at Mangalore, will have a capacity to produce 132,000 tonnes of urea and 530,000 tonnes of complex fertilisers per year. Government has now decided to issue a "Letter of Intent" to the International Development and Investment Company Limited of Massau, Bahamas, to establish the plant at Mangalore as a joint venture in association with M/s Dugal Enterprises Private Limited.

Essential

Twelve commodities have been declared essential. These are: matches, cycle tyres and tubes, ferro-silicon, silco-manganese, ferro-chrome, ferro-molybdenum, ferro-tungsten, ferro-manganese, ferro-vanadium, ferro-phosphorous, ferro-titanium, ferrous scrap of certain specifications.



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ME-55

With the Rains of July

FARMER GOES TO FIELD

THE rains have come, wetting the dry earth, and lifting the hearts of farmers all over the land. The earth has waited for months for the sturdy caress of the plough. All over India, the cry in July is: To the field, To the field.

But this July is different. This July is a month of challenge. For, with this July begins the great national resolution to get out of the earth enough food for *all* our people. Not merely for today, but for our tomorrows as well.

With this July begins a massive five-year effort to leave behind us the most crippling of our problems, the Food Problem.

The times have been hard for all of us, all over the country. Out of evil, however, cometh good. This adversity has breathed into our minds a sense of urgency about food we have never felt before. *Food has been accepted as our challenge number one.* Mistakes made in the past have been identified. And a new strategy has been drawn up to get from our land enough food for us all, and more of the commercial crops we need to keep our economy going.

A new food strategy, not a new food policy. For, our broad policy has always been to produce enough food, and in these fifteen years of planned development, we have not only increased food output by more than half, we have also built up, through our irrigation and power projects, through the many industries that now dot our country, and through the massive programmes of scientific and technical training, many of the inputs we need to attain self-sufficiency in food. In some specific areas, however, our progress has been slower than our needs; for example, in the production of fertilisers, pesticides, new farm implements. The new food strategy has identified these gaps, and is meant to fill them as quickly as possible.

In order to understand the new food strategy, we have first to recall, briefly, what we have been able to do on the food front during the last fifteen years. We should begin by reminding ourselves that, when in 1947, the country was partitioned, most of the irrigated land in Punjab as well as the granaries of Bengal

BHABANI SEN GUPTA

and Assam went to Pakistan. The demand on our food output increased manifold as a result of the massive and continuous exodus of people from Pakistan, ten million to this date. We, therefore, made agriculture the first priority in our First Five Year Plan. In fifteen years, we have been able, as already noted, to push up foodgrains output by fifty per cent which is not a mean achievement by world standard. But in the meantime, ten crore more people were added to our family. The sharp fall in the death rate, the general improvement in people's health, in the standard of living, increased the demand for food, especially for the better grains. This, together with our resistance to new food habits, made the shortage of wheat and rice (especially rice) greater than it need have been. Even then, our normal shortage is somewhere between six and ten per cent; that is, only one out of six to ten Indians does not have food from the national output. The unusually heavy shortage this year is because of the massive failure of crops.

Fifteen years ago, we began to tackle the food problem by bringing more and more land under cultivation and by giving the peasant the right kind of incentives. Through a countrywide system of land reforms, we abolished the old landlordism and made the peasant the owner of his plot of land. Now about seventy per cent of our farmers own the land they plough. We gave him price-support; we built up a network of village co-operatives from which the farmer could get loans. Through the community development organisation, we brought to the farmers instruments of village development which included development of agriculture through technical advice and demonstrations, better seeds, chemical fertiliser. We introduced education in the villages, which liberated the farmer from exploitation by the money-lender, and broadened his outlook.

At the same time, we went on extending cultivation to new lands. So much so, we have today 39 million acres under cultivation, nearly double of what we had in 1947.

We went on building the base of a modern agriculture—irrigation, power, fertilisers and so on. Through the huge hydro-electrical projects all over the country and the medium and minor irrigation schemes, we have built up 18 million acres of irrigation potential; of this, however, 14 million acres have been using the irrigation potential which has already been created.

To Work the New Food Strategy

We have taken electricity to villages in which 150 million of our countrymen live, which is half the number of our rural population. We are using 650,000 tons of chemical fertiliser, about a third of which we make ourselves. We have built up a large army of people with special knowledge of problems of agriculture. In our farm laboratories and model farms, we have developed new strains of wheat and paddy, through cross-breeding with suitable foreign strains, which can give much higher yields than our traditional strains.

In short, we have now, as a result of fifteen years of planned development, a great deal of the inputs which are needed for intensive farming. What we don't have, we can assemble, first through imports, and simultaneously, through production at home.

For us, therefore, the new food strategy grows out of what we have built up so far: it takes into account the gaps we have left and which have to be immediately filled in.

The New Strategy

What is this strategy? In simple terms, it means that we concentrate our efforts on the best cultivable areas all over the country, areas which have assured irrigation and do not have to depend on the whims of nature. We make available to the farmers of these areas the right kind of seeds, enough fertiliser on time, pesticides and technical know-how as well as the other inputs, so that they can get out of the land three to five times the grain they do at present. We do not, however, neglect the other, less developed areas; we give them the inputs they need to keep up at least the normal rate of production, if not increase it as much as they can.

For the application of the new strategy, our experts have gone into the details of every aspect of intensive cultivation. Work on the new strategy has already begun all over the country with this current farming season; it will gather momentum as months pass and we proceed to the coming crop seasons. A shock programme for 1966-67 has been drawn up in collaboration with the State Governments, and the target of 87 million tons of foodgrains has been fixed for this agricultural year.

The areas have been fixed from the so-called "package" districts all over the country. For each State, areas under wheat, paddy, *jowar*, *bajra*, maize and the commercial crops have been carefully laid out, and the input needs of all these areas meticulously taken into account. For example, it has been decided that Gujarat will work out the new strategy on 120,000 acres for the *khariff* crop (100,000 acres for *bajra*, 15,000 acres for maize, 10,000 acres for *jowar*, and 1,000 acres for paddy), and 101,000 acres for the *rabi* crops. Kerala will work on 150,000 acres of paddy land for the *khariff* crop and 350,000 acres of paddy land for the *rabi* crop. And thus each and every State. A total area of more than 5,940,000 acres all over the country is being brought under the new strategy during the current year. In view of the shortage of rice which is scarce all over world and cannot be easily imported, the bulk of this vast area, nearly 2,617,000 acres, will be under paddy; 1,279,000 acres will grow *jowar*, 1,027,000 acres, maize, 596,000 acres, wheat; and 402,000 acres *bajra*. There are also areas that will concentrate on commercial crops like cotton, groundnut, linseed, rape and so on.

All these areas have assured irrigation, and, so, water is not going to be a major problem, except that water will have to be very well managed, that is, the farmer must get all the water he needs at the right time. In working out the new strategy, this has been taken into account. A variety of other things too have been gone into in great detail—how much seed each State will need and how this has to be supplied; how much fertiliser each State will require, and how this is to be provided for; and the same with pesticides.

Seeds And Fertilisers

For the new strategy one of the first essentials is seeds. High-yielding seeds made either in India or imported from abroad. The varieties have been selected in the light of experiment made in many parts of the country. As far as *jowar*, maize and *bajra* are concerned, the state farms in Maharashtra and Mysore, run by the National Seeds Corporation, will be enough to meet the demands of the new strategy for the current year. Of the total of 14,5000 tons of high-yielding wheat seeds needed, about half has to be imported; this is being done. High-yielding rice seeds are also available within the country in enough quantity; the problem here is to make them available to the farmer in all selected areas on time. Meanwhile, it is part of the new strategy to produce enough of all high-yielding seeds within the country. For this purpose several large seed farms are being built under Central auspices, while each State is converting one district to seed farms alone.

Then fertilisers. Without ruling out the maximum use of organic and compost fertilisers, the new strategy puts the biggest emphasis on chemical fertiliser which is a proven instrument of increasing output very substantially. The new strategy has mapped out the fertiliser needs of each State for the curtent year as well as for the coming years. For the current year, we need 600,000 tons of Nitrogen, and for the whole Fourth Plan period, very much more. Our present domestic production is just about 200,000 tons of Nitrogen. The current year's needs are being imported on a basis of high priority. Every effort is being made to increase domestic output in the next few years. Several foreign concerns have agreed to put up fertiliser plants. Government has granted foreign private capital certain concessions, in view of the urgent need for fertilisers. At the same time, Government itself is embarking upon an ambitious fertiliser production programme, so that, even when all the private plants now envisaged have gone into production, seventy per cent of our total output of fertilisers will still be in the public sector.

Pesticides are a must for the new strategy, for we all know that pests eat away a good deal of our crops. During the current agricultural year, 63 million acres of land under the new strategy will be covered with pesticides. Since we make very little pesticides ourselves, the quantities needed will be imported. At the same time, domestic production will be taken up in right earnest. Much aerial spraying of pesticides will be necessary, and for this a number of more planes are to be acquired for the agricultural aviation wing of the Union Government.

For successful implementation of the new strategy, there is to be frequent, in fact continuous, co-ordination and effective field checks in all the selected areas. The operations will be on a vast scale, vaster than many a war fought in history; there has to be un-interrupted co-ordination not merely between the Centre and the States, but, more important, between the various agencies that will work out the new strategy. Lack of the most effective co-ordination may lead to failure. The staff requirements of the new strategy has been gone into carefully, and it has been decided to place persons on the job at various levels for fairly long periods so that they can identify themselves with the operations, isolate bottlenecks and get them removed. Specialists in agricultre will visit the fields regularly in order to find out how things are going, to give advice on the spot, and help solving problems. The progress of the new strategy will be evaluated at regular intervals so that mistakes may be quickly corected and gaps filled in.

Apart from transforming our agriculture, the new strategy is going to bring out revolutionary changes in two other directions. The first is in the system of communication with the farmer. The long neglect of rural, farm broadcasts will now be finally corrected. Success of the new strategy will depend largely on our ability to tell the farmer, in the language and idioms he understands, what he has to do to make it work; how much fertiliser a particular seed variety or crop pattern will take; how much water and when; whether to mix chemical fertiliser with organic manure and if so, to what ratio; how to apply pesticides and when, and so on. All this information can be given to him only through the radio, and we shall soon have an extensive farm broadcasting set-up in the country.

Success of the new strategy will also open up a network of rural industries serving agriculture, in other words, agro-industries. New farm implements will be manufactured on a large scale, roads will be further improved to carry the increased farm produce to markets; and a whole complex of agricultural industries—fertiliser, pesticides and so on—will grow up.

QUOTATION BOX

Moscow? please send us a mediator to solve the Mysore-Maharashtra border dispute.

Cartoon caption in the Hindusthan Standard.

No one could accuse the Indira Gandhi Government of being a prisoner of indecision.

Now

I find people liking me today more than before, even though I have no authority and nothing to give them.

Mr Morarji Desai

I call myself a VQC, a Very Ordinary Chap.

General Cariappa

It (devaluation) is like a delayed telegram arriving long after a bereaved family has learnt through other means and grieved over the death of a beloved son or mother.

C.R.

Women are more dangerous than anything else. If a bull hurts you there is the hospital; but if a woman hurts you there is no cure; the agony is everlasting.

Bachelor matador, Carmelo Torres, of Venezuela, Quoted in The Statesman.

Each loop will cost the Union Government Rs 10 on an average as incentive payment.

There are four parties who receive the payment for popularization of the IUCD Programme. They are: the woman who uses the loop, Rs 5; dai who induces the woman, Re 1; doctor who inserts the loop. Rs 2; and the State Government or the agency which implements the programme, Rs 2.

News Report

The Kanpur Police have been investigating a case against a Sub-Inspector of Police, who is said to have been receiving a regular horse allowance, even though he never had even a donkey.

News Report

Every man in Calcutta thinks that he is the most persecuted human being and is always angry with the world for not shedding copious enough tears over his peculiar problems.

The problem of Calcutta, Sir, is anger and not hunger.

Letter in The Statesman

Let there be...a full and frank discussion of what we want our socialism to contain and whether from the standpoint of the basic goal of a socialism that can be put to work, the Government's present policies constitute a departure of substance.

S.M. in the Hindustan Times

We unanimously hold that the situation is excellent for the struggle of the people of the world against imperialism headed by the United States and the reactionaries of all countries and that the situation is excellent for the struggle against modern revisionism with the leading group of the Soviet Communist Party as its centre.

Mr Chou En-lai in Tirana

Rioting groups forced the Congo (Brazzaville) Government to take temporary refuge inside the walls of a sports stadium. The troops revolted after the demotion of an officer who was a member of their tribes.....Later, Brazzaville Radio said the city was back to normal.

B.B.C. News Report

The U.S.'s newest heroes are scientists.

Time

With the exception of the President, Senator Robert Kennedy of New York is probably the most talked about political figure in America today.

Economist

The all powerful myth, slowly being relegated to the world of make-believe, is the claim that the administrator is equally at home in the Collector's chair, under a Joint Secretary's punkah, and in the Managing Director's seat of a steel mill.

Mr S. K. Kooka

Posters written in big characters are an extremely useful and new type of weapon.

"People's Daily", Peking

Formerly, the Nawabs had a 50 years' regime, which has now been reduced to 5 years. Such work as would take 50 years in those days is accomplished in 5 years in this age of science.

Acharya Vinoba Bhave

Love is something that makes two people think they are pretty, even when nobody else does. It also makes them sit closer together on a bench even when there's plenty of room. It's something that makes two people very quiet when you are around. And when they think you've gone, they talk about roses and dreams. And that's all I knew about love until I grew up.

—The Reader's Digest

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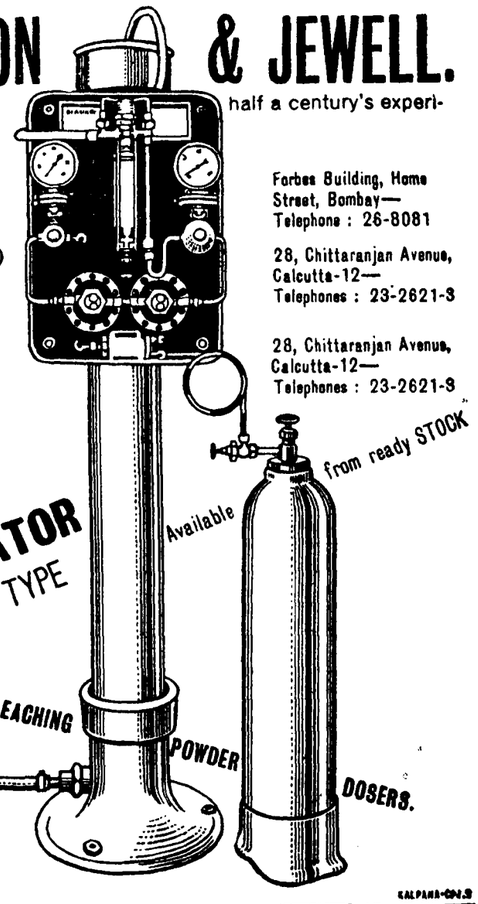
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A NEW APPROACH TO PROGRESS IN SOUTH INDIA

M. SUNDAR RAJAN

The Chief Ministers of the Southern States have called for a national plan for their region to prevent drought. But for a few purple patches, the economic fabric south of the Vindhyas is too inadequatelly co-ordinated to exploit the natural resources to the maximum benefit for all. A new approach, based on mutual trust among the States, is emerging. Its problems and prospects are analysed in this article.

A glimpse of South India is quite reassuring, both economically and spiritually. Yet the pattern of economic growth has resulted in several imbalances.

Take, for instance, the fertile Andhra. Though its fertiliser consumption is the highest in the country, the state has no big fertiliser factory, nor one is planned so far. Kerala which earns most of the foreign exchange of the region, has fared badly in industrial growth. Madras has utilised all its major rivers, whereas Mysore has only eight per cent of irrigated land area, the lowest in India.

Even where irrigation potential has been created, it has not been fully used by farmers. In the matter of power needs, the southern grid is still in its infancy. Seaerosion in the West Coast, drought of almost a permanent nature in half of Mysore State and in the Rayalaseema area of Andhra, are some of the other problems. Communications too are inadequate. The Sethusamudram project is yet to be executed and ships from one coast to the other now make a long detour around Ceylon. The rail link from Bombay to Cochin is not along the coast. Despite large reserves of power, there is little of electric traction. Minerals and metals of the region are not being exploited fully. There is individual competition among the States for setting up industries; an attempt at a co-ordinated plan is only in the offing.

The drought conditions in the Southern States are a blessing in disguise. They have yielded many valuable lessons, the most important of which is the need to think in terms of the human being and his misery rather than of statistics of relief measures. The drought has affected sixteen districts each in Andhra and Mysore and nineteen in Maharashtra. Prevention is better than cure in the matter of famine too. Consider, for example, the financial aspect alone. It requires Rs 20 crore to give work to ten lakh labourers for a hundred days, whereas with just Rs 2 crore, nearly fifty thousand acres can be assured of minor irrigation.

The old famine codes have little validity. Scarcity today means attractive wages to labour, relief works at short notice and import of foodgrains on government account. A more basic solution is to make the farms less dependent on rainfall. This means more irrigated land, assured power supply, better farming methods, more labour-intensive works as part of normal development and, of course, spread of industries to relieve the pressure on land.

The task is stupendous but there is no need for despair. For the potential for power and water in the Southern region is indeed much more than popularly imagined. A close look at the facts would reveal how a crucial and well-laid plan could lead off the southern economy on a spiral of more employment, income and wealth.

A Two-way Traffic

Let us consider the power position in the South. The maximum demands of the four States at present is 1400 MW. This is expected to go up to 4,500 MW in the next five years— a three-fold increase. With integrated plans, it would be much more. An encouraging feature is the increase of thermal content in the power capacity, from 10 per cent in 1960 to 40 per cent in 1970. To that extent a bad monsoon is taken care of. What about the cost? It costs only one to two-and-a-half paise per unit of hydel power and six paise for thermal. But the States sell it to others at an average of nine paise. Should they make a profit in disregard of the chain reaction of an artificial scarcity manifesting itself in under-utilisation and uneconomic units, particularly in the small-scale sector? If only the inter-State price of electricity were reduced and the present power grid connecting the States were to be strengthened and expanded, the greatest integrating factor would emerge in the Southern region.

Already, power from Sharavathi is taken from Bangalore to Singarapet in Madras through a 2,20,000 volt transmission line. Eventually, it is proposed to link all the States in the South with a four-lakh volt grid. It will connect major power stations, Sharavathi, Kundah, Nagarjunasagar, Sabarigiri, Ramagundam, Bhadra, and Tungabadra. What is more, there can be a two-way traffic in power. Hydel reservoirs can then be made to store some water for the summer too by utilising more thermal power during the monsoon. Neyveli, with its 600 MW. (when expanded) and Kalpakkam, with its 400 MW. of atomic power, (expected in another two years) and Sharavathi's 890 MWS (when completed) could help in this process.

A Boon and a Boom

A peep into the potential growth after a full-fledged Southern power grid, is exciting. Firstly, it would mean a boon to agriculture in Madras, one fourth of whose power demand is for running pumpsets. By 1970, five lakh wells would be energised in the State,—the largest in the country. Secondly, more rail track can be electrified. At present only 160 kilometres from Madras to Villupuram on the way to Neyveli, is electrified. It would save coal which has to be transported from the north. Thirdly, bauxite ore in Madras and Mysore could be more profitably exploited, as it takes considerable power to make aluminium. It has been established that the larger the unit, the more economical would be its operation. Belgaum in Mysore and the Sheveroy hills in Madras where the ore can feed a 20,000 tonnes capacity plant for 20 years, would contribute more of the non-ferrous metal so vitally needed now to replace copper. The aeromagnetic survey now being planned in Eastern Cudappa in Andhra would also benefit. Fourthly, Bhadravathi, the first in Asia to make steel in an electric pig iron furnace, would be able to produce more than the present 15 varieties of special steel.

The Krishna, the Godavari and the Cauvery are majestic rivers that sustain the life and spirit of the South. If they are fully used, there will be no food deficit. But the facts today are tragic. Mutual misgivings among the States have stalled a co-ordinated pattern. Much water has flown since the Gulhati Commission suggested an Inter-State River Board and a master plan to harness the rivers, pending collection of more hydrological data. The Andhra farmer opposes any westward diversion of the Godavari to Maharashtra while Mysore wants 47% of the Krishna waters. A link-up of the two rivers has also led to controversy as the Krishna has more of the Western Ghat areas for water supply. A River Grid can come about only if there is agreement on the land to be submerged in one State because of a project in another, the compensation for possible loss of hydel reservoirs and the need to make food production the prime criterion of a demarcation. The Radio tracer technique, evolved by the Atomic Energy Establishment, for movement of silt, etc., would enable more accurate data to form a river grid. The Gulhati Commission had pointed out that only 13% of the irrigation potential created after 1951, was used.

Once water is assured, the time is ripe for a review of the crop pattern in the region. In the South, there are generally three crops annually, as there is sun-shine all the year round. The average yield of sugarcane, for instance, is three times that in the northern plains. In the Thanjavoor delta, the Japanica-Indica variety of paddy evolved in the State seed farm, has yielded 3,500 lbs. per acre as against the average of 2,400 lbs. In Andhra, a new experiment of growing cotton on rice fallows is proving popular. In the "package" districts of West Godavari and Mandya in Mysore, the rice yield has increased. An international vegetation map prepared by the French Institute in Pondicherry, shows how man has changed his farming habits over the centuries and provides ecological, meterological and other data to make out a more balanced crop pattern. A rationalised crop pattern would result in far-reaching changes. One example: if Madras could be assured of its needs of finer varieties of rice by Andhra, it could easily supply its *Kuruvai* rice to Kerala, instead of conserving it for its own consumption as at present. The new "Pusa seedless" grapes evolved in Delhi could be profitably cultivated in the South also. In Anantapur district citrus fruit cultivation has proved profitable and the banana is already in the export trade.

Away from Change

But there are still vast tracts of hilly terrain of parched field in the hinterlands, far away from the clamour of change. While their peace and beauty are enviable, the plight of their people is not. The Malnad in Mysore, the Nilgiris and Ramnad in Madras, Rayalaseema in Andhra, cry out for a new deal, after long years of neglect. The misery that moved Pandit Nehru to tears on his first visit to the South is still there.

There is nothing like road transport to open up the hinterlands. Here the oil refineries, coming up at Cochin and Madras, would play a crucial role. With a combined annual throughput of five million tonnes, the two refineries would not only keep the wheels of industry and transport moving, but would yield several middle products life bitumen, to lay roads.

The Chief Ministers at their Tirupathi Conference decided to ask the Centre for a national plan to prevent drought in their region. An outlay of Rs. 600 crore has been suggested. The case for Central assistance is based on the following facts: The region is fast reaching the take-off stage. In a decade's time, Madras has industrialised itself to be next only to Maharashtra. The *per capita* power generating potential in Maharashtra and Mysore has reached an unprecedented high. It is thus cruel that their full utilisation is blocked by drought.

Why Central Plan

A Central scheme to fight drought would end the States' plea for subsidy on any and every pretext. The planning of a Central project as well as its benefits may involve more than one State without inviting the mutual suspicions of a bilateral deal. The States will have more money for industries elsewhere, which they can undertake without awaiting Central clearance, as projcets not requiring Central aid would become a more common sight. The Southern Zonal Council can effectively function as a clearing house for common projects. It would then be more logical to expect the States to keep their finances in better shape.

THIS INDIA

YOJANA invites contributions to this new feature from its readers all over the country. Each anecdote must be true-to-life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

ON June 6, a villager at Vilangan went to a consumers' store for changing a rupee note. The shopkeeper took the note and gave him 63 paise. When the villager protested, the shop-keeper wisely nodded his head, and said, "Of course, you don't know, you can't read the newspaper. The Government has reduced the value of the rupee to 63 paise."

A quarrel ensued. The poor villager refused to believe that his hard-earned rupee had suddenly lost its value. The shop-keeper was adament. At this point some of the village elders appeared on the scene. They admonished the shop-keeper and explained to him that the value of the rupee in the home market remained the same. He was ordered to give the villager the remaining 27 paise. This the shop-keeper did most reluctantly.

Trichur — *C. S. Pillai*

ON June 19, I was travelling by bus to the Samalkot Railway Station. The bus goes by a canal route—a road running parallel to the canal. At one point, a tree fell across the road. The vehicles running on that route had to negotiate two steep gradients —down the road towards the canal and again up the road—to avoid the fallen tree.

Passengers were generally getting down from the buses as a precaution and with a view to make it easy for the empty bus to negotiate the semi-circular curve with two steep gradients on slippery soil.

The driver of our bus did not allow the passengers to alight. After covering half the gradient towards the canal, he hesitated to proceed farther and applied the brakes. The passengers became agitated and asked him to stop the bus so that they might get down. The conductor added his voice and advised the driver to stop the bus.

Then, the meditating driver looked back and hesitantly told the conductor; "Why should I take the risk alone? My life also is precious and I too have children to be looked after." Then, he plunged into action and luckily all of us reached to our destination, not the ultimate, but the immediate destination.

Banaras — *G. R. S. Rao.*

DURING a family planning week we conducted a three-day camp for men and women. There were family planning classes, discussions, vasectomy operations and insertions of the Loop. Several experienced doctors were in attendance. Our house to house campaign had good results; there was a steady stream of men and women to our camp. We were agreeably surprised at the response; the demand for Loops as well as for vasectomy surpassed our expectation.

On the third day, however, there was an incident. A woman had taken the Loop. Now, her husband came to the camp with her and haughtily asked the lady doctor on whose authority she had inserted the loop. He insisted on the Loop being taken out, which the lady doctor did.

The husband then straightway went to the vasectomy camp and got himself operated upon. This, he declared, was his "revenge" on his wife. He came out and walked up to his wife. Then, to our surprise, he took his wife to the lady doctor and insisted that she should re-insert the Loop. The lady doctor had to oblige.

Both husband and wife were now beaming with happiness. They briskly walked away, ignoring the amused crowd that was watching the whole incident.

Chopru — *Jacob Samuel*

MY two daughters go to school, the elder one to the primary class and the younger to the nursery. Both carry lunch with them.

One day the younger daughter told me that her sister threw away part of her lunch every day. I considered the matter to be serious because children must learn not to waste even a grain of food.

When I asked my elder daughter, she confessed to throwing part of the food every day on the ground. When I rebuked her, she burst into tears, and said, "But my class-mate has told me that we owe so much to the earth, our *Janma Bhumi*! Shouldn't we feed the earth too?"

Gbarga, Mysore — *K. S. Gad*

ON the so-called Bangalore Bandh day I entered a fruit shop in the evening. After the shopping was over the owner casually remarked, "Swami, I wish there were a bandh for the speeches of all politicians".

Sirsi, Mysore. — *Ganesh Kadekodi*

HOW LONG SHALL WE NEED FOREIGN AID?

D. MAHAPATRA

IN the last ECAFE session at Delhi, the plea was made that the developed countries should open up more avenues of trade with the developing countries so that the latter could secure the much-needed foreign resources for financing their developmental projects without too much dependence on foreign aid or loans.

It is a fact that the developing countries are currently in desperate need of foreign exchange resources to build up their capital investment programmes. These resources, so crucial for the developing countries, particularly for a country like India at the present stage of development, can be had either through sizeable export trade or by grant of loans or aid from the developed countries. In the context of the contemporary political and economic climate of the world, however, prospects of large-scale assistance by way of loans or aids by developed countries have somewhat shrinked.

The developing countries, in their turn, also do not very much favour foreign loans, either short or long-term, because of the heavy burden of debt servicing and principal repayment which such loan transactions inevitably carry with them. In a sense such a procedure is regarded as tantamount to mortgaging one's future economic progress.

We may also remember that the capacity of the donor countries to give loans or aid is not unlimited keeping in view the fact that these countries also have their own needs for resources to stabilise their growth and meet the mounting needs of defence, technological transformations and social welfare. Further, the number of countries in need of loans and aid is now so large that it would be next to impossible for any one or a group of developed countries to satisfy all the capital hunger of the developing world.

It is, of course, pointed out that there is still considerable scope for expansion of aid facilities by the developed countries insofar as these countries are still far from channelising even one per cent of their net national income as aid to the less developed ones. But if, in actual practice, this very sensible proportion of aid has not tended to flow out, it points up to the fact that there must be some serious inhibiting factors. It may also be noted that whether it be loan or aid by one Government to another, the transaction is conditioned by a complex gamut of considerations other than the simple ideological motivation or impulse of helping the relatively backward countries in their struggle for rapid economic growth. Political and non-economic factors do powerfully influence and determine the processes of inter-governmental assistance in a situation particularly vitiated by power-political considerations. Loans or aid from international aid-giving agencies are also circumscribed in a variety of ways, though these agencies have rendered substantial monetary assistance to developing countries in modernising their economies.

An alternative to loan or aid is to attract foreign equity capital. But this source also does not offer much promise since there is a number of barriers. The foreign private investor has today grown chary of investing in the developing countries because, among other things, there are fewer possibilities of gains in view of the limited market in these parts of the world, besides the lack of social and economic overheads and, above all, the fear of discriminatory treatment, nationalisation and irksome controls and restrictions on repatriation of dividends, profit and even the principal.

In the past century, foreign capital mostly tended to be invested in extractive and raw-material producing industries like mining, plantation and agriculture, though a part of the investment was also directed to transport and other public utilities. In recent years, the less developed countries do not want to attract foreign private capital to the extractive industries; they equate extraction with exploitation, and want to reduce their dependence on exports of raw-materials. On the other hand, they want foreign capital to be channelled into manufacturing enterprises in collaboration with indigenous capital with power of control and direction by the Government in the operation of such undertakings. This is exactly what does not appeal to the foreign private investor and deters the flow of private capital into the developing countries. The less developed countries have also tended to grow allergic to private capital because it has colonial overtones. Despite all these deterrents and inhibitions, there has nevertheless been a great deal of foreign investment at the periphery, though in recent years the stream has dried up considerably.

> We don't like to have much foreign aid, but still have to take it. Why? Can we dispense with foreign aid by building up our foreign trade? What are the difficulties in expanding foreign trade? How long shall we have to accept foreign aid and when could we expect to be able to do without it ?

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Under such circumstances, where the scope for large-scale foreign aid or flow of equity capital is limited, the only course left open to the developing countries for securing the much-needed capital for sustaining their development process is to seek expansion of their trade nexus with the developed countries of the world. But this renewed emphasis on foreign trade, however desirable in itself, has to be appraised and reviewed in terms of its actual potential for success. International trade deals are predicated upon the calculus of matter-of-fact gains and commercial benefits and no amount of altruistic or ideological appeals could pave the way for it where hard economic realities discountenance such transactions.

INDIA'S NEEDS

In a country like India, at the present juncture of development, the direction of foreign trade should be oriented towards countries which are capital-rich and are in a position to supply modern scientific technology, skill or know-how for stimulating viable economic growth. By this, it is, of course, not implied that the establishment of India's trade relations with countries other than the advanced or developed ones has no inherent merit; but it has to be admitted that the contribution which the developing countries could make to each other's growth is, in the nature of things, strictly limited. The developing countries could perhaps profitably launch upon bilateral trade bargains and greater regional co-operation in creating the complementarity of production; but it would be illusory to expect that the capital needs of the developing countries could be met by only a network of trade relationships within the periphery of the developing countries themselves. It becomes, therefore, imperative that India should seek to explore and expand her market in the regions of the developed countries.

What are the prospects for such a desideratum? The main components of India's foreign trade consist even today of the traditional items of raw materials and primary commodities, though efforts at diversifying trade by developing new lines of manufacture have been made during the Plan periods. But the demand for raw materials has declined sharply in the advanced countries in the present age when synthetic materials have been developed for wide-spread use, and production has tended to be resource-saving rather than resource-using. Besides, with the emergence of organisations such as the European Common Market, the international trade scene has undergone a dramatic change. Preferential treatment for products of the member countries and the collateral high tariff barriers to prevent access of products from countries outside the system to these areas, preclude the hope for the traditional items of our export in these integrated markets. As for our light manufacturing, processed, or semi-processed goods, whatever may be the scope for such goods in the markets of the less developed countries, certainly the developed countries do not need them much. The developed countries might need our mineral ores and metallurgical ingredients for feeding their vast industries; but we cannot be too liberal in these exports, since we may have the need of these materials in future when our own industrial structure is well-developed.

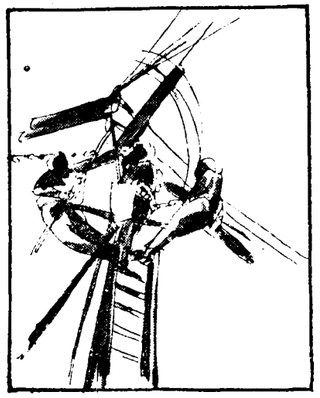
All these considerations impose serious limitations on any far-reaching expansion of our foreign trade with the developed countries. Yet we have always to emphasise and consistently urge the developed countries to allow more facilities of multilateral trade, because trade alone provides the most natural and reciprocal means by which both the centre countries and the periphery can mutually benefit and develop.

Even assuming that the developing countries, under the pressure of inexorable logic of circumstances or otherwise, normalise trade relations and return to free trade, it may not answer all our problems immediately since the massive needs of foreign capital to engineer the breakthrough in the present stagnation of our economy cannot be met by normal trade accounts alone. The accelerating rate of population growth and signs of stagnation in certain vital sectors of our economy, particularly agriculture, do not inspire a forward-looking hope. It is contended that we depend on foreign investment to the tune of only one-fifth of our total developmental outlay; but this one-fifth of the resources in foreign money is of crucial importance. We have, therefore, to rely on loans and aid until we cross over the critical transition in our development. As long as loans are available on strict business principles and aids supplied without strings, there is no reason why we should desist from exploring all practicable methods of securing such finance from friendly countries and other institutions. All developing countries at the initial stage of their historical process of development have made free and liberal use of loans and aids. Even the United States, the most advanced and opulent country in the world, had to take loans from the continental countries and Britain for her development.

IMPORT SUBSTITUTION

It would, of course, be better for India if she could arrange low-interest loans on long-term basis and procure project-free and non-tied aid to help accelerate the pace of her economic development. At the same time, attempts should be made to create a more favourable climate for foreign private capital investment and an active programme of import substitution should be launched to reduce as far as practicable the dependence on foreign products, accessories and materials. But import substitution cannot be carried too far since we require components, spares and certain basic raw-materials for building up our industrial potential. We may also urge the industrial countries to remove quota restrictions and dismantle tariff barriers with benefit to themselves as well as to the less developed countries. Though the GATT initiated such a process of reduction of trade barriers, the creation of the Common Market has somewhat complicated the issues in recent years.

Electricity Comes To 4,692 Villages In U. P.



RURAL electrification is necessary not so much as an amenity to the villages but for promoting agricultural and industrial development in the rural areas. The magnitude of the problem of rural electrification in Uttar Pradesh may be realised when it is remembered that the State has one-sixth of the total population and one-tenth of the total area of the country and that about 87% of its population lives in its 1,12,624 villages. Most of these villages have a population of less than 1,000; as many as 69,682 villages have a population of less than 500, while 26,015 villages have a population between 500 and 999 and there are only 16,927 villages with a population of 1,000 or more.

Rural electrification in U.P. began with the commissioning of the hydro-electrical power stations on the Ganga canal in 1930 when the opportunity was taken to electrify first the State tubewells and, later, private tubewells and pumpsets as well. The progress was, however, very slow as the power generation itself had not made much headway until the 3rd Five-Year Plan.

Judged from the number of villages electrified, rural electrification may be said to have received real impetus from the commencement of the Third Five-Year Plan, as may be seen from the figures given below:

	No. of villages
(a) Electrified at the beginning of the First Plan.	10
(b) Electrified at the end of the First Plan.	23
(c) Electrified at the end of the Second Plan	211
(d) Electrified at the end of the Third Plan	4692

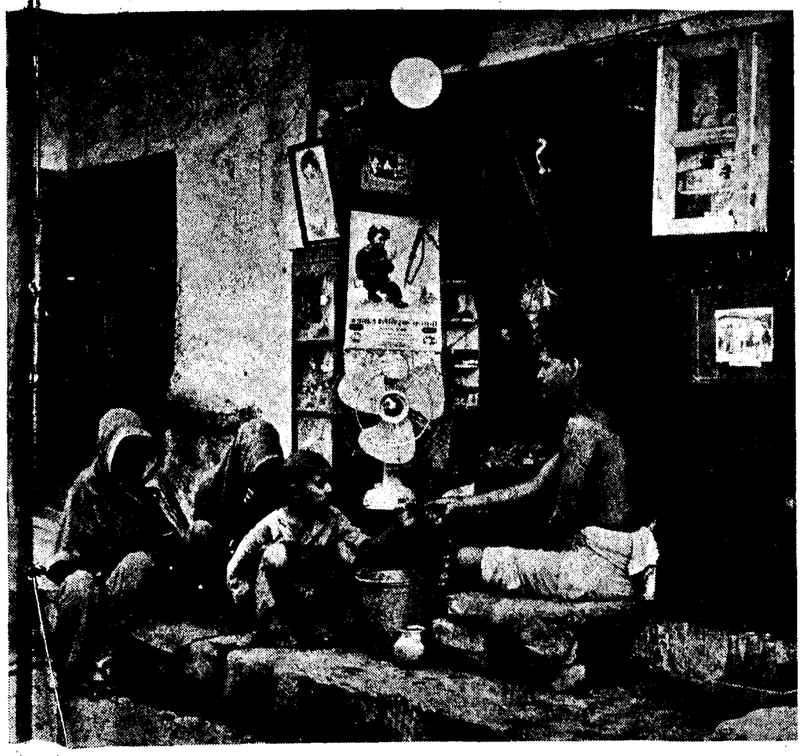
There is a proposal to electrify 16,000 villages in the Fourth Plan period.

With the increasing emphasis on maximising agricultural production, rural electrification has come to have a special significance as never before By energising tubewells and pumpsets to assure a regular supply of water for irrigation purposes, rural electrification can play a vital role in minor irrigation. In fact, one of the first uses for electricity in the rural areas was to electrify tubewells and pumpsets.

The number of electrified State tubewells which stood at 2,305 before the commencement of the First Plan, increased to 5,441 at the end of the First Plan, to 6,427 at the end of the Second plan and to 7,675 at the end of the Third Plan. The proposed target for the Fourth Plan is 3,000 State tubewells.

In the effort to overcome the difficulties caused by drought and to increase agricultural production in the face of scarcity conditions, the demand for the electrification of private tubewells and pumpsets has also considerably increased after 1964-65.





Even in the eastern districts where electricity had not found appreciable use for irrigation purposes in the past, the acceleration of developmental efforts in recent years has led to an increase in the demand for

17,000 Pumpsets have been Electrified

Photographs: P. ROY



energisation of tubewells and pumpsets. As against 4,554 private tubewells and pumpsets electricfied in the State till March 31, 1965, 4,729 private tubewells and pumpsets were electrified in 1965-66 alone, 3800 of them in the second half of the year. The State Government, has a programme of electrifying one lakh pumpsets and 40,000 private tubewells during the Fourth Plan.

The U.P. State Electricity Board has framed liberal rules in regard to power connections. At its own cost, it constructs half a mile of 11 KVL. T line per 10 H.P. *pro rata*, irrespective of the financial return. Similarly, it has laid down a yardstick of constructing 1½ miles of 11KV line per thousand of the population.

This has enabled it to give more connections and make the facilities of electricity available over a larger area than it would have been possible otherwise.

The Board also launches special service-connection drives periodically when field officers tour all the electrified villages and arrange for power connections solving difficulties, if any, on the spot. To facilitate the drive, the service connection charges upto 20 KV have been standardised. The special drives have been found to be effective. In September 1964 and January 1965, for instance, as a result of such drives, as many as 32,000 connections could be given in villages.

Formerly, when an important village was electrified, the uses of electricity in agriculture and industry were demonstrated to the villagers by showing them electrically driven chaff cutter, sawing machine and so on. Nowadays electricity has become so popular in the rural areas and its benefits so well known to the villagers that hardly any demonsration is necessary to educate them in this regard. Applications are received from the villagers in large numbers for power connections especially for private tubewells and for pumpsets which would give them an assured water supply for irrigation.



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RESEARCH AND POLICY-MAKING

ONE of the major vacuums in the Indian administrative system is research as an essential factor in the formulation of home and foreign policies. It is only in the economic field that research has, in recent years, been playing a part in evolving important policies; even here, the gaps are many, and, sometime, serious. The Economic Affairs Department of the Finance Ministry engages in various norms of research, and the Reserve Bank's contributions to economic research are far from negligible. And still it would appear that such an important matter like devaluation did not precede any significant volume of research, although the talk of devaluation was in the air for months. Even when devaluation was not being actively contemplated as a policy decision, the various Ministries might have been asked to work out hypothetical papers analysing the effect of devaluation on domestic prices, foreign trade, balance of payment, industrial output and so on. The Japanese Economics Affairs Ministry worked out in great detail quite some time ago the effect on Japan's economy of devoting one per cent of the national income to external assistance.

Much of the paper work on the effects of devaluation was undertaken *after* the decision was announced. This had obvious defects. One was the failure to answer all the misgivings and doubts that arose in people's minds as quickly and effectively as should have been done. Economists working for, or in association with, Government were hurriedly engaged to defend the decision, explain its repercussions, and remove popular misgivings. Those who, for various reasons, opposed devaluation, were hustled into rigid positions.

In a country like India with a very plural society, the Union Home Ministry should have a vast research organisation. It is impossible to formulate effective long-term policies for the border areas, for example, without systematic and adequate research by social scientists, economists and political scientists. The practice of appointing commissions is often ineffective, because commissions, in most cases, are responses to explosive situations whereas continuous research would keep ministers and senior officials informed of significant developments and make policies more suited to changing circumstances.

To illustrate the point, the hill people and the tribals all over the country seem to be emerging as two major problems that Government will have to solve in the coming years. Fifteen years of economic progress and three general elections, with the fourth knocking at our door, have made the hill people politically conscious. Whether it is in Assam or in NEFA or in the Himalayan foothills of Uttar Pradesh or the present Punjab, certain tensions would seem to be building up between the hill people and the people living in the plains. Social scientists would identify these tensions as an inevitable result of growth. Is it not necessary for the Union Home Ministry to have its own research unit which can go into this problem and suggest policy measures *before* the tensions reach a boiling point?

Similarly, the tribals. What happened in Bastar last March might well have been avoided if Government were adequately informed in advance of the tensions building up amongst the tribals as a result of economic growth. It is distressing to think that no serious study has been made of the impact of Dandakaranya on the tribals of Bastar.

Foreign Policy Research

Research is again a neglected aspect of the formulation and projection of our foreign policy. The Policy Planning Body recently set up is not, in the opinion of many, an adequate response to the challenge of research; in any case, this small body of senior officials must be assisted by a large research organisation. The Historical Division needs to be expanded enormously, and divided into various area sections. Moreover, research should be independent of governmental policies, and not merely the assembling of data in defence of policies already taken.

One hopes that the Morarji Desai Commission will turn its attention to the need for research as an essential component of domestic and foreign policy formulation. There is no reason why Government should not ask universities and research institutions to go into specific problems and submit reports. This is how in the advanced democracies the intellectuals are involved in public affairs. If a large body of Indian intellectuals is un-involved and, therefore, subjected to all kinds of doubts and frustrations, it is because they have been kept isolated from the mainstream of national endeavour. Their involvement in social, economic, political and diplomatic research for Government, without sacrificing independence of approach and judgement, would end this isolation, and be of considerable advantage to the country as a whole. The cost of research will be negligible in comparison with the gain.



IGNORAMAN

Wants to Know

Will there be a train travel insurance scheme?

Books

MARKET TOWNS IN INDIA

Market and Spatial Development in India. Published by National Council of Applied Economic Research, New Delhi. 162 pages. Rs 18.

L. S. Bhat

MARKET towns should act as functional units to which the activities of the surrounding villages are tied up. This is the central theme of the author in his analysis of some aspects of spatial development in India. The subject is discussed under six broad headings followed by a comprehensive summary and conclusions and recommendations.

The author stresses the need for spatial organisation of a large number of market towns to avoid the emergence of a dual economy that is dynamic in the cities and stagnant in the countryside.

He says that if we exclude towns having more than 20,000 people, there will remain only 1927 urban centres in India which can be considered as market towns. There are two main objections to these assumptions both in theory and in application to Indian conditions. According to the *Central Place Theory*, towns of a higher order also perform the functions of those of the lower order. With the exception of a few cities having more than 100,000 people, the locational pattern of urban centres in the population range of 20,000-100,000 shows a marked affinity to the regions in which they have grown. On the other hand, a large number of towns with less than 10,000 people (class V and VI categories) are *urban* in character. Therefore, studies on spatial pattern of development ought to treat the whole range of urban centres as nodes of functional regions, market towns and their hinterlands. The larger cities or industrial locations serve as nodes of agricultural regions or economic regions of which the market hinterlands are the smaller units. Similarly, settlement patterns are influenced by land-form and land-use characteristics in different regions and the number of towns and the distances between them will depend on them.

On the basis of the author's estimates we need at least 12,500 to 14,000 market towns. This is far from realistic because one has to assume that there will be a large surplus of commodities which the villagers will be able to sell in the market. Areas with diverse crops with emphasis on cash crops have to be provided with marketing and processing facilities in chosen centres that are accessible to groups of villages. In order to understand these problems the author rightly stresses the need for regional studies and sample surveys in selected areas to find out the number of market towns required for different areas. These are essentially the kind of studies that should form a basis for area development programmes at the Block and District level.

HASTY CONCLUSION

The author's observation that 'the Block is too artificial, too large and functionally amorphous...' is rather a hasty conclusion. The method of treating a Block as the lowest planning unit preparing an integrated plan for villages has its merits. In most cases the Block is less heterogeneous than the District in its land-form and land-use characteristics and the headquarters of Blocks (or tahsils) being centres of administration in most cases possess certain urban functions.

On the town-building process the author lists ten infrastructure and other installations that could be concentrated in chosen market towns for the benefit of the surrounding villages. They include, among other things, grain storage facility, fertiliser mixing plant, water-filtration plant, electricity, sewer and sanitation equipment and a modern three-ton rice mill. While these are the necessary installations at the chosen centres, one wonders whether the investments available will be adequate to provide these facilities for thousands of market towns which are necessary, according to the author. Therefore, in the initial stages, suitable locations may have to be chosen among existing towns, headquarters of Blocks and some large-sized nodal villages.

What lessons has India to learn from other countries which have faced similar problems and planned for rural-urban integration? In chapter 3 the author cites interesting accounts of Yugoslavia, Italy, Japan and Puerto Rico. Japan provides valuable experiences in this field particularly in the development of agriculture and small-scale industries before the modern metropolitan-based industries came in. This enabled Japan to increase her industrial activity without reducing the rural working force. In 1930, nearly 61 per cent of her workers, engaged in manufacturing and construction, lived in non-city areas. This could be a valuable indicator to reveal the inherent potentiality of town-centred integrated production plans at the Block and District level in India and the urgency for dispersal of economic activities concentrated in fewer urban centres or areas.

Puerto Rico's experience in the use of regional 'profiles' to ascertain the types of industries that are appropriate for a region and the feasibility study to find out how far particular enterprises are suitable are valuable as lessons in regional planning.

The main contributions of the author to the analysis of spatial patterns of developments are in chapters 4, 5 and 6 wherein the author analyses the role of regulated markets, industrial estates and the influence of infrastructure on agro-urban development. This treatment is somewhat a departure from the earlier analysis of spatial patterns in general. For example, the study of about a thousand regulated markets and a few industrial estates will not be sufficient to draw any inference on market towns, and spatial development in India as there are several other market towns, market villages and industrial centres which already have established some kind of spatial patterns and integration. However, studying these topics in their own merit, such findings of the author as are relevant in the study of spatial patterns are significant.

There are marked variations in the distributional pattern of regulated markets and their location in settlements of different sizes. As the study was restricted only to 12 States, it was revealed that the cotton raising areas had made the best use of regulated markets. This corroborates the view that the regions specialising in cash crop production could be the best areas for locating regulated markets in the first instance.

The author has analysed the theoretical locational patterns of markets and *market hexagons* on the lines of Losch and he brings out the inadequacy of markets and interstices between market hinterlands in Maharashtra. These honeycomb patterns of market hexagons can be neatly drawn within any area as the economic landscape of Wardha District portrays in a sketch map the possible distribution of 32 *mandi* markets and 5 regulated markets. The author rightly stresses the need for adapting the future pattern to the given situation rather than emphasising too much on symmetrical designs.

PACKAGE OF ART

A Portfolio of Paintings by Rangaswamy Sarangan, Published by the All India Fine Arts and Crafts Society, New Delhi. Price Rs 10; 20 sh; $ 3

Kali Biswas

WE have a host of talented young painters whose works are on view in exhibitions held in one or more important cities. While people can acquaint themselves with the trend of contemporary art through these exhibitions, people living in other places miss an important aspect of our cultural progress. A portfolio, or a collection of painting, helps in bridging the gulf.

Bringing out a portfolio is expensive. However, if it is designed properly and is supported by appropriate text, it helps the layman in understanding the painter. Rangaswamy Sarangan's portfolio is a welcome addition to the scanty material we have in our country.

Sarangan, one of our younger painters, has moved remarkably fast during the past three or four years. Justifiably, in his collection he has included 12 paintings done in the period between 1963 and 1965. Of these, six are reproduced in colour and the rest in black. It is evident that the last three years have been the most formative period in his career and he has gone on experimenting with different forms of expression.

From impressionism (Rider, 1963) he gradually moves forward. His later works, as is clear, are characterised by an expressionist outlook (Krishna and Gopis, 1964 and Car Festival, 1964) until, consciously or unconsciously, he accepts the modern trend and begins using the latest media such as sand, metal and stone so as to create a solid composite structure. One feels that to Sarangan the basic forms and the spatial arrangement, the fundamental requirements of abstract painting, came the easy way. Unlike Pollock, he squeezes the liquid paint out of the syringe completely in a hurried circular, semi-circular and zig-zag manner to create uncanny yet sensitive forms which stand out in bold relief. It is the sculptural quality that gives his works a three-dimensional effect (Symbols, 1965). One wishes few more specimens of such work were included in this volume. 'Interior of Steel Work' is familiar to readers of *Yojana* as it was used appropriately on one of its covers.

By publishing the portfolio, the All India Fine Arts and Crafts Society has set an example of how to encourage deserving painters. Printing is excellent and the get-up nice, though reproduction is not uniform. Particularly, to those who had seen 'The National Bird' in original, the reproduction will come as a shock. The brief introduction by Dr M.S. Randhawa as well as comments of art critics will prove helpful in knowing the painter's mind and appreciating his art.

HIGHLIGHTS

Paradip port in Orissa will start working in October when the first iron ore ship is expected to enter harbour. The port will then be opened to traffic, marking the start of export of iron ore to Japan.

Andhra Pradesh is to get a loan of Rs 1,44,000 for the Nagarjunasagar project in the current year. With this the Centre has given the State loans of more than Rs. 104 crore for the project.

All universities and affiliated colleges will soon have co-operative stores selling essential commodities, books and other articles to students as well as members of the staff. They will also run canteens. Co-operative stores in the universities will also have book-banks.

The first prize in the Uttar Pradesh Cane Crop Competition for last year has gone to the Chhabri farm in Gorakhpur district. It produced 2,252 maunds of cane per acre.

In the Village Level Competition in Uttar Pradesh, Mohiuddinpur in Saharanpur district has won the first prize.

In Orissa an improvement in the Hirakud hydel system has enabled the Electricity Board to restore normal electric supply to the major industries. The steel plant at Rourkela and industries in Jorda were among those to benefit.

The Reserve Bank has agreed to provide re-finance facilities to banks at the bank rate to help them meet the demands of priority sectors in the busy season. A communique says that credit expansion in the forthcoming busy season will be of much large dimensions than in the past.

The engineering and chemical industries have substituted imports to the tune of Rs 40 crore a year.

The Heavy Plate and Vessels project at Visakhapatnam in Andhra Pradesh is to be run by a company called Bharat Heavy Plate and Vessels Private Limited. The company has been incorporated with a share capital of Rs 7 crore. The project, a public sector one, will manufacture about 23,000 tons of plate and vessels type of equipment every year for processing industries like fertiliser, petroleum and petro-chemicals. The cost of the project is estimated at Rs 16.5 crore and its annual production is valued at Rs 10 crore.

The Board of Trade has been reconstituted for two years, with 28 members. The Chairman is the Union Minister for Commerce.

The Ordnance factory at Tiruchirapalli was inaugurated by the Prime Minister on July 3. This is the fourth ordnance factory to be commissioned since 1962. Set up without any foreign assistance or collaboration, the factory will produce automatic rifles, carmines and light machine guns, in addition to conventional infantry rifles.

India's traditional exports to Africa face keen competition and seem to have little scope of expansion. But our engineering goods are finding a wider market in Africa. The surest way to expand trade with Africa, according to the author, is to go ahead with more and more joint industrial projects of which 15 are now in hand.

India's Trade with Africa Grows

MADAN M. SAULDIE

SIGNIFICANT progress has been made in Indo-African trade, but some factors retard its growth. Firstly, both India and African countries are in the process of economic development for which they need capital goods. Secondly, African countries have, of late, started exploring new markets for their raw materials as also new sources of consumer goods. India, therefore, faces a keen competition in the matter of her exports. Thirdly, most of the ex-French territories have carried on international trade mainly with the EEC countries specially with France. And lastly, most of the African countries have themselves been suffering from a persistent trade imbalance and its rectification has been a major obsession with them.

It is mainly because of these reasons that most of India's trade with Africa is with only a dozen countries of the continent, notably Congo, Ethiopia, Ghana, Kenya, Nigeria, Rhodesia, Sudan, Tanzania, UAR and Zambia. The volume of trade both ways, which totalled Rs 115 crore in 1961-62, had slumped to Rs 106.4 crore in 1962-63 and farther to Rs 97 crore the following year, and levelled up with the 1961-62 figure in 1964-65.

India's trade with Africa contributed 5 to 7 per cent of her total imports and 6 to 8 per cent of her total exports, leaving her perpetually in an unfavourable balance of trade position. A regionwise break-up of trade is given in Table-I.

India's traditional exports to Africa include cotton piecegoods, jute manufactures, tea, tobacco, spices, sugar, footwear, readymade garments, blankets and bed linen. To this rather narrow range of exportable products have recently been added light engineering goods (such as sewing machines, electric fans, electric motors, bicycles, agricultural implements and diesel engines), art silk piecegoods, hosiery, coir manufactures, drugs, medicines, films and toilet articles.

The imports from Africa consist in the main of raw cotton, metallic copper, raw cashew nuts, rock phosphate, vegetables, tanning materials, palm oil and cloves.

India is now successfully introducing new items of export to replace some of the traditional ones. But efforts to this end will be restricted by the limited number of products which African countries are interested in buying as also by the new markets they find for meeting their consumer goods requirements.

For a study of India's trade with African countries, the continent can be broadly divided into three regions. North Africa, West Africa and East and Central Africa.

Let us take North Africa first. In this region India has trade relations with Algeria, Libya, Morocco, the Sudan, Tunisia and the UAR. The total two-way trade has been steadily growing from Rs 49 crore in 1961-62 to Rs 53.5 crore in 1964-65. India's major imports from this region include raw cotton, rock phosphate and gum arabic. Her exports to these countries consist of cotton and art silk piecegoods, tea, hessian cloth and manufactures, black pepper and vegetable oils. Of late, Indian engineering goods, pharmaceuticals and cinema films are also reported to be popular, particularly in Egypt.

Trade between India and the North African countries is governed by a number of bilateral agreements. The first such agreement between India and the UAR was signed in July 1953. A protocol was added to it in January 1963 extending it to the end of February this year. However, the agreement was reviewed last December when some vital changes were suggested in the present pattern of trade between the two countries. Besides this, minor pacts, providing for increased trade in some particular commodities, have also been signed.

Under the Indo-Moroccan agreement concluded in December 1963, the trade exchange is to be about Rs 2.9 crore annually. The Indo-Tunisian pact of June 1965 provides for doubling of trade between the two countries in the current year. The pact with Algeria envisages trading in a number of new products. The October 1965 agreement between India and the Sudan provides for a near-balanced growth of trade at a level of Rs 20 crore per year.

An overall picture of India's trade with North African countries is contained in Table II.

The figures suggest that India has been experiencing an adverse balance of trade with North African countries except with Algeria and Libya. This trend is attributable largely to the increasing imports of raw cotton from the Sudan and the UAR and rock phosphate from Tunisia and Morocco.

NORTH AFRICA

India's exports to North Africa have declined substantially, much so in regard to India's traditional exports to the region. However, India's light engineering goods like sewing machines, razor blades, electric batteries, diesel engines and bicycles are proving popular. There is scope to introduce more goods in this category with confidence. There are bright prospects for India's artware which have already captured the Libyan market. Sugar and bed linen are also making headway.

India's trade with West Africa must be assessed in two different classes. West African countries can be divided into ex-British territories (Nigeria, Ghana, Gambia and Sierra Leone) and ex-French territories (Mauritania, Senegal, Upper Volta, Nigar, Ivory Coast, Togo, Guinea, Mali and the Cameroon). As is natural, India's trade with the Commonwealth countries in Africa has grown more rapidly and substantially as compared with the French-speaking States. With the latter, the trade has largely been one-way, India exporting a wide variety of items (though in small quantities) and importing almost nothing.

Table III presents the over-all picture of India's trade with the countries of Western Africa.

The table shows that India has a favourable balance of trade with West African countries. It also reveals that India's trade with this region has been progressively recovering from the slump it suffered after 1962-63.

There is only a limited potential for the growth of India's trade with this region. But if India could import increased quantities of palm oil from Nigeria and minerals and raw materials like crude, industrial diamonds for processing and re-export, there is every prospect of India selling more and more in that market. A barter trade with French-speaking States would give impetus to the growth of India's trade with these countries.

In view of these trade trends,

TABLE I

(In Rupees lakhs)

	1961-62		1962-63		1963-64		1964-65	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
North Africa	2,350	2,538	2,827	2,401	2,529	2,395	2,886	2,468
West Africa	222	1,316	42	940	143	691	150	761
East and Central Africa	3,832	1,769	2,761	1,649	2,405	1,544	3,539	1,720

TABLE II

(Rs. '000)

	1961-62		1962-63		1963-64		1964-65	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
Algeria	46	2,322	11	1,725	4	3,536	43	4,848
Libya	5	3,800	1	3,700	43	6,100	4	6,053
Morocco	2,600	14,200	8,100	10,900	5,100	5,900	8,731	2,761
Sudan	105,600	103,000	171,100	90,100	85,200	78,400	90,086	65,258
Tunisia	6,400	1,300	6,100	3,100	9,800	20,200	16,169	4,014
U.A.R.	120,400	128,500	97,800	130,600	152,500	125,700	173,530	163,880

TABLE III

(Rs. lakhs)

	1962-63		1963-64		1964-65	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
Nigeria	12	617	76	378	98	535
Senegal	—	—	—	17	—	17
Sierra Leone	Neg	51	Neg	73	—	75
Togoland	—	—	—	15	—	12
Mauritania	—	—	—	Neg	—	—
Cameroon	—	—	—	11	—	17
Ghana	30	144	66	147	52	29
Guinea	—	—	—	11	—	14
Ivory Coast	—	—	—	8	—	21
Liberia	—	3	Neg	2	—	6
Total	42	815	142	662	150	726

TABLE IV

(In Rupees Lakh)

	1962-63		1963-64		1964-65	
	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.
Kenya	566	550	341	503	743	541
Uganda	130	64	80	66	220	82
Tanzania	802	311	645	277	757	284
Ethiopia	1	199	Neg	170	Neg	144
Rhodesia, Malawi and Zambia	437	226	340	166	457	278
Mozambique	534	83	806	68	1,079	138
Angola	—	2	—	1	—	1
Congo	213	12	126	11	205	6
Malagasy	—	40	0.3	16	2.6	12.7
Mauritius	—	112	2.2	120.1	6	114.0
Somalia	Neg	50.1	Neg	53.0	Neg	47.55
Seychelles	75.75	13.62	62.29	14.32	68.26	11.95

setting up Indo-African joint ventures in these countries might give a new shape to Indo-African trade relations. India has already agreed to undertake half-a-dozen such projects in Nigeria, to which India would supply machinery, equipment and technical know-how.

Indian industrialists visited West Africa several times in the last two or three years. They see greater prospects for collaboration ventures. The Government of India is urgently considering the introduction of a regular shipping service between India and West Africa. This will undoubtedly be a major contribution to the growth of Indo-West African trade.

India's trade with East and Central Africa has been growing in recent years. India's imports from this region come to 40 to 50 per cent of her total imports from Africa while her exports cover up to 30 to 34 per cent only of the total exports to the continent. India has an unfavourable balance of trade with the countries of this region excepting Ethiopia, Angola, Malagasy, Mauritius and Somalia.

India's principal imports from this region include non-ferrous metals (copper and zinc), cashew, raw cotton, dyeing and tanning materials, cloves and asbestos. Her exports to these countries consist mainly of cotton textiles and jute manufactures. The over-all position of import and export trade with this region is given in Table IV.

COTTON TEXTILES

Africa is a growing market for cotton textiles. India has for long been selling textiles there. Till lately her textile exports to Kenya, Tanganyika, Ethiopia and Mauritius were substantial. But in recent years it has declined. The reasons for this downward trend are not far to seek. Firstly, most of these countries are in various stages of industrial development, in which special attention is paid to textiles. Textile mills have already been set up in Kenya and Ethiopia and proposals are afoot also for establishing similar units in Tanzania. Secondly, Indian textiles are facing a stiff competition from Pakistan which offers grey sheetings, of which are cheaper as well as better in quality. Japan has also been a serious competitor, although it is no longer one because of the temporary bans imposed by these countries on Japanese imports.

India will have to try hard if she has to retain this region as a customer of her traditional goods. But there are already good prospects for India's exports of engineering goods and synthetic fibres. The sales of engineering goods have gone up from Rs 86 lakh in 1962-63 to Rs 146 lakh last year. Their exports can go up considerably if they are sent for the purpose of starting factories, plants or units. For instance, India has been able to sell equipment and machinery for setting up factories in Kenya and Ethiopia. She has secured an order for railway wagons from East African Railways and Harbours Corporation. A sugar estate proposed to be built in Uganda will also enable India to export her machinery and equipment.

There is good prospect for India's capital goods exports too. But India is unable to offer African countries the liberal credit terms as are offered by Western countries. So the only possibility of selling capital goods is to set up production units in African countries with Indian machinery and equipment.

Much progress has already been registered in this field. India has undertaken to set up jointly with African countries at least 15 ventures in Africa (four in Ethiopia, two in Kenya, one in Uganda, five in Nigeria, one in Zambia and two in Tanzania). In all, these projects will account for the export of Rs. 1.5 crore worth of machinery, material and equipment (excluding the Government-sponsored projects in Uganda, Tanzania and Ghana costing Rs 8.3 crore, Rs 2.5 crore and Rs 3 crore respectively). Besides, the proposal to set up small-and medium-sized open-pan sugar factories in Liberia is being actively pursued.

THE THREE TIERS OF PANCHAYATI RAJ

THE question whether there should be demarcation or division of functions between the three tiers of Panchayati Raj is a crucial and important one. It is a fact that there is no uniformity in the functions of Panchayati Raj institutions in the country. A perusal of the Panchayati Raj Acts of different States shows that the functions of the three tiers of panchayatiraj overlap. Panchayati Raj implies decentralisation of power, authority and responsibility down to its lowest tier, the panchayat.

There are some who believe that the panchayat should be the primary unit for execution of policies and programmes, that the Panchayat Samiti should be the primary unit for planning, and the Zila Parishad for supervision, evaluation, guidance, co-ordination and direction. There are others who say that the panchayat should be responsible for planning and implementation and execution of policies and programmes whereas co-ordination, scrutiny and direction should be left to the Panchayat Samiti. With regard to the Zila Parishad's functions, those relating to districts, like minor irrigation works, soil conservation, training of officials and non-officials, should be entrusted to it.

In most of the States, the Panchayat Samiti has become the basic unit for planning and development. There are States where the Panchayat Samitis have become the unit of decentralisation. In most of the States, the Zila Parishad is entrusted with powers of general supervision, co-ordination and guidance over Panchayat Samitis. But in Maharashtra and Gujarat, the Zila Parishad has become the effective unit for administration of the development programme. In other words, there is concentration of power and authority at the district level which is not in consonance with the philosophy of Panchayati Raj. The existing relationship between the three tiers of Panchayati Raj is one of superior-subordinate relationship. It is suggested that the relationship between the three tiers of P.R. should be one of partnership.

As the three tiers of Panchayati Raj are integrated as parts of a whole body, there should be collaboration and guidance from the higher tiers to the lower. As far as the Zila Parishads are concerned, they should be a co-ordinating body for the activities of the Panchayat Samitis within the Parishad area.

H.R. SUBRAMONIA IYER

The Crucible of Food Administration

The success or failure of food policy—and specially of the crash food production programme—depends on an efficient, work-oriented food administration. The writer pleads for a single unified agency to administer policy at the block or taluka level. He points to the confusion, waste and delay caused by the multitude of control orders now in force.

MANU

THE entire food administration all over the country is facing a great challenge. The success, or otherwise, of the food strategy hinges on the efficiency with which the administrative machinery tackles the crucial problems of production and distribution. The magnitude and complexity of food administration can be gauged from the spate of orders and laws, passed both by the Centre and the States in the recent past, affecting inter-and-intra-State movement of foodgrains, price fixation and procurement. There are also the Essential Commodities Act and other administrative orders passed thereunder from time to time. Between 1947 and 1965, the Central Government has issued as many as 51 orders exercising various controls on the production, procurements, distribution, movement and pricing of foodgrains. Orders issued by the State governments and Union Territories are: West Bengal 12; Madhya Pradesh 11; Punjab 10; Gujarat 7; Maharashtra, Mysore, Delhi, Tripura, Goa, Daman and Diu, 6 each; Andhra Pradesh, Bihar, Madras, Rajasthan and Pondicherry, 5 each; Assam, Kerala, Orissa, U.P., and Manipur 3 each; Andaman & Nicobar 2, and Himachal Pradesh 1. A sound food policy presupposes not only a sound production and price policy but also an efficient administrative machinery to implement food policies at the field level.

The task of increasing farm production is linked with the timely supply of strategic inputs to the farmer. The much publicised 'Crash Food Programme' needs to be oriented towards the crash supply of inputs, particularly seeds and fertilisers. Take the supply of hybrid seeds of sorghum, *bajra* and maize—the adoption of which has unleashed a tremendous response among cultivators; in some States it has not been possible to meet the requirements of the farmers. Hybrid seeds are always foundational seeds in the sense that they cannot be multiplied and the task of producing these foundational seeds is indeed intractable.

HYBRID SEEDS

First, there should be a sufficient quantity of male and female seeds for hybridization. It is estimated that one acre of fertile land can produce 5 quintals of seed with a given 3 kg. of male and 5 kg of female seed rate per acre. Each Block could select 50 progressive seed growers who can produce hybrid seeds of 250 quintals which would be sufficient to cover an area of 5,000 acres under hybrid jawar. The estimated yield on this area is 50,000 quintals of hybrid jawar. Unfortunately, neither the National Seeds Corporation or the Regional Seed Research Farms are geared to the urgent task of supplying on a nation-wide basis the strategic and crucial input of hybrid jawar seed.

Once the seeds are supplied, other inputs like fertilisers and water should be supplied without delay. The supply of electric pumpsets is dealt with by the State Electricity Boards. Applications for irrigation pumpsets are processed without regard to the Crash Food Programme. On the one hand, lands are granted by, in most States, the Revenue Department; a few inputs are supplied through the Block Development; on the other hand, inputs which are as crucial, are supplied by the Irrigation and Electricity Departments. *If the Crash Food Programme has to make any significant impact on the economy, it is of vital necessity that the inputs are supplied by a single agency under a common umbrella.*

Effective co-ordination at the Block or taluka level (in most of the States, a taluka coincides with the jurisdiction of a Block) is workable if the different factor-supplies are channelled through a single agency, be it a Block-taluka Agency or the Department of Agriculture at the Block level.

Co-ordination that is obtained under the existing arrangement through the process of pious resolutions, official recrimination and exhortation is thoroughly infructuous. Meaningful co-ordination for the purpose of increased production presupposes perfect accountability to a single agency for acts of commission and omission. The existing arrangement of supplying strategic inputs through several operationally independent agencies proliferates responsibility and accountability. The man behind the plough should be made to account his farm production decisions to a unified factor-supply agency. Besides, such an agency ensures better utilisation of factor-inputs by follow-up inspection and supervision. Further, the supply of factor-inputs through a single agency has wider implications for food strategy. The progress of the Community Development movement in harnessing the physical resources and evolving a rational production programme by suitable changes in the cropping pattern of the region under the Development Block, consistent with a national

cropping pattern, leaves much to be desired. A decade of planning has brought about a considerable shift in the acreage of food crops in favour of cash crops. Such a shift may partly be due to agricultural extension and also to physical configuration and soil advantage of an area. The food strategy demands the evolution of a production plan for food crops for each Block after a full assessment of several factors of production, particularly the 'chance inputs' like rainfall, humidity, and atmospheric pressures.

TWO FOOD PLANS

Broadly, two distinct food production plans are envisaged. One under dry farming conditions and the other under wet conditions. The writer's experience and research in a particular Block in a dry region of Mysore has led to the conclusion that the 'chance inputs', particularly rainfall, has never been and will never be a scarce factor. At least in the instant case, it will belie all generalisations that food production depends on the vagaries of the monsoon. Research has shown that rainfall in the last 25 years, both in space and time, was increasing more than plant requirements. There was a run-off of rain water, through nalas and soil erosions. to an extent of 60%, and the problem faced by the extension staff was to persuade the farmers to preserve this water going waste, by adopting individual farm production programme on each farm through what are called 'silt traps' and 'rain traps'. If the chance inputs and plant nutrients are properly harnessed there may not be much clamour for rain water. The rains come not when farmers want them, but when the clouds gather. The farmer must plan his production programme in such a way that the chance inputs are utilised to a maximum extent without waste. The fact that 60% of productive water went waste reflects the efficiency of the existing production programme.

The country-wide Crash Food Programme must face this challenge of wastage of plant nutrients which are freely available. *The problem is one of better organisation than of increased financial outlay.* The single agency factor-supply would serve the twin objectives of supplying physical inputs like seeds and fertilisers and mobilising the chance inputs hitherto going waste by adopting a specific production programme for the area. A single agency, be it a Block or a Tahsil Office or the Department of Agriculture, should be made accountable not only for the timely supply of physical inputs but also for the proper framing of production plans and utilisation of chance inputs. A meaningful Crash Food Programme must have a network of farm production plans for various Blocks carefully planned by a single agency to suit the national objectives of the food strategy. The development agencies connected with agriculture and forestry must be brought under the single unified agency and made accountable to it without working at cross purposes. There have been cases when the forest department has planked to afforest a waste land, and the agriculture department has tried to release the same land for food production under the Crash Programme.

PROCUREMENT

The operations of production cannot be divorced from the more important operation of procurement. While the factor-inputs are supplied by diverse agencies procurement operations are entrusted to Food Directorates, Civil Supplies and Revenue Departments. The Purchase Officers under the Procurement Orders determine the quantum of levy on an acreage basis. They are also in over-all charge of providing relief to certain specific vulnerable groups of cultivators facing a crop failure. Divorced as they are from the production programme, Purchase Officers would be deciding suspension and remission of levy without understanding the causes of crop failure. As a result an element of arbitrariness creeps in. If the pattern of a single agency supply of factor-inputs is accepted, the suggestion can also be extended to the operations of procurement. The suggestion made by Mr M. Y. Ghorpade, Member, National Planning Council, to link cost of inputs to the purchase and public distribution of foodgrains is operationally meaningful and worthy of attention by planners of food strategy.

Besides, in the wake of a plethora of Requisitioning and Procurement Orders, there has been a further imperceptible shift in the acreage of food crops in favour of cash crops. The levy of foodgrains on an acre basis had a disincentive effect in diverting the area under cash and other crops to food crops. In the post-war period, the Bombay Presidency did promulgate, as part of its grow more food policy, the Acreage Control Order restricting a proportion of the farmland for the growth of food crops only. A levy order on foodgrains, without a simultaneous acreage control order, would thwart the operations of food procurment.

Factor supply and product purchase by a single agency would provide a framework not only for framing a unified production policy, consistent with the priorities and potentialities of a Block or a taluka, but would also help the evolution of a rational price policy for foodgrains procured and distributed. The fixation of a procurement price for different varieties of foodgrains, though evolved at the State level, must have a bearing on the prevailing prices at various points of procurement and distribution. The operational problems of price fixation, perhaps, have not received due attention in discussions on a price policy for foodgrains. A rational price policy for foodgrains must consider three important price schedules. First, there is the procurement price to be paid to the farmer. Secondly, there is the price payable to the procurement agent. Thirdly, there would be a wholesale price if the stocks are to be lifted by an agency other than the procurement agent. Finally, there would be series of retail prices at various retail outlets.

The success of public distribution hinges mainly on the quantum of stocks procured and released at a fair price. Distribution presupposes a network of fair price shops or consumer stores. Fair distribution cannot be ensured by only opening more fair price shops. Whatever be the pattern of distribution, whether through individual shops or through consumer stores, the stocks released should be fair and equitable. Ration-

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GALLERY

4th Plan on the Anvil

AFTER a week-long discussion in Yojana Bhavan, which covered almost every aspect of the Fourth Plan in the light of devaluation and other measures taken during the last month, a concensus was reached on the general approach to the Plan, its size and resources. Detailed work on the draft outline will be completed after Mr Asoka Mehta returns from the Soviet Union. (According to his programme he is scheduled to be back on July 6.)

Two working groups are being set up,one to examine the export programme and the other to work out implications of the new parity rate of the rupee on foreign exchange and domestic costs.

Consumer Stores

Details have been drawn up for setting up 1,346 primary consumer co-operative stores and 43 department stores. As many as 87 wholesale stores will also be set up by the end of the current financial year. The decision was taken at a three-day conference of co-operative officials from various States in New Delhi towards the end of June. Through these co-operative stores 20% of the urban population and 100% of the fixed income group will be covered throughout the country. The conference recommended that the business of the consumer co-operative stores should be run on commercial lines and that these stores should be exempted from the operation of the Shops and Establishments Act.

How to Control Prices

Mr C. Subramaniam has put forward the suggestion of a three-pronged drive to tackle the problem of prices of essential commodities following devaluation. The three measures are: regulation, and distribution at fair prices; increased supply of essential and other commodities of daily use; and punitive action against unscrupulous elements. The Minister for Food and Agriculture has said that Government have decided to give a shock treatment to the economy in order to influence market trends by organising a chain of consumer co-operative stores.

"Now that devaluation is an accomplished fact, we have all to work together and seek the best ways of getting the maximum national dividends from this decision", said Dr V.K.R.V. Rao, Member, Planning Commission, in a broadcast over All India Radio on June 19. He maintained that there was absolutely no reason for raising prices simply on the ground of devaluation. Dr Rao enunciated three ways of resisting the upward trend of prices. "One is for the Government to take the most stringent measures to punish the traders who raise prices above the pre-devaluation level". Dr Rao suggested that the Government also should play an active role in the distributive system. "The third and, in fact, the immediately most effective way of dealing with the problem is organised consumer resistance", said Dr Rao.

Liberalised Policy of Imports

The Government has announced its intention to liberalise imports of raw materials, components and spares in order to secure higher levels of production in agriculture and industry. As a first step, the following measures have been announced:

Special arrangements are being made to import in large quantities fertilisers and pesticides, sulphur and rock phosphate, in order to support the rapid expansion of agricultural production. Certain raw materials needed primarily for export production will be allowed to be imported on an Open General Licence which in the first instance will be valid for shipments made up to March 31, 1967. These are: raw hides and skins, tanning substances such as wattle bark and wattle extracts, and cashewnuts. A separate announcement will be made about other requirements of export industries which will also be met as a matter of the highest priority. For 59 priority industries, raw materials, components and spares required for production up to full capacity for six months will be provided. These include industries engaged in the manufacture of motor cycles, scooters, bicycles, agricultural machinery and implements, fertilisers, pesticides, iron and steel, copper, aluminium, zinc and lead, industrial and mining machinery, machine tools and accessories, cement, fine chemicals, pulp, paper and newsprint, tyres and tubes, drugs, jute textiles, tea, coffee, matches, sugar, cotton textiles and some others. In the case of other industries, allocations will be made according to the resources available and the essentiality of the product. For all industries, licensing will naturally conform to the availability of foreign exchange from different sources. Small-scale industrial units making the same products as the priority industries will be given the same liberal facilities. Assessment of their requirements by sponsoring authorities may cause delay. It is, therefore, proposed to grant them licences immediately to the extent of thrice the rupee value of the licences given in 1964-65. In the case of other small-scale units import licences will be issued for twice the rupee value of licences issued in 1964-65. Imports of copper and zinc will be made both through actual users and by the Minerals and Metals Trading Corporation which will be expected to look after the requirements of small-scale industries in particular. It is proposed to license freely both to actual users and traders the import from the U.S.A. of a wide range of spare parts other than those whose import is banned. The quotas for established importers from other sources are also being raised.

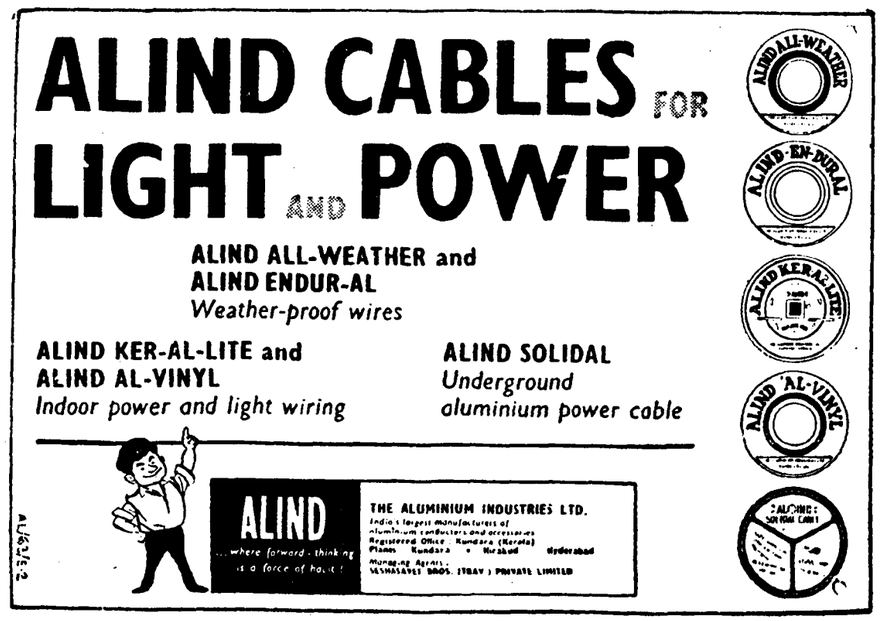
FOOD

ADMINISTRATION

From page 24

ing may be either informal, statutory or *ad hoc*. In the first and second category, a detailed enumeration of households and consumer units have to precede distribution, while, in the last category, there would only be a *rough approximation* of the population to be fed. 'Ghost cards', which inflate the demand for foodstuffs, can be checked only by punitive measures and physical verification. Though Food Control Orders sufficiently invest the executive staff with powers of arrest, seizure, and inspection—the lukewarmness in the Central Orders are likely to nullify the punitive action. Food Control Orders or Essential Commodity Orders should be stock-oriented rather than price-oriented. For instance, it would be easier to prove an offence of possession than one of selling at a non-statutory price. Provisions of Price Control Orders are often rendered infructuous because the offences cannot stand prosecution. An offence of selling rice at a non-statutory price under the Mysore Rice Price Control Order could not stand prosecution on the count that the prosecution could not prove that the accused had sold at a non-statutory price. Besides, in the case of rice and paddy, there is the problem of equating several varieties of rice and paddy, sold with the varieties scheduled in the Price Control Order. Determination of the variety is beset with technical and operational difficulties. Offenders conveniently flout the provisions by manipulating the price receipts. The Declaration and Requisitioning of Stocks Order or the possession-oriented Orders like the Unlawful Possession of Gift Goods Act of Mysore are more effective than the Price Control Orders.

Further, equation and grading of varieties of foodgrains assume importance not only at retail selling outlets but also at the procurement point, where the choice is one of correct classification and gradation. Food administrators are guided by common varieties of paddy or *jawar* or wheat. In the case of *Bajra* or wheat and other cereals, the choice of identifying the varieties may not be intractable since the varieties involved are few. But in case of paddy and rice where one can draw a thin line of difference between several varieties, bureaucratic discretion enters willy nilly, in the absence of technical experts on the spot who can decide the actual variety. Bureaucratic discretion is both a virtue and a vice—if used well it will go a long way, if used badly it will lead to hardship. Before paddy procurement operations begin, Purchase Officers should, therefore, be trained in the equation and gradation of varieties of paddy and rice.



Why Is Our STEEL So Costly

How To Lower Cost of Production

S.K. NANAVATI

As is well known, from being one of the most economical steel producers in the world at one time, we have now become one of the costliest. Consequently, the important task which faces us is to see that we produce steel as economically as possible, on which depend not only the future of our industrialisation but also our competitive status abroad. This would mean that the steel industry should receive raw materials of the highest possible quality at the lowest possible cost, particularly because raw materials such as iron ore, coal and limestone, used in the manufacture of steel, account for about 40 to 50 per cent of the total costs of the products.

From an annual output of 1.3 million tonnes at the beginning of the Second Five-Year Plan, the output of finished products has reached the level of about 5.3 million tonnes today. The target being considered for the Fourth Plan is about 13 million tonnes of finished products—a magnitude of expansion that is, to say the least, challenging.

To produce 13 million tonnes of finished steel, the annual requirements of ingot steel will be 16 million tonnes. Since we need roughly about 1.7 tonnes of iron ore, 2.2 tonnes of raw coal and 0.38 tonnes of limestone to produce a tonne of ingot steel, the annual raw material requirements for 16 million tonnes would be of the order of 27 million tonnes of iron ore, 35 million tonnes of raw coal and 6 million tonnes of limestone.

To procure 27 million tonnes of iron ore, it will be necessary in addition to the expansion of the existing mine faces, to open up new mines. India, as is well known, possesses large reserves of good grade iron ore estimated at around 28,000 million tonnes. There is, however, an unfortunate characteristic of Indian iron ores which demands attention, namely, the generation of fines in working the ore deposits. Detailed proving work carried out by Tata geologists would seem to indicate that fines, less than three-eighth inch in size, would amount on an average to 40-50 per cent of the raisings... These fines present a problem to the steel industry because in the blast furnaces, ores smaller than the above size cannot be used economically or with efficiency. To prevent wastage of vast quantities of ore fines, it is necessary to have them agglomerated through sintering and pelletising.

Mr S. K. Nanavati is Resident Director, Tata Steel Works, Jamshedpur.

COAL RESOURCES

The magnitude of the problem can be realised from the fact that the mining of 27 million tonnes of iron ore, specially by mechanised methods, will yield over 13 million tonnes of ore fines. Although we possess the know-how to agglomerate, we have yet to manufacture the necessary equipment.

As to our coal resources, the position is rather unfavourable in respect of the steel industry.

Moreover, our metallurgical coals have an ash content of 21 per cent or more while in countries like the U.K. and the U.S.A. metallurgical coals have an ash content of 10 per cent or less. The high ash content makes it essential to beneficiate the coal for converting it into coke suitable for use in the blast furnace. This will call for expansion in our washeries programme and a continuing check on washing operations to ensure a consistent ash content. In the process of beneficiation, each tonne of raw coal gives about 650 kg. of coal, depending on the washing characteristics of the coal. On the basis of the estimated annual requirement of 35 million tonnes of raw coal for the steel industry in the Fourth Plan, the yield of pure middlings is expected to be about 7 million tonnes a year. I am referring to this problem of middlings because it is specific to our country and the utilisation of middlings poses a big problem.

With the depletion of better grade reserves over the years from the existing sources, mainly in the Sundergarh district in Orissa, our steel industry has been forced to use limestone with high acidic insolubles of around 10 per cent. As a result, both iron making and steel making operations are being adversely affected. The pressing need, therefore, is to ensure the supply of high grade limestone the demand for which, on the basis of the Fourth Plan steel target, is expected to reach the figure of 6 million tonnes a year.

Where will this quantity come from? Although reserves of limestone in the country are believed to be immense not a great deal of data is as yet available with regard to the workable deposit of good quality limestone. It is, therefore, necessary to undertake systematic prospecting of the areas where limestone reserves are supposed to occur, namely Andhra, Assam, Bihar, M.P., U.P., and Mysore, particularly in areas in proximity to the steel plants. I say this because at present transport costs stand in the way of utilisation of good grades of limestone that have been located in Uttar Pradesh and Assam. Here is a challenge to which geologists should address themselves and help locate actual deposits.

1965 DUNLOP ACHIEVEMENTS



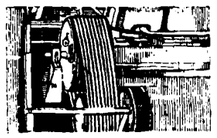
Addressing the 40th Annual General Meeting of Dunlop, India, in April 1966, Mr. Cecil Stack, Managing Director, referred to record sales in 1965 despite raw material difficulties.



Additional equipment for truck tyre manufacture, the most modern in the country, was installed at the Dunlop factory in Ambattur, Madras.



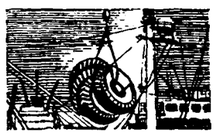
During the year Dunlop pioneered the manufacture of fire resistant PVC conveyor belting for use in underground coal mines.



The plant for making industrial vee belts was also modernised and expanded to meet the increasing demand for "Maxrate" Vee Belts.



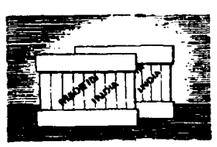
Extra large Off-the-Road Tyres were made by Dunlop—another 'first' in India—replacing imported tyres used on heavy earthmoving machines. Each tyre stands over six feet high and weighs nearly half a tonne.



Direct and indirect exports of Dunlop totalled Rs. 1.2 crores — 50% higher than the previous year's figure.



With the modernisation of the aero tyre plant Dunlop are now able to equip all types of aircraft operating in India.



Much greater use was made of local raw material and imports accounted for only 11% of total raw material purchases compared with 17% in 1964.



Amenities for employees were improved : a new playing field and sports pavilion were opened at the Dunlop Sahaganj factory in West Bengal.

DUNLOP LEADS THE WAY

ANSWERS TO READERS' QUESTIONS

YOJANA invites questions from its readers, especially students, relating to various aspects of our planned development. It is intended to make Questions and Answers a regular feature.

INDIA'S BEST VILLAGE

G.R. Nair, Trivandrum

Was there a competition to choose India's best village in 1965-66?

ANSWER: A nationwide competition for selecting the best village is held every year. The best village of 1965-66 will be chosen only after obtaining the data of performance of different villages in the country. The results of the competition will be announced some time in 1966-67.

LIGHT FOR LACCADIVES

Ahmad Kunhi, Laccadives

Is there a scheme to supply electricity to the Laccadive Islands in the Fourth Plan?

ANSWER: Yes. During the Fourth Plan electrification of Karavathy, Minicoy, Ameni and Androth islands will be completed. The Central Water & Power Commission is drawing up schemes to electrify six more islands, namely, Kalpeni, Agathi, Kadamat, Kiltan, Chetlat and Vitra. These schemes envisage the installation of diesel generating sets of capacities varying from 9 KW to 48 KW for supplying power to small-scale industries, domestic services and street lighting. With the electrification of these villages, all the inhabited villages in the islands would be electrified.

PLANT PROTECTION

Chandrasekhar Sharma, Rohtak

What is the area covered by plant protection schemes in 1965-66? Has any plan been drawn up to bring all cultivable land in the country under the scheme?

ANSWER: In 1965-66 the area expected to be brought under the scheme was 43 million acres.

Taking into consideration the magnitude of investment, manpower and the inputs required for bringing all the cultivable land under the scheme during the Fourth Plan, it is proposed to bring under the scheme 63 million acres in 1966-67, 126 million acres in 1967-68 and 210 million acres in 1968-69. In the last two years of the Fourth Plan 210 million acres more will be brought under the scheme every year.

CO-OPS. IN GRAIN TRADE

Kasi Ram Gupta, Lucknow

How much grain trade has been handled by co-operatives in the various States in 1965-66? Do the Governments give any incentives to co-operatives in this regard?

ANSWER: Food-grains worth Rs 65.10 crore were handled by co-operatives in various States during the Khariff season of 1965-66. The trade handled in each State was as follows:

Andhra Pradesh: Rs 3.26 crore; Assam: Rs 11.53 crore; Gujarat: Rs 1.58 crore; Jammu & Kashmir: Rs 41 lakh; Kerala: Rs 88 lakh; Madhya Pradesh: Rs 12.35 crore; Madras: Rs 3.83 crore; Maharashtra: Rs 9.90 crore (Jowar and paddy only); Mysore: Rs 2.36 crore; Orissa: Rs 18 lakh; Punjab: Rs 2.50 crore; Rajasthan: Rs 17 lakh; Uttar Pradesh Rs 3.12 crore (this relates only to apex society); West Bengal: Rs 13 crore; Pondicherry: Rs 3 lakh.

The incentives given by the Central Government include provision of additional share capital to selected co-operative marketing societies which undertake marketing of food-grains and long-term loans from the National Co-operative Development Corporation to State Governments for establishing co-operative rice mills. Under this scheme assistance has been already given to various States for setting up 470 rice mills. In addition to this, five out of the six modern rice mills sponsored by the Central Government have been allotted to the co-operative sector. State Governments allot an increasing role for co-operatives in their procurement operations and provide necessary finances for this operation.

DRY REGIONS

K.P. Reddy, Visakhapatnam

Has any scheme been prepared for developing arid regions, deserts and permanently scarcity areas? Has any provision been made in the Fourth Plan?

ANSWER: A sum of Rs 10 crore is proposed to be provided in the Fourth Plan for developing deserts and arid regions. This will be in addition to the funds available for Community Development Blocks for similar purposes. The schemes will include soil and water conservation, dry farming, afforestation, development of pastures, water resources through minor, medium and major irrigation projects and development of animal husbandry. These are supplemented by normal agricultural programmes.

CHANDRAPURA POWER HOUSE

In *Yojana*, June 12, the Chandrapura power station was wrongly placed in Assam. It is a DVC project in Bihar.

REGD. NO. D-870

INTRODUCING



Shri Section Officer

He takes pride in his office but dislikes part of the designation, the part which signifies something fractional or diminutive. The second half of it hardly compensates for what the first takes away. He is a gazetted officer no doubt but sits among the other ranks. He is outside the hierarchical ladder starting from Under and moving through Deputy and Joint, to the uncoupled landing on the top.

Lack of a status-title causes an occupational inbreeding. He becomes over-conscious of his pivotal position in the bureaucratic machinery. He is more than a wheel within wheels. He is the kingpin in a vital part of the works, a cog round which whirls the precious world of fundamental, supplementary and other rules.

Shri S.O. holds the key to the mysterious universe of procedure. His mind is crammed with rules and regulations which he unburdens in the office note. With a single querry he brings the plan or project to a groaning halt. A carefully designed scheme on which the experts may have poured out their skill is to him nothing more than a file.

And politely and courteously, he raises his fell, though neat, hand: "It must be respectfully stated that the very important point of obtaining the approval of the accredited finance seems to have been overlooked. Though, in the normal circumstances, the original project may have been approved by competent authority, D.S. may perhaps like to show these papers to J.S. for obtaining the orders of the Minister, if considered necessary by the latter."

He suggests and dares never to state. Yet he can be devastating with his suggestion. He knows that none above will ignore the winding precedural path he indicates. And so the buff-coloured folder on a matter of great pith and moment starts its tedious course through the Secretariat labyrinth.

He may know little Latin and less Greek. But the little that he commands he makes much of in his notings. May be Latin to him is what is printed in italics. In his eyes it is the *sine qua non* of knowledge. He sprinkles his drafts with phrases like *mutatis mutandis*, *pari passu*, *prima facie* and *seriatim*, not to mention such trifles as *ad interim* and *per diem*.

One can see him beaming over his triumphs among his compeers as he rides the celestial omnibus home after the day's toil, or in the little world of Assistants and LDCs over which he presides. When his draft comes back to him unscathed, his eye glows with pride. "They cannot touch it, I tell you. To have altered a single word would have changed the whole meaning. Bhai Saheb, seventeen years' experience is no joke".

C. R. Ekambaram

YOJANA BHAWAN DIARY

Mr Asoka Mehta, Minister of Planning left for Moscow on June, 28 to discuss with the Soviet authorities matters relating to India's Fourth Five Year Plan.

Dr K. M. Lal, formerly Deputy Director General of Health Services, Ministry of Health, assumed office as Adviser (Health) on June 22.

Mr B. N. Datar, Adviser, Labour, Employment and Social Planning, left for Rome on June 20 to assist the F.A.O. in work relating to development of methodology to estimate under-employment in agriculture in the developing countries.

To Readers and Contributors

Contributions to YOJANA should be on specific aspects of economic, social and cultural life in the country and in those parts of the world in which we are especially interested; articles of a subjective, general character are not likely to be entertained. Reports of empirical studies, written for the layman within 1,500 words, will be welcome. All published articles are paid for.

Readers are invited to send to the Editor their comments on matters of public importance in the form of Letters. Comments on YOJANA will be welcome.

While many entries come in for THIS INDIA, few are of good standard. What is wanted are significant anecdotes of Indian life; contributors should note that what may be an interesting incident to them may not be of much interest to others. Preference is given to entries which picture the human element in India's changing social, cultural and economic life. Each published anecdote gets Rs 10.

For subscriptions and other business enquiries please write to the Business Manager, Publications Division, Old Secretariat, Delhi 6. All editorial correspondence is to be made with Chief Editor, Yojana Bhavan, Parliament Street, New Delhi.

Looking Back

From Yojana, July 14, 1957

Our trees have roots not only in our soil but also in our history and tradition.

Rama spent fourteen years of his exile in forests; Krishna played on his magic flute in the groves of Vrindavan. Under the shade of a peepul tree, Sidharth attained Nirvana and was called Buddha or the Enlightened. And yet the groves that were cradles of our civilization are now lying desolate. Only about 22% of our total land area is under forests—3% below the safety mark.

It was to deal with this problem that Vana Mahotsova was started on a national scale in 1950. 120 million trees were planted during the course of the first Five Year Plan and a comprehensive National Forest Policy was formulated.

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Chief Editor ; Bhabani Sen Gupta

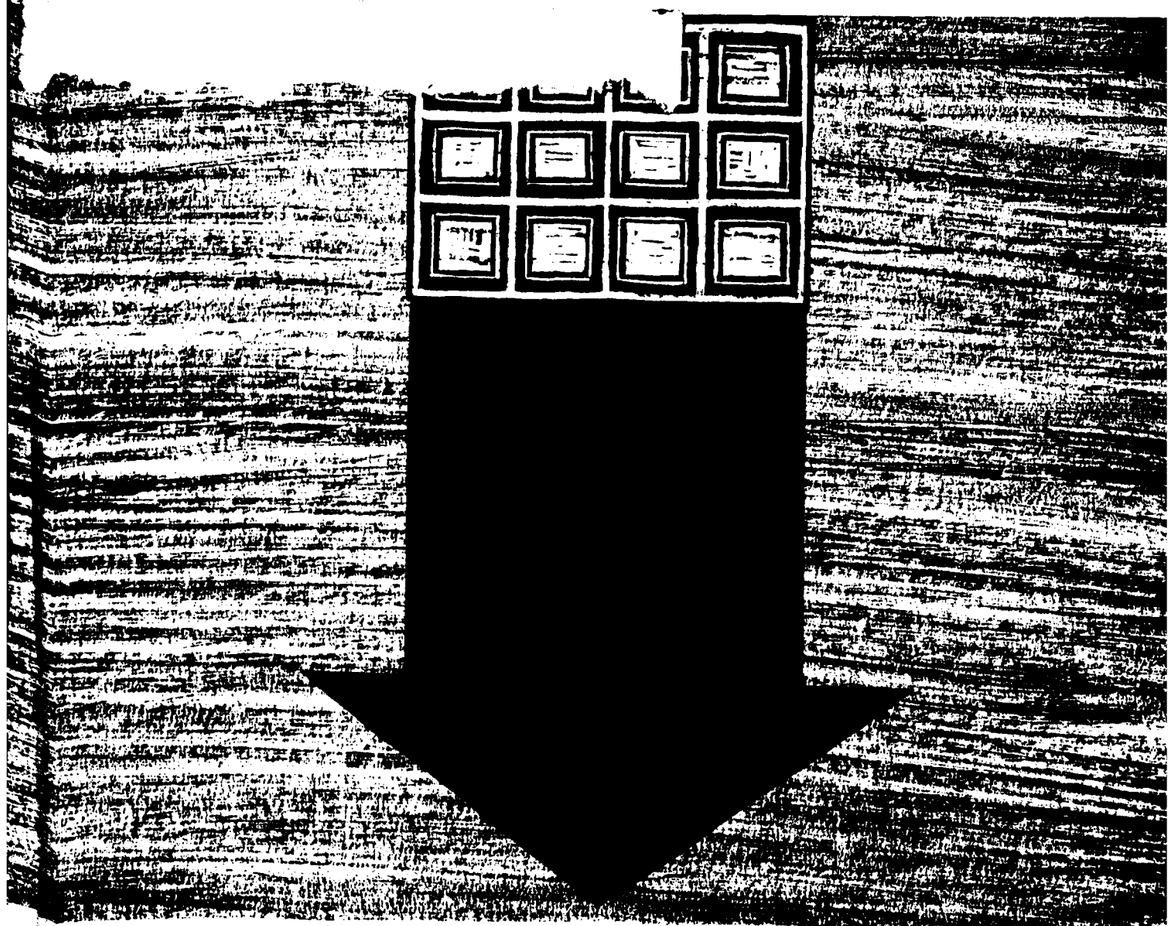
TENTH YEAR 16

YOJANA

AUGUST 21, 19

12

PRESS AND THE PLAN



DILIP MUKERJEE • KULDIP NAYAR • BALRAJ MEHTA • B. S. PADMANABHAN
A. RAGHAVAN • J. P. CHATURVEDI • MADHAVAN KUTTY • S. SETHURAMAN • R. C. UMMA

YOJANA seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion on problems of social and economic development.

It is issued every other Sunday in two separate editions, English and Hindi.

The Advisory Board of the journal consists of the Minister of Information and Broadcasting, the Minister of Community Development and Co-operation, the Minister of Agriculture, Mr T. N. Singh, Mr Shriman Narayan, Mr Akshaykumar Jain, the Secretary, Ministry of Information and Broadcasting, and the Secretary, Planning Commission.

Although published on behalf of the Planning Commission by the Ministry of Information and Broadcasting, *Yojana* is not restricted to expressing the official point of view.

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The *business office* is in the Publications Division, Old Secretariat, Delhi-6. All business inquiries are to be sent to the Business Manager at this address. Subscribers are requested to make remittance by postal order. They should communicate with the *business office* and not with the editorial office.

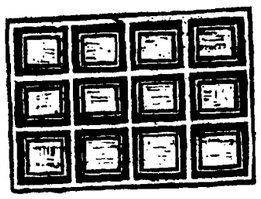
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YOJANA

This Issue

Press and Plan



A major task admittedly still largely unaccomplished is the carrying of day-to-day information of our planned economic development to the people. The press takes little development news in its columns. Is it a deliberate negligence of economic information just because it does not make "news"? *Yojana* invited a number of correspondents who report on economics and social change to take part in the Symposium on the Press and the Plan. Nine newspaper correspondents have joined in the Symposium which is the main feature of this issue. See page 1 to 9

DEFENDING DEVALUATION

Dr Jagdish Bhagwati, one of our better-known economists, replies on pages 11-13 to many of the political and economic objections to devaluation. He shows that devaluation is not only the right step, but it has not been adopted a day too soon.



Euphoria ?

The new food strategy of intensive cultivation is the anchor on which our hopes on the food front are based. Dr V. G. Panse, Senior Specialist in Agriculture, Planning Commission, makes a critical assessment of the strategy on pages 18-20

HOW IS THE PLAN MADE ?

The Draft Fourth Plan Outline will soon be before the people. Work on it began as early as 1962. How is a Five Year Plan processed into shape ? What is the machinery involved, covering practically the whole country ? See pages 21-22.

COVER by Jivan Adalja

YOJANA

August 21, 1966 Fortnightly Journal Published on behalf of the Planning Commission Sravana 30, 1888

Vol. X No. 16

INTRODUCING THE SYMPOSIUM

THE PRESS AND THE PLAN

NOT long ago the Press Institute of India ran an international seminar in New Delhi on editorial content. Much of the discussion was on the role that a newspaper could play in a community. Several specialists in education, social and natural sciences and economics pointed out what was missed in our newspapers. What was missed was reporting of, and comment on, in depth, many aspects of the non-political life of the community—the stride of science and technology, of education outside the cities and towns, of social and economic changes coming over the life of our common people, in short, the quality of Indian life.

Mr Asok Mitra, who was then Registrar-General of India, posed the issue in the following words :

"Apart from question of policy, or news on politics, how could we educate the public on the wider questions or the deeper questions of economics itself, on how things can run, or how things can improve? Take the instance of food production and food deficit. Neither in Parliament nor in the newspapers have I seen any serious articles really questioning the statistics of food production. It is not enough to say that we are down in food production by about 8% or 10%. What exactly does that percentage signify ? Where is the area which will feel the pinch? In other fields also, official statements go unchallenged and not enough discussion takes place on subjects like education, the sciences, the I.U.C.D. programmes or agriculture. Official policy so enwraps our life in every way that challenge and counter-challenge are essential. A major contribution the Press can make is to put them under scrutiny constantly and then say how much of it is right and how much is wrong. It is also a way to further official programme or policy".

Mrs Durgabai Deshmukh regretted that the Press took practically no cognizance of the activities of voluntary organisations and was just not interested in events which were not graced by Ministers. She also said that she found the Press insufficiently interested in the effects of population pressure on food, education, family, society, economic development and social change.

Mrs Muriel Wasi said that the Press could more profitably explore the fruits of educational research. But to be able to report on education effectively, the Press "must be able to understand these problems as clearly as those who administer education".

Dr A. Rehman noted a considerable change in the attitude of the Press to science and technology in recent years. But he was also aware of great gaps in the Press reporting on science and technology. "A friend and I collected a number of reported speeches on a variety of subjects and found that it is the same thing said again and again in different words to suit the audience ; they contain nothing specific from the point of view of generating new thinking and new ideas". And yet

the main emphasis in our Press reporting on scientific and technological occasions was on speeches.

Dr Amartya Sen remarked :

"In general the economic coverage is extremely dull. Its writing is put in a very peculiar form. There is hardly any attempt to make it a pithy story or a personal story with the readers' comment. The dead-pan style reporting of precisely what was said and what the official hand-out was is not interesting reading. I think here, if anything, we have erred in the direction of being too cautious, too conservative. We have not had scandal stories, of course, but not even a generally critical evaluation from an iconoclastic point of view by economic commentators".

There is, thus, a consensus of opinion among specialists that the Indian Press still does not do enough by way of reporting on the more enduring aspects of Indian life, that most of its energies are spent on the passing interplay of politics. In recent weeks the question of getting the Press more interested in economic, cultural, educational, scientific and technological matters has been discussed at several official conferences. It is now recognised in the Government that a big vacuum exists in taking easily understandable information about economic development and social change to the literate and illiterate masses of our people. It is realised that while the Governmental information machinery can certainly do a much better job than it has been doing so far, the active co-operation of the Press is an essential condition to achieve a major breakthrough in the information field.

The Press Institute of India made a sample survey of development news covered by several of our leading newspapers some time ago, and found that it did not add up to more than 3% of the total news. This is a state of affairs far from satisfactory.

The Press itself has its problems. The crippling shortage of newsprint. Lack of competition, and, therfore, of incentives. Pressure of advertisement on space. Pressure of crisis news. And yet there is hardly one newspaper in the country today which is not aware of the importance of economic and social change reporting.

In any successful attempt to reach the mass of our people with more meaningful information about economic development, an essential condition is that Press correspondents, both in New Delhi and in the State capitals, are adequately and intelligently briefed on the kind of news which will make attractive copy ; that they are given, on time, an adequate quantity of background and feed-back material so that they can interpret economic events in perspective ; that senior officials are easily approachable to explain the significance of new developments and also to remove doubts and misgivings ; that specialised reports are made available to newspaper editors and correspondents without any avoidable lapse of time ; that bulky reports are immediately reduced to readable, short summaries. If the Governmental machinery cannot fulfil these essential requirements, the Press will always have a justification for tardy coverage of the changing pattern of Indian life.

In order to find out to what extent newspaper correspondents are satisfied with the present flow of information on our planned economic progress, *Yojana* organises a Symposium in the following pages. The participants include some of the leading journalists of the capital and every one of them is involved in economic and social change reporting. The criticisms they offer of the functioning of the information machinery at the Planning Commission may or may not be correct; what is important, however, is the suggestions they make for a better and wider flow of information. Some of the participants had a doubt if they could express their views freely in a Government journal like *Yojana*. The Symposium shows that they can.

The Editor



YOJANA Symposium

PRESS AND THE PLAN

MAKE PRESS PARTY TO PROCESS OF PLANNING

DILIP MUKERJEE
THE STATESMAN

9 NEWSMEN DEBATE FLOW OF PLAN INFORMATION

THE basic handicap in reporting on the process of planning is that none of the really worthwhile issues lend themselves to spot coverage. The patience and hard work needed to understand and interpret them is beyond most of us who work on daily newspapers. The result is a flow of stories highlighting mere numbers, relating mainly to the physical targets or financial allocations.

For this state of things, both the Planning Commission and the Press are to blame ; the first for failing to educate and the second for being so averse to education. The Planning Commission can and should take the initiative to break this vicious cycle ; it is important to its existence that the country (and hence, the Press) should begin to appreciate the hard choices before it.

One way to proceed is to make the Press a party to the process of thinking that goes on inside the Commission. Where this relates to long-term issues, it need not be conducted in cloistered secrecy. Working papers, memoranda should be made freely available to anyone who wants them, making perhaps the stipulation that there should be no direct quotation or attribution.

An example may help to clarify. The Commission is making just now a study of industrial licensing procedures to be able to arrive at recommendations on two policy issues : how far should de-scheduling go, and what should be done to ensure that industrial investment conforms to the priority implicit in the Plan. A study of this nature takes published data as its raw material, and there need not, therefore, be anything particularly secret about it. In fact, if the Commission is keen on an intelligent discussion of the issues, it should welcome an informed interest in the subject by journalists with time enough to look into the issues which do not yield spot copy.

Basically, my plea is for more background information. The supply can be arranged without taxing the already overburdened Members and other senior officials by bringing the Press and the Commission's backroom boys together. If the purpose of such get-together is clearly defined as discussion, and not information, both sides may come to look upon the occasions in the right spirit.

A few weeks ago, the Press Information Bureau brought together economic journalists from all over India for meetings with representatives of the Planning Commission and various economic Ministers. This was a move in the right direction, but its value would have been enhanced if the discussions had a sharper and clearer focus.

Obviously, this kind of seminar can be held only once in a long while ; and hence perhaps the need to cover rather wide ground. There is nothing, however, to prevent the Planning Commission from organising an afternoon's discussion on, say, problems of urbanisation. The discussion itself may not yield much profit, but it may help to heighten interest in a neglected subject as well as to establish personal contacts between the Press and the Commission's specialists working in this particular field. Delhi-based journalists will be the principal beneficiaries, but an awareness of the problems should filter through their writings to journalists elsewhere. As I need hardly add, journalists are not averse to taking in each others' washing.

THE PRESS WANTS TO KNOW MORE

KULDIP NAYAR
UNITED NEWS OF INDIA

A NEWSMAN'S hunger for news is always insatiable. So asking him if he is satisfied with the *quantity* of information flowing from the Planning Commission is like inquiring from little Johnny whether he would want more sweets.

But, frankly speaking, there is very little of news-flow through official channels of the Planning Commission. In fact, my main grievance is that the Planning Commission is like a closed shop, secretive like any other bureaucratic set-up. The Commission may argue that it is difficult for it to share information while it is conducting discussions. But newspapers have to cater to readers who would not be satisfied with the argument that they should wait till the experts are ready to give their judgment.

People at all levels have to be associated with the process of Plan, and that requires news, views—a wider discussion. I am sorry to say that this cannot be achieved with some bald press note or with texts of statements made by the Ministers or the Planning Commission Members.

My information is that there is an effort on the part of the Planning Commission officials to keep back everything from the Press. Recently, there was a circular debarring all officials, including chiefs of the divisions, not to "entertain" journalists. The result has been that even responsible officers of the Commission, who are best suited to enlighten correpondents on particular topics, are scared of newsmen.

What is more—and I am prepared to vouchsafe for this—following publication of a report (based on a Planning Commission paper which was not marked "confidential") the Vigilance Department initiated an enquiry and harassed some personal friends of the correspondent working in the Commission.

In fact, this kind of witch-hunt raises certain basic questions pertaining to the newsman's role in a democratic set-up.

On the other hand, official handouts emanating from the Commission are scanty, scrappy and of limited interest. Briefings on important aspects of Planning are very few and not all comprehensive. To quote an example, correspondents last month were kept guessing about the outcome of certain important meetings of the Commission. The journalists were asked twice to get ready for the briefing, which ultimately did not take place. Now what does the Commission expect newsmen to do—sit until somebody decides to say something ?

Another tendency noticed in the Commission recently is that it is trying to be more loyal than the King. Whenever there are shortfalls of a target or reports of tardy implementation, they generally do not see the light of the day as if the Government has to be shielded at any cost.

The Commission, as I understand, is an autonomous body of experts laying down certain programmes and priorities and then independently judging whether the Governments, Central or in the States, are fulfilling them. It may not have any executive authority but it has a moral force. And this can be exerted only if an informed Press is behind it.

Also, there is a duplicity in briefings. It would help the correspondents if there were only one source of information and only one spokesman.

The criticism of the Planning Commission today is mostly because the correspondents are not being taken into confidence. They also want the Plan to succeed and the country to go forward, but probably, it is very difficult for bureaucrats to realise that there could be patriots and supporters of the Plan outside the Government.

As far quality, the paper *Yojana* has a good standard. If the same quality could be maintained in relation to all that is released by the Commission, a wider understanding would be possible.

Background Material Needed

S. SETHURAMAN
PRESS TRUST OF INDIA

A frank appraisal of information handling at Yojana Bhavan should be a useful exercise. The Planning Commission has become, in a sense, a clearing house for almost the entire gamut of Governmental activities other than those relating to External Affaris, Defence, Internal Security and certain basic functions of Administration. 'Development' has acquired a connotation which comprehends a wide range of endeavours in different fields such as agriculture, industry, natural resources, transport, social services and so on.

The Commission draws up the Five-Year Plans through a laborious process involving consultations at different levels spread over months and years. It has also to review continuously the progress in all directions and make appraisals of performance in the different sectors of the economy.

Thus, given a sensible approach, a clear-sighted policy and a dependable disseminating machinery, newspapermen should be able to benefit from a continuous flow of information from the planning machinery on the exciting tasks of development, achievements and failures.

The Commission, however, does not seem to have any clear-cut policy in this regard and functions largely as any other department of Government with the difference that it seeks to cover itself up in a thicker veil of secrecy. No wonder leakages and disclosures tend to create nervousness in the Commission and a call goes out for greater vigilance against the vigilant Press.

Reporters objectively seeking information on the progress of planning even in broad terms, let alone statistical details, and on matters on which the Commission is believed to have come to certain conclusions on the basis of working papers, do not get it. In the result, one finds in the newspapers more of size struggles, priority pulls and what is described as 'in-fighting', the real issues in the serious business of planning get blurred.

Formal contacts between the Commission and the correspondents at long intervals hardly serve the needs of the daily Press. A system of briefing at short intervals, say once a week or fortnight depending on developments, would help the correspondents covering the Commission's activities to clarify issues and get a better insight into the Commission's thinking and motivations. In the present scheme of things, those manning the information set-up are silent spectators of the drama of planning.

The Press correspondents have no access to background papers, even those in the nature of progress sheets on different subjects, which would be helpful in interpreting developments. Plan documents that are published are too few to sustain interest over a long period and they cannot be a sure guide in a fast-changing situation. The Commission would do well to put all the cards on the table for an intelligent discussion outside. Even the findings of the Programme Evaluation Organisation are played down in official summaries doled out to the Press. Many useful reports must be languishing in the Commission's archives without seeing the light of day. For instance, the studies undertaken by the National Planning Council have not been published.

In these circumstances, any signs of re-thinking about the information policy of the Planning Commission will be welcomed by correspondents. Needless to say, the correspondents would value facilities such as regular briefings by senior officers and supply of background information on a liberal scale. Once the present rigidities give place to purposeful co-operation between the Commission and the Press, there would not only be a more meaningful reporting of economic developments but also the evolution of a policy for effective Plan publicity throughout the country embracing all media of information.

MORE LIGHT ON PLAN PROGRESS

B. S. PADMANABHAN
THE HINDU

IT is really very thoughtful of *Yojana* to have decided on a symposium on the flow of information on Plan. The Planning Commission's work falls broadly into two categories : the formulation of the Plan and keeping a watch on the progress and implementation of the programmes. The flow of information in regard to both these aspects needs improvement.

Let us take first the formulation of the Plan. Naturally, there are various stages in the preparation of a Plan, particularly when it involves a large measure of consultation with different bodies of public opinion. Nobody would like half-baked news to be published in the Press. But it is very doubtful whether the present information policy pursued by the Commission helps to prevent this.

One often sees reports of controversies among the Members of the Commission and between the Commission and the Government. These are sometimes contradicted in private, but not in public. This situation could be avoided if the Press were taken into confidence and kept informed of what actually is heppening in the course of discussions at various stages. Sometimes the discussions may be inconclusive. But even on those occasions, it would be better if the correspondents were kept informed. If that is not done and the correspondent is left to his own private enterprise to get information, by the very nature of the means employed by him, he would get one-sided and sometimes even a distorted picture. It does harm *not* to the correspondent but to the Commission.

Therefore, it is essential that the Press should be briefed periodically either by the Secretary or the information officers of the Commission. The briefing is done now only when there is a full meeting of Planning Commission and even this is dropped if the meeting takes place when Parliament is in session. Thus, when the Commission met on July 25, there was no official briefing and the remarks made by the Prime Minister were not made available to the Press. On the other hand, excerpts from the speech of the Prime Minister got published in the *Yojana*, 12 days later !

When I say all these, it does not mean that the Members and other officials of the Commission are inaccessible to the correspondents. Far from it. The Commission is probably one of the few places where the doors are wide open to correspondents. It is because of that the correspondent gets stories based on notes prepared by the Commission, sometimes even before the Information Officer of the Commission comes to know of it. But such stories are described to be "unauthorised".

In regard to the progress and implementation of the Plan, the flow of information is still worse. Once a year a booklet containing the activities of the Commission is released. From this, one finds that all the year round a good deal of studies are undertaken by the Commission including those by the Committee on Plan Projects and Programme Evaluation Organisation. But the findings of these are not made available to the Press.

If reports on the actual implementation of the Plan are released then and there, it will provoke useful discussion and help more effective implementation of the Plan.

Apart from this, there is need to provide information on the achievements of the Plan also. In this context, the work being done by *Yojana* deserves to be commended. It sends its own staff writers and photographer to the various projects and highlights the programmes. But it should be conceded that *Yojana* does not reach every home. It is the newspapers, and more so the language Press, that has a wider readership and the Commission should make use of these media for propagating the Plan and the Plan projects. One way of doing this would be to invite correspondents to tour a particular State and write about the Plan projects.

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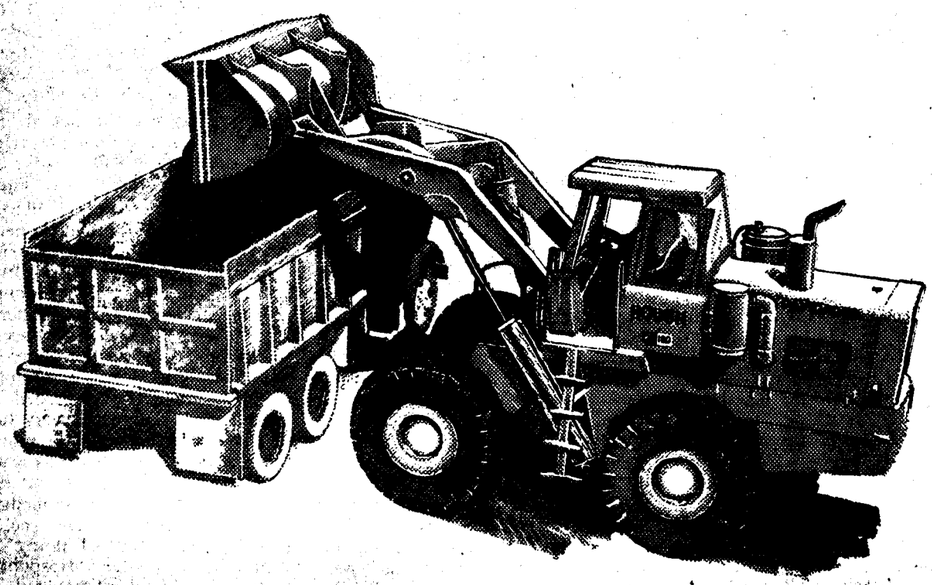
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PUSSY CAT BEFORE THE QUEEN

A. RAGHAVAN
BLITZ

THE ultimate test of Plan publicity is the degree of success it achieves in involving the people in development programmes. Judging by that, the present Plan publicity leaves one rather cold. The exuberance witnessed in the 50's about planning has dissipated and the very concept of planning is under heavy fire.

This is not to say that Plan publicists are entirely responsible for this. Of late, in Parliament and outside, there has been a barrage against planning ; the public sector is run down with impunity ; but I have yet to see any cogent defence from Yojana Bhavan-end except some ministerial perorations. Every morning we wash down with our morning cup of tea the fairy tale that this country has been led up the garden path by "ambitious" planning.

In other words, the scope of Plan publicity is not as wide as the *Sangam*. The question is whether they are making the best use of a given policy. I am afraid they are not. We are told that the Fourth Plan outlay will be Rs. 16,000 crore. Why not Rs 10,000 crore or 20,000 crore ? Again, we were told that the availability of foreign assistance for the Fourth Plan will be of the order of Rs 4,800 crore. One fine morning, as if by a magic wand, the figure was brought down to Rs 4,000 crore. We, correspondents, hardly ever get to know the "why" of these statistical changes. The rationale behind these is not properly explained. In other words, background information available to Press correspondents is scanty.

The result is that the "stories" that appear breed skepticism among the people and proyide no basis for an intelligent appreciation of the goings-on in the Planning Commission. Take the question of price. It is a burning issue. There can be a worthwhile discussion about it when the planners are formulating a price policy for the Fourth Plan. Instead, some snippets are doled out as this one : *'As in the past, a major objective of the price policy is to prevent an inflationary spiral with prices and cost chasing each other upwards'*.

Plan literature has been forthcoming by the tons but *Yojana* is the only journal in which I find ounces, if not tons, of enlightenment on the problems of planning. It will be a good idea if the experts of the Planning Commission occasionally meet journalists, especially those who cover for the district papers, for it is these papers that reach out to the real man for whom we are planning.

While on this subject, I must say that most Plan publicity is one-sided. It generates from Yojana Bhavan. *Vis-a-vis* this imposing Bhavan, I have invariably felt like the Pussy Cat who went to see the Queen. On the other hand, I was much more enlightened when I set out in the company of a producer of documentaries, some years ago, for an all-India coverage of Plan execution. It is a saga to be told but not in terms of GNP, growth rate, but in terms of the sweat and blood that go into the effort.

Yes, very little is done to publicise the implementation. The Programme Evaluation Organisation must bestir itself. There are wonderful stories to be collected at the dam site, at the furnace site and so on. Primarily it is reporting on implementation in terms of public benefit that involve the masses in development programmes.

Gap Between News And Publicity

BALRAJ MEHTA
THE PATRIOT

IT is now fairly widely realised that dissemination of knowledge and an intelligent appreciation of the processes of our 15-year-old planned economic development by the common man and even by the higher rungs of society are inadequate.

The official side often complains that there is one-sided and even distorted presentation of news and comments in the Press. The Deputy Chairman of the Planning Commission specially spoke the other day of the absence of positive reporting of the achievements of our planned development and even rather ruefully mentioned the advantage that Chinese rulers enjoy in this respect. Government authorities also find it necessary every now and then to warn the public about unauthorised reports and the tendency of the Press to resort to flashy half-truths to create sensation rather than do serious reporting and sober and painstaking interpretation of events and developments.

Not all these complaints are entirely unfounded. But few among the reporters and editors will be willing to accept any part of these complaints without holding the official side and specially its elaborate information and publicity machinery responsible for it. It is not anybody's case that Government authorities and the information agencies engaged in Plan publicity are not courteous and ready to help. But inspite of individual merit, leaving aside certain cases where the man concerned cannot entirely get over the hide-bound bureaucratic attitude so characteristic of a Government servant, the framework within which they are obliged to function is kept so limited that they are extremely ineffective in doing their job as purveyers of information from the Government to the Press for the people.

It is sometimes said by official agencies that a reporter is too much taken up with the idea of "news",

the more sensational the better, and if by individual enterprise he can make a "scoop", it is better still for him. But that precisely is the reporter's job and he has to try to do his best to do it. In contrast, the official information agencies are constantly harassed for arranging publicity for long speeches, in particular, of ministers even when there is hardly anything worthwhile to report in them by way of either news or policy pronouncements.

In economic reporting and comment, a certain body of expertise in the Press, though still not of very high order or experience, has grown up in the past decade as public interest in the country's economic problems and development has grown. It has begun to make itself felt in the Press as a whole and is likely to gain further prominence. But official information agencies in the Planning Commission and outside it, have hardly developed or have received training commensurate with the requirements of economic and industrial reporters and editors. It would be of value and advantage to them to have background data and rationale of important policy decisions in readily available material. Even more than written material, opportunity for across-the-table discussion and briefing by qualified persons can be very effective. But arrangements for both these forms of assistance to the Press are still extremely inadequate.

The latest phase of Fourth Plan preparation, which probably has been the most difficult, has been the most frustrating for the reporter. Individual enterprise apart, the process of planning was sought to be made a closed book. The long discussions that have been taking place daily and the delicate issues of policy and approach involved were treated too rigidly. The stand that till the Plan is finalised, everything has to be kept secret, is hardly such as to inspire confidence. If, in these circumstances, the Press reports have tended to be a little exaggerated or have lacked balance, it is this stand of not taking the public into confidence, which has to be held responsible.

FREQUENT BRIEFINGS

J. P. CHATURVEDI
AJ

PLANNING Commission, in spite of the tremendous work put out, is one of the most maligned departments of the Government today. While partly the criticism emanates from sources opposed to the concept of planning, partly the Planning Commission is also responsible for it. It has never had time to plan its public relations.

There are more than two hundred correspondents accredited to the Government of India on behalf of various Indian and foreign newspapers and agencies. Hardly a dozen visit the Planning Commission offices regularly. And most of them are either representatives of economic journals or the few metropolitan papers. The question worth asking is why the Planning Commission does not attract others, except perhaps in the canteen-room.

The reply is that only those correspondents who are personally known to Members or senior officials and who are on intimate terms with them, go to Yojana Bhavan. The rest depend on the Information Officer of the Planning Commission who can disclose only what he is permitted to do.

Formerly, at my request, Mr Vishnu Sahai, Secretary, Planning Commission, had agreed to hold monthly Press briefings when the correspondents could ask any question and even give advance intimation of questions for next meetings. These meetings were followed up by his successors like Mr B. N. Jha and Mr Tarlok Singh. But these monthly meetings have since been discontinued. Now a hiatus exists between the body of correspondents and the officials of the Planning Commission.

The second point is about the Planning Commission publications. I have been of the opinion for a long time that there must be a people's edition of Planning Commission reports, which should be concise, written in the layman's language, avoiding technical or minor details. *Yojana* is the only publication that fulfils this test. But as far as the Planning Commission reports are concerned, they are so bulky and the real content is so much clouded in words that busy newspapermen have very little time and still less patience to fathom them.

If I may say so, why should Planning Commission statements be almost invariably littered with phrases like 'notwithstanding', 'however' etc ? It may make the observation "safe", but it is not a style that the ordinary reader likes or a journalist relishes. What is 'lead' for a newspaper story is generally found in the last paragraph of Government releases.

There is one more difficulty. While in English we have become accustomed to this academic style, in regional languages these constructions look odd. So language journalists have a particular difficulty. And surprisingly the Planning Commission does not publish anything in regional languages except *Yojana* in Hindi, and some summaries by the Publications Division.

The Planning Commission has to deal with things at the consideration stage. Therefore, it has adopted a policy of avoiding publicity. But that is the point where most people are interested to know what is happening and publicity is most needed.

Formerly a number of correspondents used to visit projects. Now even such tours have been discontinued. A lot of development has taken place in the countryside. Last month I was in Madras and I saw factories in distant and erstwhile backward districts of Virudhnagar and Tinnevelli. How electricity has changed the entire landscape I could not know till I saw it with my own eyes. The Commission should highlight these milestones of progress rather than total outlays which do not mean much to the ordinary man. It must be remembered that people do not take it for granted that money spent is progress achieved.

BULKY REPORTS HARD TO READ

MADHAVAN KUTTY
MATHRUBHUMI

AN aspect of the Fourth Plan controversy has been the silence about it at Yojana Bhavan. The average pressman has to fall back on official briefings which often help him to dig out some extra information which may be of interest to the readers. The drying up of the official briefings in the past so many months has led to some unnecessary speculation, much of it quite wrong. Even when they take place, the briefings are inadequate except when the Deputy Chairman of the Planning Commission and the Secretary are handling them; briefings are now fewer than during the formulation of the Third Plan.

The instinctive reaction of a correspondent, unless he has a first class memory and a great deal of knowledge about planning statistics, is to fall back on background material. This is one thing to which little attention has been devoted by the Planning Commission. Considering the importance planning has come to assume in our life, we expect a little more alertness in this regard. New projects or old proposals revived often find the correspondents groping for the material which would shed some light on them. They have often to drift from one official to another and the ultimate result—the product of piecing together things got from various sources—is seldom worth the effort.

The correspondent is faced with another problem when he is confronted with the Planning Commission's reports. They are often a tough nut to crack. They are not only bulky but often incomprehensible, mainly because they are too technical. The reporter uses these reports with the main intention of making them understandable to the average reader of his paper. Scholars constitute only a tiny percentage of the readership of most newspapers. Often the reporter is unable to present the highlights of the Planning Commission reports to the average reader because he himself is unable to fully comprehend the reports at short notice. For him it is always a race against time and he can ill afford to spend too much time processing it. So, he often reproduces the report with all the punctuations, for this is the easiest way out. For the average reader, however, it may not make the easiest reading.

Yojana suffers chiefly from the influence of officialdom. It is unable to shake itself free of the tendency to put out official versions of various problems. However, mention may be made of last year's Defence Number, but one's appreciation of this Number is heightened by the drabness of other numbers. The dull conformism of most *Yojana* numbers convinces one that a little off-beat thinking will considerably help matters. What about the Opposition leaders and even Congressmen whose opinion on planning, especially planning in India, never find their way into the columns of *Yojana?* Their appearance will considerably enliven *Yojana* and make it a stimulating reading. The wide reproduction of the *Yojana* Defence Number by other leading daily papers only confirms this.

Easy accessibility to senior officials depends on factors which are beyond the means of an average newsmen. When curcial issues crop up, it is vital that high officials are accessible.

The Viewpoint of an Economic Journalist

R.C. UMMAT
EASTERN ECONOMIST

NOTWITHSTANDING the fact that owing to mass illiteracy the newspaper readership in our country is limited to only a small fraction of the population, the Press undoubtedly has a crucial role to play not only in publicising the achievements of planning but also in providing a forum for a healthy discussion on the perspective which each Plan should aim at in the light of the circumstances prevailing on its eve and the problems that can be expected to arise because of its size. Due to paucity of private research institutions in the country, this naturally requires a regular and judicious flow of information from the official channels so that criticism is not inadvertently biased.

My experience for the last six years and more as an economic journalist in regard to the activities of the Planning Commission, I must confess, has not always been happy. In respect of such basically crucial data as the resources estimates, I feel, the Commission is unduly secretive. Not that such information does not ultimately trickle down to the Press, but these are invariably scrappy and untimely. Public discussion on planning surely is handicapped.

The same is the case with the background material on several industries, particularly in respect of projections made for the demand for their products. A pertinent case in point is the oil industry. Presently, of course, under the Defence of India Rules, not much data on this industry can be made available for public consumption. But even before 1962, the flow of background material on this industry was very inadequate. The methodology adopted for arriving at various estimates of demand and foreign exchange costs of projects, of course, has always remained hidden from the public view. Even economic journalists, who are expected to share the burden of mobilising public opinion in favour of Plans, find it extremely difficult to have access to it.

turn to Page 20

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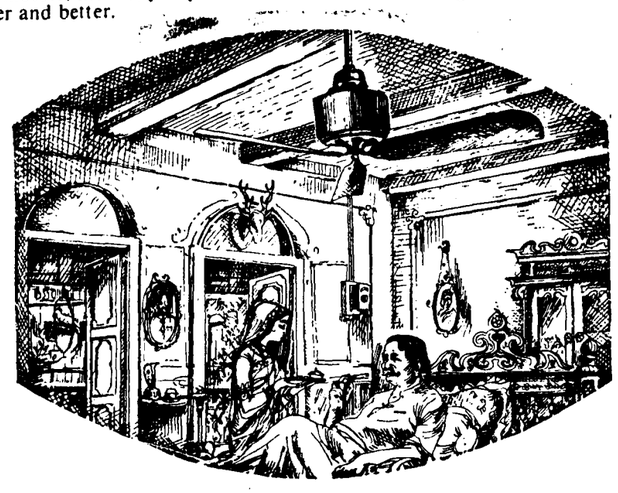
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Dr Jagdish Bhagwati wrote this article in Paris on June 9, four days after devaluation of the rupee ; it reached us only last week. He anticipated many of the arguments since advanced against devaluation. In this article he puts these arguments candidly, examines them, and finds them untenable. Dr Bhagwati considers devaluation to be a right measure, taken at the right moment, perhaps a little later than it should have been.

DEVALUATION

A Major Step Forward

Dr JAGDISH BHAGWATI

DEVALUATION of the rupee represents a major step towards economic reforms which have long become necessary.

Nonetheless, the wisdom of the current devaluation is likely to be disputed both by vested business interests—who have prospered on the substitute policies which have been improvised over the last five years to achieve what devaluation will now do far more efficiently—and by an articulate section of left-wing opinion. Since devaluation is both necessary and beneficial, from an economic point of view as also (indirectly) from a political standpoint in consequence, it is necessary to examine these objections and to set out the advantages of devaluation.

It is best to begin by stating various political objections. They take different forms :

1. Devaluation of the Rupee is not considered intrinsically desirable by intellectual, official and political opinion in the country. It is being advocated only by the IMF, the World Bank and the United States. The Rupee is thus being "crucified" at the altar of these institutions and donors.
2. Devaluation would moreover be an affront to national dignity, involving a loss of prestige.
3. Devaluation, even if considered desirable, is unwise *because* the World Bank and the United States have demanded it. Devaluation, at the present time, when the United States is admittedly and crudely exploiting the aid-dependence manifested by the Indian Government in a "famine"-stricken, pre-election year, amounts to really a gross capitulation with serious and deleterious political consequences. Moreover, the argument goes, devaluation will be accompanied, under World Bank pressure, by import liberalisation which will undermine our priorities and increase aid-dependence in the future, causing us to be pushed still further into economic policies desired by the United States.

OBJECTIONS EXAMINED

In my view, none of these arguments and sentiments against devaluation can survive an objective examination.

Devaluation has been recommended, not merely by the World Bank and the IMF, but *also* by Indian economists whose professed political leanings *cut across* the popular distinctions of Left and Right. The economists' support to the measure, over the last three to four years, would have been much more articulate if only they did not feel it necessary to be discreet about the problem : after all, "open" support for devaluation by prominent economists *could* lead to speculative pressure on the Rupee. It is, thus, misleading to think that devaluation is something which the foreign aid-givers have foisted on a government and people convinced that the measure is intrinsically undesirable. On the contrary, I would assert that a vast number of economists, who have studied the problem in depth, will welcome the decision as progressive from an economic viewpoint.

Devaluation is *not* an affront to national dignity. A change in the value of the Rupee is like a change in the price of coal or steel ; all of these represent changes in prices, designed to improve the economy's performance. It is nonsense to think that a lowering of the value of one's currency is to lose prestige. This is an Anglo-Saxon obsession, arising from Britain's 19th century role as the World's banker and the vanity of the City ; it has no relevance to us. Left-wing opinion should perhaps be reminded of the recent devaluations in the U.A.R., Yugoslavia and the Soviet Union.

As for the argument that the United States is deliberately putting pressure on India, to push us into economic and political attitudes sympathetic to its own position, I readily agree. There is little doubt that the private fertiliser investments, the Indo-U.S. Education Foundation,

devaluation, import liberalisation, relaxation of certain controls, settlement of differences with Pakistan and silence on the Viet Nam War are all part of the "package" that the United States would like to exact from us as cost of the Fourth Plan aid.

But this is no reason for *us* to reject or accept these conditions *in toto*. We should certainly be able to take from this "package" what we think, quite independently, is to our advantage and reject what we consider detrimental to us. Among the proposals which are to our definite advantage, I would consider devaluation of the Rupee. It would not be sensible to oppose devaluation merely because it happens to be part of the U.S. package!

IMPORTS LIBERAL

It has even been argued that devaluation has been linked to import liberalisation by the World Bank. It is feared then that the short-term credit reportedly promised for liberalisation will be used up for "non-priority" purposes and will then have to be repaid shortly at the expense then of high priority projects ; besides, this would "really" serve the objective of the U.S. Government since it would help them to push the Indian authorities later into a still greater aid-dependence and, hence, a larger shift to American-style economic policies.

This *may* be the U.S. objective ; but it seems rather odd again to oppose devaluation because the *World Bank* wants to link it up with import liberalisation. Why can the *Indian* authorities *not* de-link the two and devalue as they have just done? Besides, import liberalisation today can mean at least two different things :

(*a*) it may mean that *within* the over-all ceiling of foreign exchange, users of foreign exchange will *not* be given non-transferable quotas, but that the import allocation system will be liberalised so as to make these allocations transferable within, say, priority groups. This would eliminate wasteful rigidities arising from non-transferability of import licences. Thus, no single user will be restricted to his quota ; as far as he is concerned, the imports are liberalised. Note that there is *nothing* in such a system which requires that all priorities be abolished. One can segment users into a very limited number of groups and rule out transferability of imports among them. Alternatively, certain users of low priority (such as cars and refrigerators) may be heavily taxed and then allowed to bid in the market for the necessary imports ; their reduced profitability will itself prevent them from purchasing the imports, if the taxes are suitably chosen.

(*b*) Alternatively, import liberalisation may mean that the import restrictions will be totally dismantled. Even with the current devaluation, such a policy would result, I presume, in an excess demand for imports. This excess demand cannot possibly be met unless the extra short-term credit is both considerable *and* not really short-term but at least for six to seven years so that it would really be indistinguishable from normal "aid" and hence would really be cutting into it. The Government would almost certainly reject such an extreme proposal (amounting really to full convertibility on import account) whether it came from the World Bank or from within the country. There is *no* evidence that the World Bank has officially made such a proposal or that the Government are seriously contemplating such a measure. Note further that even such an extreme measure would be entirely consistent with the use of prohibitions and or stiff excise duties to prevent low priority users from making use of scarce foreign exchange.

TIMING WRONG?

Yet another argument against the present devaluation is that its timing is wrong, even if the measure is entirely necessary and desirable. With the World Bank and United States attitudes well-known, devaluation gives an impression of capitulation to foreign design. It is argued that this is injurious to the self-confidence of the country and is likely to whet the appetite of aid-givers towards exerting cruder and more explicit pressure. There is undoubtedly something in all this ; but what it really implies is that the Government should equally emphatically *reject* from the package what it considers injurious to the national interest, rather than that devaluation should have been deferred.

In fact, with the United States intentions (to exploit aid openly for the furtherance of its economic and political objectives) becoming very clear since the last year, it is even more important that devaluation should not have been deferred any longer. After all, devaluation will improve the economy's performance and help to eliminate reliance on substitute policies of export promotion and import saving. These had increasingly led to :

(*a*) entrenchment of business interests keen to exploit essentially discretionary policies to their own advantage ; as also

(*b*) direct losses of foreign exchange to the country, as when industrial goods were exported at lower prices than their import content and the same items were exported by one entrepreneur and imported by another at considerably higher prices.

What better safeguards do we have against foreign exploitation *via* foreign aid than to do our utmost to undertake all the economic reforms, including devaluation, at the earliest opportunity ?

The diverse political objections to devaluation are, therefore, unconvincing ; so are the economic objections normally advanced. The most common, and also the only compelling, objection that our foreign exchange earnings from "traditional" exports will be adversely affected, has already been handled by the obvious measure of imposing countervailing export duties on them.

What had been happening since the last four years was that the Government had been forced steadily, by its refusal to adjust the exchange rate, to a steady, though halting and *ad hoc* adjustment of effective rate of exchange by a series of export promotion incentives and increasing tariff duties on imports of most commodities. It is important to grasp here that the incentives to export and to economise on imports can be given as much by a devaluation as by export subsidies and import duties. Thus, for example, a 50% devaluation will be identical with an *alternative* policy of 50% export subsidy combined with a 50% import tariff—except that the devaluation will affect *all* external transactions, both visible and invisible, current and capital, whereas tariffs and export subsidies are confined naturally to visible, current trade.

SUBSIDY RATES

By late 1965, the *average ad valorem* on imports, under this policy, had already risen to approximately 50%, measured simply as this ratio of duty collected to the value of dutiable imports. At the same time, the export promotion measures had multiplied to roughly the same magnitude. These took the form, partly, of various tax exemptions introduced in successive budgets, the latest being the Tax Credit Certificate scheme. Overwhelmingly, however, they took the form of Import Entitlement schemes under which the exporters could retain a varying proportion of their f.o.b. export earnings and secure import licences for authorised materials. By 1964-65 again, these schemes were earning, for nearly 25% of our exports, an average subsidy of anywhere up to 50%—70% *ad valorem* whereas numerous other exports, amounting to yet another 35% of our exports (including minerals, ores, tea and coffee) were already being allowed the benefits of such schemes, though on a very limited scale.

At the same time, the effective subsidy rates were so numerous and changeable, and the markets for the Import Entitlement licences so segmented by different industries or groups, that numerous anomalies and inefficiencies had emerged. It became possible for exporters and producers to claim that their export price offer was 80% below the price they could get in domestic markets, for example, and hope (often successfully) that an eager Ministry would adjust the Entitlements to make up the loss. In the process, export trade went occasionally into the hands of unscrupulous traders—especially in artificial silks and plastics—who were interested in immediate profits arising from existing (but changeable) incentives and who could not be expected to build up the reputation for Indian products, which alone could support India's long-term export drive.

The whole system, further, amounted to a maize of cross-rates. It became possible for PVC powder, for example, to be exported by one producer and imported more expensively by another under *his* Entitlement licences so that the country lost corresponding foreign exchange ; these examples could be multiplied. The notion that exports are only a means to earn imports, and *not* an end in themselves, was soon forgotten completely and the system had begun making possible considerable losses of foreign exchange, which could be stopped only by the re-imposition instead of a reasonably *unified* exchange rate, involving a comparable devaluation such as that implied on the average by the existing export incentives *and* import duties.

The numerous gaps in the tariff structure on the import side, inevitable despite the small uniform surcharge lately levied, also gave rise to typical inefficiencies in the use of exchange. For example, the recent furore about the proposal to use liquid ammonia from Persian Gulf in the new fertiliser plants rather than domestic naphtha because the former was "cheaper", led to the protest that liquid ammonia was "socially" more expensive if one took a "realistic" rate of exchange into calculation. This is very well. But note that this question could *not* have arisen if the exchange rate itself had been devalued to a "realistic" level. And note also that, while critics may happen to notice such inefficiency in the case of fertilisers because of their political importance today, the same inefficiencies could and certainly did occur in several thousands of enterprises in the country as long as the exchange rate was not adjusted to a more "realistic" level.

The increasing reliance on subsidies and tariffs to average levels of over 50% *ad valorem* also led to growth of sharp practices, involving the faking of trade invoices and undoubted growth of avoidable corruption.

At the same time, these measures could not embrace invisible and capital transactions such as tourist earnings, remittances, repatriation of capital, and profit remittances. It was noticeable, for example, that tourist earnings were not increasing despite the increasing inflow of tourists : their expenditure was clearly leaking into the more favourable non-official markets. Inward remittances were behaving in a niggardly fashion——and the Indo-Pakistan conflict, with the attendant freeze in aid, led to the initiation of the Remittance Scheme which closed one gap at least in an anomalous exchange system. But repatriation of capital and profit remittances by private foreign investors continued at the official exchange rate, *subsidised* (at Indian expense) in relation to the rate which imports of visibles had to pay. It was clear that the vested private, foreign interests were opposed to the simple shift to a more sensible exchange rate. In this, they were clearly in the company of the vast tribe of private exporters who had thrived on the export promotion schemes and the numerous private importers who escaped the incidence of tariffs, thus making a sizeable premium on their "normal" import allocations and who, therefore, expected devaluation to cut into this premium.

The decision to devalue the Rupee has to be considered in the light of this recent, economic experience. It must, therefore, be welcomed essentially as a major step towards the rationalisation aimed at eliminating the anomalous, inefficient and wasteful effects of the earlier policies.

Nuclear Complex at Hyderabad

HYDERABAD is fast growing into a big industrial complex, perhaps second only to Bangalore in the South. Apart from new units of the Hindustan Machine Tools and the Indian Drugs and Pharmaceuticals, a new major industry coming up at Hyderabad is a nuclear technological complex. This complex is expected to go into production in three years. It consists of a uranium oxide plant, a zirconium plant and a ceramic fuel fabrication plant.

This complex is being built by the Atomic Energy Commission of Trombay at a cost of Rs. 12 crore. The State Government has offered 19,000 acres of land free of cost for the project.

CHHAMB-JAURIAN

Springs To New Life

SURAJ SARAF

Pakistan's attack on India last year brought untold suffering to the lakhs of people living in the border areas. Their villages were destroyed by the Pakistan army and they had to run away for safety. Now the people are being brought back to their villages for resettlement. People in the Chamb-Jaurian area in Jammu and Kashmir are starting their life anew.

NEW life is smiling in the Chhamb-Jaurian area of Jammu and Kashmir where only in last September everything was laid waste by a hundred Pakistani giant tanks and where fierce aerial bombardment and heavy non-stop shelling from gargantuan guns and tanks was going on for days together.

When I went there in June last, I was surprised to find Jaurian, the biggest town in the area, humming with activity more hectic than before its destruction. The rehabilitation administration is located there and people from surrounding villages have settled there. The Project Officer showed us, a small party of journalists, the maize crop at some places in the area.

"Crop!" I exclaimed in amazement.

"Yes, waist-high maize plants!" said the Project Officer enthusiastically.

A drive in a jeep opened to our eyes several fields of swaying plants of maize. I could not help bowing my head to the brave, dauntless and hardy people of Jaurian who have re-created their homes and hearths after total devastation.

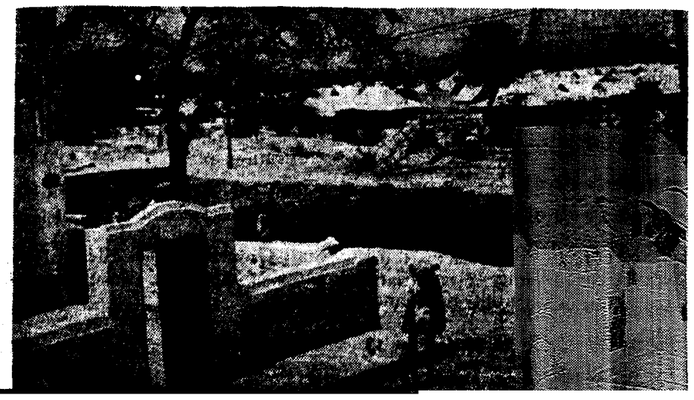
In Jaurian itself signs of normal life were visible—children going to schools, women taking water from the tube-well and the bazar busy as a beehive.

The busiest place, however, was the office of the Chief Project Officer assisted by a Deputy and three Project Officers. The staff has to work non-stop from early morning till night. Scores of people are always present in the office with various petitions and a little carelessness or lassitude, even though out of tiredness, would injure the feelings of the people who had had the bitterest taste of the war. The people are known for straightforwardness.

The task of rehabilitating a lakh of people is not an easy one in these circumstances. These people have lost everything they had. They had to run away from their homes to save their life. Now they have come back to resettle and start their living anew from a scratch. A new confidence has to be put into them. The devastation they had to suffer was total. All houses, shops, schools and office buildings had been demolished during Pakistani occupation of the area. Land had been covered waste, wells polluted, and Communications dis-



A growing maize crop in one of the villages.



A village being rehabilitated. Villagers who have returned to their homes are temporarily staying in tents till they rebuild their houses. The tents are seen in the background. In the foreground is the frontage of a mosque rebuilt.

Project for 100,000 Displaced People

rupted. So twenty thousand houses and other buildings have to be rebuilt, and land to be reclaimed. Administrative machinery has to be re-instated. Over a hundred schools have to be reopened and a huge sanitation programme to be undertaken. A lakh of displaced people staying in tents in places far off from Jaurian area had to be transported back to their villages along with their belongings. Political meddling by some elements had also to be countered.

The great march back of the people began towards the middle of March and the work of rehabilitation was undertaken under a project costing Rs 8 crore.

The State Government had already created a special Ministry for Rehabilitation. Under the project, a special organisation with a senior officer, Mr O.P. Khullar, as the Chief Project Officer, was set up. The Union Government has provided a Special Rehabilitation Commissioner, Mr B.P. Mathur.

Before the displaced people could be brought back to their villages an important task was to remove the mines that had been laid on both the sides—by Pakistani forces in the occupied area and by the Indian forces to thwart Pakistani advance and to make the area safe for human movement. The task was accomplished speedily and, after the Pakistani forces withdrew from the Chhamb-Jaurian sector under the Tashkent Declaration, Indian teams examined the area thoroughly to ensure its safety.

Then came the sanitation and scavenging teams. Those who visited the area those days would tell how nauseating and aweful was the task of cleaning and disinfecting it. The area was stinking repulsively. Human and animal corpses had to be disposed of. Hundreds of wells and ponds had to be disinfected and made safe for human use.

Offices of the various departments then came to be set up and personnel from scattered parts trickled in.

Movement of the displaced persons began in two stages. First the 22,000 who belonged to villages that had been evacuated by Indian forces for operational purposes were brought in. In the second stage those who belonged to villages occupied by Pakistan and vacated under the Tashkent Declaration were moved back.

However, since the houses and other buildings destroyed by Pakistan could not be constructed anew all at once, the displaced persons are allowed to live in tents till they got housing loans and constructed their houses. The tent villages are now the only signs to remind you of those grim events. Houses are fast coming up and these tent colonies will vanish soon.



A desolate and devastated village in the Chhamb-Jaurian area.

The Security measures taken by the State Government and the liberal attitude adopted by the Union Government in meeting the demands of the displaced people went a long way in restoring their confidence and assuring them that the whole nation was with them in their hour of trial. It is no exaggeration to say that the grants finally decided upon by the Government were more liberal than the expectations of the displaced persons.

Under the rehabilitation project it was decided to give grants up to Rs 1,000 and loans up to Rs 2,000 to each family for *kacha* houses and Rs 2,000 and Rs 3,000 respectively for *pakka* houses. In the urban areas these amounts were Rs. 2,000 and Rs 3,000 for *kacha* houses and Rs 3,000 and Rs 4,000 for *pakka* houses.

Fair price shops have been opened at various centres to provide foodgrain at subsidised rates. Loans were also sanctioned for purchase of agricultural implements and bullocks. Cash doles will continue till the end of September next. Trade loans up to Rs 1,000 in rural areas and up to Rs 2,000 in urban areas were also granted for petty traders and Rs 500 per family for reconstruction of shops. Several other measures have been introduced to help the people in their smooth resettlement.

Now in spite of the new provocative posture of Pakistan, the people are calm and composed. They are fully busy in creating a new life for themselves.

ASSAM'S MINERAL WEALTH

New coal deposits have been found at Kulajan in the Mikir Hills and at Mawphlong in the Khasia and Jantia Hills of Assam.

Gold bearing rocks also have been discovered in the Mawphlong area.

Deposits of iron ore have been found in the Chenderdinga hills in the Goalpara district of Assam.

REACHING THE MINDS OF MILLIONS

Cinema arc carbons for cinema projectors, and batteries for radios—made by Union Carbide—help vital messages reach India's millions.

Children in a small, obscure town gasp in amazement as they see the clear, enthralling pictures of a gigantic dam. They are learning through the cinema; getting to know the events that are changing their country. Millions of such children and their elders live far from big towns, cut off from the mainstream of India's progress. For most of them, still unfamiliar with the written word, the cinema and the radio are the only means by which they can be urged to become participants of the changing times.

Union Carbide is closely associated with this great programme of national awakening. The messages of our leaders are carried through sight and sound to hamlets still many years away from power supply—thanks to the arc carbons for cinema projectors and batteries for radios manufactured in India by Union Carbide.

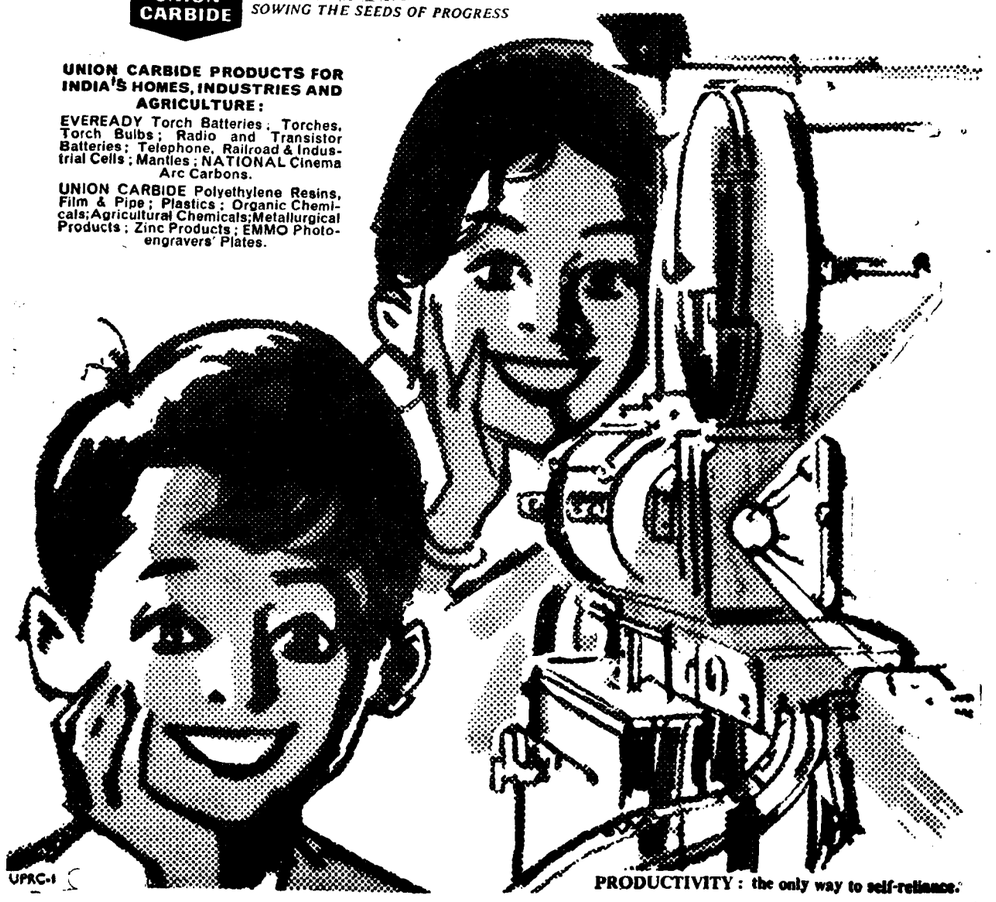
Inseparable from the means of mass communication in India, Union Carbide conveys the message of progress to the millions.

UNION CARBIDE *SOWING THE SEEDS OF PROGRESS*

UNION CARBIDE PRODUCTS FOR INDIA'S HOMES, INDUSTRIES AND AGRICULTURE:

EVEREADY Torch Batteries; Torches, Torch Bulbs; Radio and Transistor Batteries; Telephone, Railroad & Industrial Cells; Mantles; NATIONAL Cinema Arc Carbons.

UNION CARBIDE Polyethylene Resins, Film & Pipe; Plastics; Organic Chemicals; Agricultural Chemicals; Metallurgical Products; Zinc Products; EMMO Photo-engravers' Plates.



UPRC-1

PRODUCTIVITY: the only way to self-reliance.

WE were returning home by train after a vacation. My wife was the only person among us who was paying her full fare. I had Press concession and my three children, students' concession.

The ticket examiner entered our compartment. He carefully glanced through our tickets and concession forms, while my daughter Kalpana (7) stared at him.

He smilingly told Kalpana: "If you had another little brother or sister going to school, your mother also could have travelled on concession. We allow concession to an elder escorting a group of four or more."

"But, sorry, Mr Guard" quipped Kalpana, "I can have no more brother or sister. Don't you know that mummy had an operation after little Ravi was born?"

The compartment roared with laughter.

New Delhi *T.S. Satyan*

COMING OUT of the temple, I discovered that my new pair of chappals had given place to an old pair. I concluded that some one must have walked away with it either by mistake or by design. Many Delhiwallas must have been in a similar predicament at one time or the other. When we visit a temple, or attend the weekly discourse on the Ramayana in the Sri-Ramakrishna Mission, half our attention will be on our new footwear.

When I narrated this incident to a friend of mine, he laughed and remarked, "I have never lost my chappals, nor will I ever lose them".

"How do you manage it?" I asked.

"It is quite simple", he replied, "I leave one chappal at one place and the other at another. I will, of course, remember where to look for them. In such a case, none can manage to walk away with only one chappal even by mistake."

New Delhi (*Miss*) *Jayalakshmi.*

THIS INDIA

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

A few days ago when I was handling a file dealing with the recruitment of staff for a Block, a young applicant, a Calcutta University graduate, came to me. I asked him why he wanted a job in a village and did not try for a job in a business firm. The young man replied, "I want to see India grow into a real Gandhian country. I can serve our people no better than in a village".

Today's India needs such young men.

Chinsura (WB) *Amal Kumar Basu*

WHILE examining economics answerbooks of B.A. (Part I) candidates, I came across an interesting case of copying. To the question "Explain the law of diminishing utility", the opening paragraph of the answer was as follows:

"As already discussed in the previous chapter, wants are the driving force behind economic activities. In this chapter we shall discuss some of the laws of consumption that are based upon characteristics of human wants. One such important law is the law of diminishing marginal utility."

Bhopal *A. C. Minocha*

ONE morning a man wearing a loin cloth and a sacred thread, and with a pot in hand, walked into the yard, while I was sitting on the verandah. He asked for alms. I asked, "Why do you beg when you can earn?"

"This is my ancestral profession", said the man.

"Don't you have children?"

"Yes. I have sons, one of them a Deputy Collector."

I was shocked to hear this. But before I could ask him another question, he went on, "My son (Deputy Collector) tried his best to persuade me to give up begging, for it goes against his status and prestige. He took me several times to his place. But I am in no way inclined to relinquish my profession which enabled me to bring up my children and educate them".

Godda *K. Bahadur*

RECENTLY I went to a remote village in connection with a socio-economic enquiry and met villagers in the school room. In the course of our discussion, I asked them about the improved M.B. iron plough supplied by the State agricultural department. They said they were not interested in buying the new plough, as it did not suit local conditions.

After the discussion a smart young man invited me to tea, and I saw an improved iron plough in his house. I reminded him of the strong objection to the plough he had made only a little earlier. Prompt came the reply, "Yes, but I have not purchased it for using in the field. I am President of the village panchayat, and I am supposed to keep the improved agricultural implements in my house".

Jorhat, Assam *P. D. Saikia*

A CRITICAL STUDY OF NEW FOOD STRATEGY

V.G. PANSE

A large programme for intensive cultivation of rice and wheat based on foreign varieties has, according to the author, its own adverse consequences. Merely growing them in a few plots belonging to progressive farmers is no substitute for a well-organised programme of experimentation. Dr Panse suggests that extensive experiments repeated over three or four years are essential to test the degree of their adaptation to Indian environments.

One of the questions raised in this article is whether it is proper to insist on large doses of nitrogen, or whether this is not extravagant and wasteful. Is the new agricultural strategy an attempt to take a big leap forward without the support of essential scientific data ?

THE new strategy in agriculture revolves round the cultivation of high yielding cereals in selected areas. The principal cereals are rice and wheat, although there is provision for cultivation of hybrid maize, *jowar* and *bajra*.

Since high yields cannot be secured without adequate availability of irrigation and fertilisers, provision of these ingredients is an essential part of the programme. The programme is thus confined to areas with irrigation or with assured rainfall and a supply of 1.29 million tonnes of nitrogen and 0.47 million tonnes each of phosphate (P_2O_5) and potash (K_2O) is earmarked for it. Out of this quantity of nitrogen nearly a million tonnes is assigned for rice and wheat alone. These are large figures when we know that the total nitrogen, home produced and imported together, available for the entire agricultural production at the end of the Third Plan was only 0.6 million tonnes.

A tremendous propaganda drive is under way for pushing the programme forward. The stakes are very high and it is of utmost importance to view the programme in the correct perspective.

It is proposed to cultivate the new varieties of rice over an area of 12.5 million acres in 30 districts. The total area under rice in the country is about 87 million acres. An intensification of cultivation could be taken up in the greater part of this area if seed and fertiliser were available, since rice is cultivated under conditions of abundance of moisture, supplied either through rain or irrigation. The working groups on agricultural production in the Fourth Plan had in fact recommended intensification of rice cultivation on an area of 41 million acres.

The programme in the case of wheat is confined to 8 million acres in 53 districts. The irrigated wheat area in the country is over 13 million acres and the programme could be extended over this area if other resources were provided. The reason given for confining the programme to smaller areas is that available resources of men and materials could be put to most efficient use through concentration of effort. As will be shown later, however, this is not the most efficient method of using our most scarce material resource—normally fertilisers.

That we must have high-yielding crop varieties as a principal means of increasing agricultural production has been recognised in India for several years. Such varieties must necessarily be highly responsive to fertiliser application, since high-yielding varieties cannot express their potentiality under poor soil conditions. In fact, a co-ordinated programme for breeding rice varieties highly responsive to fertilisers by crossing the indigenous varieties with Japonica varieties was launched in the principal rice-growing States in India about 1950 as a part of the F.A.O. programme for South-East Asia. The fact that nothing has come out of this effort in the last 15 years, except for one or two strains in Madras and Andhra States, and that the project is now being wound up does not speak highly of our plant-breeding techniques.

FOREIGN ORIGIN

It should be noted that the new strategy is based almost entirely on high-yielding varieties of foreign origin. The rice varieties in the programme, Taichung Native 1, Taichung 65 and Tainan-3, are Chinese varieties. The wheat varieties Sonora 63 and 64 and Lerma Rojo are Mexican. Only the rice strain ADT 27 bred in Madras under the Indo-Japonica project is Indian. Among other cereals, however, credit for hybrid *jowar* and *bajra* strains goes to Indian breeders, while hybrid maize is the product of collaboration between Rockefeller Foundation scientists and Indian breeders.

The fact that such a large programme of intensive cultivation of rice and wheat is based on foreign varieties has its own adverse consequences and risks. Crop varieties have generally a limited local adaptation to soil and climatic environment, although there are occasionally varieties with a wide range of adaptation. To test the degree of adaptation of crop varieties, it is essential to carry out extensive experiments at representative centres repeated over three or four years. Such experimentation is lacking with the present foreign varieties which have been bred under an entirely different environment. How they fare under the varied conditions of soil and climate in India is rather speculative at present. While there is an indication that these varieties are high-yielding and respond better to fertilisers than indigenous varieties, it would be interesting to learn how, for instance, the Mexican wheats reacted to the dry warm winter in the wheat areas in India during the year 1965-66. *Merely growing these varieties in a few plots belonging to progressive farmers here and there is no substitute for a well-organised programme of critical experimentation. Secondly, foreign crop varieties may fall victim to diseases and pests endemic to India, because they were not bred for resistance to these, as the particular diseases and pests or their special physiological races might be absent in their native environment.* The Chinese rice varieties are susceptible to blast disease and bacterial blight while the Mexican wheats are susceptible to rust and smut diseases. Diseases and pests are liable to increase when the varieties are grown with adequate irrigation and high doses of nitrogenous fertilisers. These possibilities are admitted.

PESTS DISEASE

The programme includes extensive proposals for protection of the crops against pests and diseases by using chemical pesticides. For much of the pesticides as well as for part of the equipment for using them, we have to depend upon imports. Should a serious epidemic of some pest or disease break out in any large area, how effective the measures to control it would be? Besides, for diseases like rust on wheat, there is no effective chemical protection. The trouble is that if an epidemic occurs and there is a serious loss of crop, it will have a very adverse psychological effect on the farmers of the area and this in turn will affect future agricultural development.

The most objectionable part of the programme is the insistence on large doses of nitrogenous fertilisers, namely 100 lb nitrogen per acre for rice and wheat. This is being done on the plea that this way fertilisers will be put to a most efficient use. It is at the same time recognised that fertiliser is our most precious and scarce resource for agricultural production and what foreign exchange difficulties for import and the slow progress in increasing indigenous production, it is extremely doubtful whether we shall reach anywhere near the target of 2.4 million tonnes of nitrogen set for the Fourth Plan.

It is particularly important under these circumstances that every ounce of fertiliser that becomes available is put to optimum use, namely for maximising national production. Applying this criterion to the new programme, it can be demonstrated that the proposed doses of fertilisers are extravagant and wasteful and will materially reduce national foodgrain production from the level which could be attained through a more rational application of this input.

The response of crops to fertilisers follows the law of diminishing returns. Whatever the crop variety, whether native or foreign, high-yielding or low-yielding, its fertiliser response curve is typically convex. Only the slopes and curvatures differ for different varieties. For example, the response curves of Mexican varieties of wheat prepared from results of co-ordinated wheat trials discussed at the Wheat Research Workers' Seminar, Ludhiana, 1965, are shown in Table below. It will be seen that response per lb. of fertiliser diminishes as fertiliser is applied in larger doses. The phenomenon becomes more evident as the curvature of the response curves becomes more distinct. Reading from the graphs for the three Mexican varieties, the following results are obtained :

The increase in yield at the high dose of 100 lb nitrogen per acre is not double that secured at half this dose, but only about 34 per cent higher. The efficiency of nitrogen in securing additional production is very much reduced, the average response being 8.9 kg per kg of N at 100 lb per acre against 13.3 kg per kg of N at 50 lb per acre. Each kilogram of nitrogen produces one and a half times as much grain at the lower dose of 50 lb per acre than at 100 lb per acre.

EXAGGERATD CLAIMS

Incidentally, at 100 lb. of nitrogen per acre, the additional yield of wheat is about *one tonne per hectare* according to the response curves for the Mexican varieties, while the additional yield aimed at in the new strategy is *one tonne per acre*. The latter should be over the yield of indigenous varieties with irrigation and the usual level of manuring. Even allowing for the genetic superiority of the new varieties, this would appear to be a grossly exaggerated increase. We shall still adopt the official figure in our calculation in the absence of any other reliable experimental data and for underlining the consequences of following the proposed programme.

We shall assume the same responses for paddy as for wheat as indicated in the programme, in the absence of any experimental data on the new varieties of paddy. According to the projected programme, there will be an additional production of 12.5 million tonnes of paddy and 8 million tonnes of wheat by using 0.93 million tonne of nitrogen on 12.5 million acres of paddy and 8 million acres of wheat. *If the rate of application is reduced to 50 lb N per acre, it would be possible to apply the nitrogen earmarked for*

Response of Mexican Varieties to Nitrogen

Variety	Increase in yield kg/ha		Response per kg/ha/N		Ratio
	56 kg N/ha (50 lb/acre)	112 kg N/ha (100 lb/acre)	at 56 kg/ha	at 112 kg/ha	of response per kg/ha N at 56 : 112 kg/ha
Sonora 63	721	984	12.9	8.8	1.46
Lerma Rojo	865	1128	15.4	10.0	1.54
Sonora 64	652	883	11.6	7.9	1.48

Dr V.G. Panse is Senior Specialist in the Agriculture Division of the Planning Commission

this programme to all the 13 million acres of irrigated wheat in the country and to 28 million acres of paddy, thereby increasing the additional production by 50 per cent, that is securing 21.02 million tonnes of additional production of paddy and 9.76 million tonnes of additional production of wheat. This will bear out our earlier remark that the additional national production from the programme is being reduced to a level substantially lower by insisting on a high dose of 100 lb N/acre than what could be secured by applying a more moderate dose of 50 lb N/acre.

To the individual farmer a dose of 50 lb/acre will leave a return of Rs 114 per acre on his fertiliser investment while with a dose of 100 lb/acre this return will increase only to Rs 127 per acre, although the investment on fertiliser will have to be doubled, as calculated from the more sensible average responses of the Mexican wheats shown in the Table. Thus, even from the farmer's point of view, fertiliser application of 50 lb N/acre is economically more attractive than at 100 lb N/acre.

One immediate change in the new strategy that the foregoing discussion makes obligatory is to reduce the dose of nitrogen on rice and wheat to 40 or 50 lb per acre from the proposed 100 lb per acre and spread the quantity of fertiliser reserved for the programme on a larger area, with the foreign varieties if possible and with recommended indigenous varieties if necessary. We shall thereby increase our production of rice and wheat alone by 50 per cent over and above that expected from the programme. Similar considerations apply to the other foodgrains, maize, *jowar* and *bajra*. With these there is the further question of the optimum allocation of fertilisers between them on the one hand and rice and wheat on the other. In the absence of even indicative data for fertiliser response curves on hybrid maize, *jowar* and *bajra*, it is not possible to enter into a detailed discussion of this problem here.

An important conclusion that emerges from the discussion of the new strategy is that we are trying to take a big leap forward without the support of essential scientific data and there is a danger of our coming to grief. Propaganda and slogans have their own value but they are no substitute to solid scientific research. There is an indication that we have with us now some very promising cereal varieties. We must test them with rigour in carefully designed and well-conducted experiments, in order to ascertain reliably what precisely the potentiality of these varieties is *vis a vis* the locally recommended varieties, with graded doses of nitrogenous, phosphatic and potash fertilisers. Unfortunately such experimentation is lacking even today.

The wheat experiments conducted during *rabi* 1965-66 through collaboration between Rockefeller Foundation and I.A.R.I. scientists had experimental plots of a microscopic size of 0.46 m × 8.0 m= 1/1100 acre and lacked recommended indigenous varieties as controls. It is well known that such small plots overestimate yield and lead to grossly exaggerated claims about the performance of varieties per acre. In the absence of local controls, it is impossible to state what the relative superiority of the new varieties is at different levels of fertiliser application as compared to local varieties and how fertiliser should be distributed optimally between new and local varieties.

SERIOUS WEAKNESS

In fact, in the current crop research in India there is a serious weakness in that a proper use of the two disciplines of statistics and economics is lacking, inspite of the great advance that these sciences have made in the country. The following recorded conversation with an agricultural scientist is typical of the attitude. When asked "Haven't the Krishi Pandits got large yields even from our local varieties?", the scientists replied, "That is only for prize winning. Actually they cultivate very small plots of land and the results are blown up." He was reported to have implied that it was statistics and little else. Comment is unnecessary except that the plots on the performance of which Krishi Pandits are chosen are at least one acre in size and it behoves ill of scientists fiddling with 1/1100 acre experimental plots to criticise this and roundly condemn statistics.

Statistics is an essential tool in all biological research and crop research is specially amenable to it. It is only with the fullest use of statistics and economics in our agricultural research and development that we shall be able to evolve technically sound and economically acceptable recommendations to our farmers and carry them into practice effectively for national wellbeing.

—From *The Economic Times*

Press and Plan

from Page 9

Apart from the inadequate flow of such basic information from the Planning Commission as mentioned above, I feel that briefings in the Planning Commission ought to be more frequent than they have been in the recent past. There need not be always some important decision to be communicated or an important document to be released. The Press deserves to be taken into confidence otherwise too, about the activities of the Commission. Planning, they say, is a continuing process. So is reporting of it. No doubt, unless extremely busy, officials of the Planning Commission are not averse to meeting Pressmen. But regular periodic briefings by them can save a good deal of their precious time and energy. Arranging of seminars periodically on the lines of the one organised in June last for the economic editors in the country, I feel, should be very helpful in making criticism purposeful and healthy.

The reports of the Planning Commission could also be made less bulky, not, of course, at the expense of facts. The official summaries, helpful though they are, tend to highlight the bright spots and shade off the not-too-complimentary ones, with the result that too rosy a picture is sometimes painted than is warranted. If the reports are concise, their processing by Pressmen, who have to race against time, would obviously be quicker and less troublesome. The release of uncomplimentary reports on the progress of planning, sometimes delayed, should also be effected promptly, for the nation has a right to know where implementation has been faltering and why. The tardy progress of the Third Plan, I feel, has been unduly kept away from the public gaze by abandoning the previous practice of publicising annual reviews of planned development.

PLANNING MACHINERY IN INDIA

How are our plans made from the village up to the Central level? What are the limiting factors?

S. K. SEN GUPTA

THE nature of the planning machinery in India and the different planning procedures and techniques which have evolved in the course of fifteen years have been largely determined by the fact that India is a federal democratic state, with a mixed economy striving for a progressively socialistic pattern of society.

In the machinery and procedure of planning, the Planning Commission occupied a pivotal position. Its main functions are advisory and co-ordinating. It is a via media between an administrative department which is too closely involved in day-to-day problems and consequently lacks perspective and objectivity which planning requires, and a purely research institute which is too theoretical or academic in its approach and is out of touch with the various political, economic and administrative problems which must be taken fully into consideration if plan is to be realistic and effective.

Planning Commission

The Planning Commission is a multi-member body including full-time Members who are eminent public men, administrators or technical experts, as well as some part-time Members who are important Cabinet Ministers.

The Prime Minister of India has been Chairman of the Planning Commission since its inception. The Minister for finance is the Member in charge of Finance in the Commission in an ex-officio capacity. These arrangements ensure co-ordination between the Commission and the Central Ministries. The Commission in its day-to-day work functions through a series of Divisions and Sections each headed by a senior officer. The various Divisions may broadly be divided into two categories—(i) general Divisions which are concerned with special aspects of the entire economy; and (ii) subject Divisions which are concerned with specified fields of development.

Members, Advisers (Programme Administration) and other senior officers of the Commission carry out special inspection and investigations from time to time. The Plan Co-ordination Section of the Commission also collects all key data about the progress of various programmes and projects. Moreover there are two special bodies for evaluating the actual working of the various programmes and projects included in the plan. These are the Programme Evaluation Organisation which evaluates the current problems of the rural economy, and the Committee on Plan Projects which undertakes important problem-oriented studies. The Research Programme Committee initiates research in economic, administrative and social problems related to planned development.

The national plan evolves gradually in a series of stages wherein the different Ministries, State Governments, experts—official and non-official—and public are consulted. The finally considered plan is submitted to the Cabinet, the National Development Council and Parliament. The Plan, as approved by Parliament, goes back to all the concerned authorities for implementation of their respective programmes and projects.

At the initial stage of formulation of a Plan, a number of Working Groups are set up comprising selected administrators, economists and technicians from various Central Ministries and Divisions of the Planning Commission, as a means of co-ordinating the work of the Ministries with its own in formulating realistic and acceptable plans for different sectors of the economy.

A number of Standing Bodies variously known as Panels, Advisory Committees or Consultative Committees are also set up to take into account the views of other knowledgeable people, especially non-official experts, on different aspects of planning. The most important advisory bodies are: (1) Consultative Committee of Members of Parliament for the Planning Commission and (2) Prime Minister's Informal Consultative Committee for Planning.

Each Five Year Plan fixes the broad targets and operational decisions. Budgetary allocations are normally made in terms of Annual Plans. Work on the Annual Plans precedes the annual budgets. Around September each year the Planning Commission indicates to the State Governments the more important objectives, the amount of Central assistance they could reckon for their Annual Plans and asks for draft proposals. The proposals of the States are discussed in detail during November and December, the Central Ministries participating in the deliberations. A similar examination is undertaken with the Ministries at the Centre where work on the Annual Plan is linked up with the preparation of the Capital Budget. The allocations agreed with the Ministries and the State Governments become the basis of budgetary provisions for the following year and are thus the main operational instruments for the Five Year Plan.

The Central Ministries are closely associated with the work of the

Mr Sen Gupta is Joint Director, Natural Resources, Planning Commission

Commission not only through the Working Groups but also through their various executive departments, research institutions and advisory committees on many of which the Planning Commission is represented. Of all the Ministries, the Ministry of Finance has naturally the closest relation with the Commission as finance plays a most important role in planning. Apart from the Central Ministries, there are two official Organisations, viz. the Reserve Bank of India and the Central Statistical organisation which are closely associated with the work of the Commission.

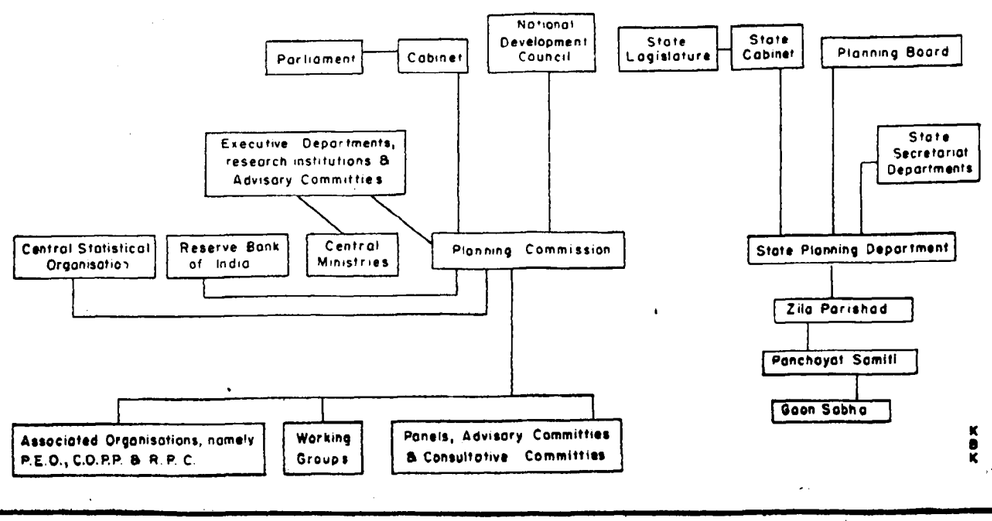
In its relation with the States, the Planning Commission deals with the Chief Ministers on matters of policy, with the State Planning Departments on matters affecting detailed administrative co-ordination at the State level and on specific issues with the State Departments or the Ministers directly concerned. Co-ordination is also sought to be achieved through the National Development Council consisting of the Prime Minister, Chief Ministers of the States and Members of the Commission. Advisers (Programme Administration) are also instrumental in providing an effective link between the Commission and the different State Governments.

At the State level there is a Planning Department generally directly under the Chief Minister. It coordinates the work of other departments for the preparation of development plan and presents reports on the fulfilment of the State Plan. It usually works through the system of Working Groups. It is supported by the State Statistical Bureau. The Plan formulated by it is put up to the Council of Ministers of the State. Proposals for strengthening the planning machinery at the State level through the setting up of Planning Boards was under consideration for some time and now all the States, except Madras and Kerala, have State Planning Boards. The composition of these Boards, however, differs from State to State.

Planning at the district level and the block level has normally been done jointly by the officers of the various development departments working at the respective levels and the members of the District Councils or Block Councils and/or non-official representatives. The District Collectors and Block Development Officers have been responsible for necessary co-ordination at the district and block levels respectively. An attempt has been made to carry the process of planning down to the village level but it has not yet become an integral part of the planning process in the country.

On the basis of the recommendations of the Blawant Rai Mehta Committee's Report, the State Governments have undertaken legislation for reorganisation of the district administration by providing for popular planning organisations between the village and State levels. Panchayati Raj is now under implementation in 12 States in the country. In Madhya Pradesh also Panchayati Raj is likely to be implemented shortly. With the establishment of Panchayati Raj as a tool of area planning in most of the States, Panchayati Raj has now come to stay. Under Panchayati Raj legislation, detailed provisions have been made about the functions of Panchayati Raj bodies at different levels in the matter of preparation of plans, mobilisation of resources and implementation of plans in the district.

PLANNING MACHINERY IN INDIA



Books

U. S. AID : AN INDIAN STUDY

American Aid and India's Economic Development by S. Chandrasekhar, Frederick A. Praeger, New York 1965 and Pall Mall Press, London 1966: Distributors in India: U.B.S. Publishers and Distributors, 5 Ansari Road, Delhi 6. 253 pages. $ *6.50.*

PROFESSOR Chandrasekhar, demographer, economist and Member of Parliament, has in this book studied American aid to India since its inception in 1951. He examines America's growing involvement in India's economic development, and considers whether or not American foreign aid can provide a catalyst to free India from its poverty and low standard of living. In an objective first-hand study which ranges from the first emergency grants of foodgrains in 1951 to the extensive aid programmes of recent years, the author analyses both what American aid has accomplished so far and what it hopes to do in the future.

The first chapter provides a brief and excellent introduction to the nature and magnitude of the economic problem in India. The second chapter examines the concept of foreign aid and the aid received by India from various countries. The third chapter explores the genesis and growth of American aid to India. There is an examination of the controversy arising from aid from a "capitalist" nation to a country wedded to the ideal of a "socialist pattern of society." The next six chapters describe the relevance of American aid to Indian agriculture, health, education, communication and transport and other fields and the role of private aid. The eleventh and last chapter assesses the overall impact of American aid on the Indian economy during the last fifteen years. Here is an evaluation of the influence foreign capital has had on India's first three Five Year Plans and the changes foreign aid has helped to produce in India's economic and political situation. Prof. Chandrasekhar concludes that "The impact has been one of considerable and unqualified benefit to India."

Some valuable appendices, a helpful glossary, a select and useful bibliography and a short index add to the total value of the book.

This book is the first comprehensive study by a distinguished Indian scholar on the subject and has, therefore, something of a pioneering value. More than a catalogue of all aid projects, the book is also a study of the specifics of India's economic life and the sustaining aid she has received from the U.S. Prof Chandrasekhar also explores the problem of other emerging nations—their economic growth and vitality, the general concept of foreign aid and the impact of American money, food and technical assistance on underdeveloped economies. It is not difficult to agree with Mr Paul Hoffman who observes, "In these days when all nations are taking a hard look at their foreign aid programmes, Prof Chandrasekhar's highly informative and clearly written book is worthy of a careful reading."

While this scholarly book is bound to be valuable in promoting better Indo-American relations by pointing out the difficulties on both sides, one wishes that the author had taken more space and given a more detailed and critical evaluation of the issues from both the Indian and American points of view. Secondly, the price of the book is forbidding in Indian rupees. It is hoped that a cheap Indian paperback edition will soon be brought out. B. S. G.

India's Shipping Story

A Short History of Modern Indian Shipping by T.S. Sanjeeva Rao. Published by Popular Prakashan, Bombay. Pages 278. *Price Rs.* 25

S. Srinivasachar

Barely a generation ago one could have encountered in India men steeped in Hindu orthodoxy who believed that travelling abroad was an act against their religion. Sea-voyage, they held, was forbidden by the *shastras*. Many in their sixties perhaps might still recall how those who dared to defy this injunction were subjected to social ostracism. This was the limit of isolationism resulting in total apathy for anything that smacked of adventure or cultural contact with foreign countries.

Naturally, therefore, the glorious epoch of seafaring which had made India both famous and prosperous in the ancient days remained for long a closed book to Indians. It was left to the researchers of recent times to bring to light these forgotten chapters of India's maritime activity. Prof Radha Kumud Mookerji's learned book entitled "A History of Indian Shipping" created a stir among scholars when it was published nearly forty years ago. Subsequently several other books have been published on Indian shipping.

Mr Sanjeeva Rao's book is the latest addition to this literature and is indeed a very welcome addition. In the course of 230 pages he has traced with great competence the history of Indian shipping ever since Vasco da Gama landed at Calicut in 1498.

The history of Indian shipping from the 15th century onwards is in fact the sad story of India's decline as a maritime power in Asia and it synchronises with the rise of the intrepid Western Europeans as the greatest seafarers of the world. The period 1800 to 1900 which saw the emergence of Great Britain as the mightiest sea-power in the world was the saddest period of India's

maritime history and the author has succeeded in bringing in a brief span of about 75 pages the ruthless forces of European imperialism that had brought about the extinction of India's maritime traditions and with it the freedom of this ancient subcontinent. The story of the decline and rise of Indian shipping is narrated against the appropriate backdrop of political events and, wherever necessary, the chapters are documented. From 1919, which saw the establishment of the first large India Steamship Company, to 1965 when Indian merchant marine crossed the 1.5 million gross tonne mark, it has been a long and strenuous struggle against overwhelming odds. Mr. Sanjeeva Rao has presented this thrilling story of achievement with all the force of a simple narrative and without marring it with chauvinism or foot-notes. Appendices, bibliography and index have added to the value of the book. No student of modern history should miss this book.

U.S.A.'S SOIL CONSERVATION

Soil Conservation in Perspective by R. Burnell Held and Marion Clawson. Published for Resources for the Future Inc. by the John Hopkins Press, Baltimore, Maryland. 344 pages. Price $ 7.50.

S. P. Raychaudhuri

THE book, which is one of the several studies in land use and management by the 'Resources for the Future', makes a critical appraisal of the soil conservation efforts in the United States. The book is divided into three parts.

In part I, which deals with the background and growth of soil conservation movement in the United States, the authors assess the concept of increase in population and resources and analyse the productive capacity of soil in relation to inputs and outputs. The role of soil conservation in the productive capacity of the soil has been examined and the motivations for soil conservation brought out. The growth of the soil conservation movement from 1890 to 1964 has been discussed. The standard soil conservation act and the experience gained in implementing the act have also been dwelt upon. The soil conservation periods have been divided into three and it has been brought out that in the later periods the emphasis was shifted to land management for greater productivity as it was realised that erosion was the root cause of deterioration in productivity and this needed to be tackled with utmost priority. This is an important point for consideration under Indian conditions as experience has shown that the follow-up action in this country is not adequate.

In dealing with soil conservation and rapid agricultural change, the authors have discussed the change of farm population and of the number of farms, the effect of settlement patterns and land layouts on soil conservation, relationship between agricultural inputs and outputs, fluctuations in agricultural prices and income, rising land values as a result of soil conservation measures and agricultural surpluses in relation to soil conservation measures.

In Part II, which deals with performance and evaluation of efforts in the soil conservation programme, the authors have discussed the classification of land according to its erosion hazards. It has been pointed out that the assessment of soil conservation needs of a particular area requires a survey of its resources and the land capability. Similarly the use of land capability classification has been emphasised for the urban development planning. The authors have examined in detail the progress of soil conservation in the United States since 1930. In Chapters 9 and 10, critical assessment has been made of the inventory jobs of soil conservation in relation to the crop land, privately owned pastures and ranges, private forests and woodlands and conservation problems on the federal land. Great importance has been attached to the response of the individual farmer to soil conservation particularly in relation to the past benefits and profits.

An important observation made is that the productivity of the land increased considerably as a result of soil conservation measures and also that the total number of farms and the farm population declined steadily since 1940. The adoption of soil conservation measures, however, changed the pattern of agriculture, and the sources of power on the farm changed completely, from horses and mules to tractors and trucks. The input of land also rose for years, then levelled off and still remains at about the peak. Inputs which made the greatest change include fertilisers, machinery and all kinds of production inputs other than labour and land. It has been pointed out that the significance of soil losses lies not in the physical dimensions but in their present and future consequences, and although major accomplishments in respect of soil conservation have been achieved, a big job remains to be done and, thus, although there is cause for satisfaction, there is no room for complacency.

In Part III, the authors have discussed soil conservation in relation to the future economy. They have emphasised the role of science and technology for an ideal soil conservation programme and have concluded that the soil conservation effort faces different and major problems for the next generation which will call for much greater change in the programme than has been incorporated so far. Another important conclusion is that there is a fundamental conflict in the programmes of the U.S. Department of Agriculture, particularly between the extensive programmes for increasing basic land productivity and current output and those aimed at adjusting current output to market needs at desired prices.

Some of the chapters give summaries which are useful to the readers for co-ordination of ideas on different items. The publication is illustrated by a large number of illustrative charts and tables. The observations made in the study are relevant to planning the conservation programme in India. There is no doubt that this analytical study will be a useful reference for Indian specialists and economists for assessing the progress of soil conservation measures in India in the Plan periods and to find out the bottlenecks and shortcomings of the programme of work in respect of researches, development and follow-up action, keeping in view the productivity of the land and economy of Indian agriculturists.

for THE YOUNG by THE YOUNG

THE youth movement, begun in the First Plan period, has been spreading. Several schemes under the various Ministries have been introduced to develop the movement. These cover organisations like the National Cadet Corps, youth hostels, holiday camps, rural youth clubs and young farmers' associations. The objective of this movement, as laid down in the First Plan, is: "The life of youth should not be overoccupied with training and education, but there should be opportunity for self-expression, comradeship, community life and national service."

In order to formulate the youth programme for the Fourth Plan, the Planning Commission set up a Working Group under the chairmanship of Prof. V.K.R.V. Rao. The Group is expected (1) to determine the objectives of a comprehensive national youth programme, (2) to review the existing programmes; and (3) to draw up an effective programme, integrating with it, as far as possible, the existing one.

The first meeting of the Group was held on July 22 and 23, at which Prof. Rao presided. The meeting made recommendations for evolving a national youth programme in the Fourth Plan. The main recommendations are :

1. An autonomous national youth board should be set up, on the lines of the Central Social Welfare Board or the University Grants Commission, for evaluating and inspecting the progress made by the voluntary youth organisations and for giving them grants. The board should also coordinate the activities of the various agencies, for orienting the youth programme to the economic and social development of the country.

2. The programmes should be separate for different categories of youth such as students and non-students, urban and rural, men and women, working and non-working youth, as well as for different age groups.

3. Youth should be involved, besides their development and welfare, in national tasks such as removing illiteracy, family planning, avoidance of wasteful expenditure, cooperatives, combating corruption and other social evils, slum clearance.

4. Among youth welfare activities, poor students should be given facilities of education. Youth clubs, libraries, village festivals, youth hostels, tours, counselling and guidance centres, vocational training centres, holiday homes etc. should be organised.

There is need for intensifying the youth movement. All the youth organisations put together have so far covered only a fringe of the youth population—only about 10 lakh out of the total of 10 crore. Educational and training facilities are not yet adequate. By the end of the Third Plan, only 20 per cent of the youth population in the age group 14-17 had been attending various educational and training institutions. In the age group 17-23, only 2 per cent of the young people benefited from educational facilities. Thus the problem of youth is mostly concerned with the non-student youngmen, of whom 80 per cent live in villages. A national programme has to give attention mainly to this class of youth.

Nagarjunasagar Begins Irrigation

WATER for crops is one of the major needs for increasing our agricultural production. Big river projects have been helping to increase irrigation facilities in the country. In the North, projects like Bhakra-Nangal and Damodar Valley Corporation have already come up. In the South, Nagarjunasagar is the biggest irrigation project. Work has been going on on this project for the last ten years and this year the height of the Dam has reached a level to impound water in sufficient quantity. Everyday the water level is rising by 4 to 5 feet and it was about 500 feet deep early this month. According to the policy of phasing and reaping benefits at the earliest stage, the water can be utilised for irrigation this year.

On the 3rd of this month water from the Nagarjunasagar reservoir was released into the right and left bank canals on an experimental basis. This water is expected to irrigate about 5 lakh acres of land in Andhra Pradesh. On completion, the project will irrigate about 32 lakh acres of land.

The Centre has given a loan of Rs. 2.12 crore for work on the Nagarjunasagar project during the current year. So far the Central aid to this project amounts to Rs. 106 crore.

YOJANA BHAVAN DIARY

THE Draft Outline of the Fourth Plan will be presented to Parliament on August 26. Before that it will be considered by the National Development Council on August 20 and 21.

The Draft Outline was finalised by the Planning Commission at its full meeting on August 9 and 10. The Prime Minister, Mrs Indira Gandhi, presided.

Among the distinguished visitors to the Deputy Chairman, Mr Asoka Mehta, during the last fortnight were: Dr Wilhelm Wolfgang Schutz from West Germany (on July 20), Mr Elliott, new Director of American Peace Corps (July 30), Sir Percival Griffiths, President of the India, Pakistan and Burma Association (August 8), and Mr Phaena Oun Hueuen Norasingh, Ambassador of Laos (August 12).

Mr Chhedi Lal has taken over as Adviser (Resources) in the Planning Commission. He is on transfer from the Ministry of Mines and Metals. He comes in the place of Mr A.B. Guha, who relinquished charge on August 1.

Mr K.P. Sagreiya relinquished charge as Senior Specialist (Forest Resources) on August 8.

Mr R. Subrahmanian, Finance Officer, National Advisory Committee on Public Cooperation, has been appointed Director (Public Cooperation) in the Planning Commission from August 6.



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HIGHLIGHTS

INDIA's first atomic reactor, Apsara, has completed ten years. It has been producing radio isotopes for use in agriculture, industry and medicine.

The power stations of the Mata Tila project in Uttar Pradesh are ready. Three generators, each with a capacity of 10,000 kw, have already been supplying power to 20 towns in Uttar Pradesh and Madhya Pradesh.

Twelve lakh rupees have been sanctioned by the Centre for setting up factories to manufacture agricultural implements in Madhya Pradesh.

The National Seeds Corporation has undertaken a programme to increase the production and supply of high-yielding varieties of seeds of cereals and vegetables.

India has accepted a gift of 14,000 tonnes of fertiliser from Sweden.

Sub-soil water flowing like a river has been discovered in the Jodhpur district in Rajasthan.

The Rajasthan Government will distribute one crore rupees as Taqavi loans to farmers through Panchayat Samitis.

Maharashtra will set up a textile corporation to run four new textile mills in the public sector.

The Union Government has approved the scheme of Mirya Bay all-weather shelter anchorage port in Maharashtra. The scheme will relieve the heavy pressure on Bombay port.

Assam has built its first cement factory at Cherrapunji. Production started this month. The State is preparing for its second cement factory at Bokajan.

Ten thousand tonnes of Rourkela steel coils (valued at Rs. 58.5 lakh or 9,00,000 dollars) are being shipped to the United States.

India and Rumania have signed a trade protocol to even out problems arising out of devaluation of the rupee.

India's trade with East European countries increased to Rs. 287 crore in 1964-65 from Rs. 6.5 crore in 1953-54.

Twenty department stores, 37 wholesale stores and 509 primary retail stores will be opened by September next all over the country to check the rise in prices.

Over nine thousand families of displaced persons have so far been resettled in agriculture, and 250 more families in other occupations, in Dandakaranya.

The University Grants Commission has accepted in principle the setting up of a university at Sambalpur in Orissa.

now... to Umiam Project

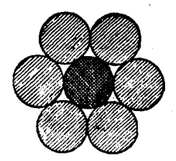
"Ferret" ACSR and "Racoon" ACSR



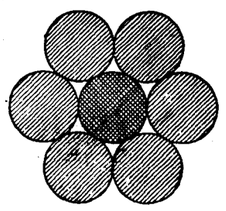
Ferret: *A small yellowish-white animal of the pole-cat variety.*



Racoon: *A small carnivorous mammal with bushy tail and greyish brown fur.*



"Ferret" ACSR *comprises six strands of aluminium of 3mm. dia. stranded over a steel core of 3 mm. diameter.*



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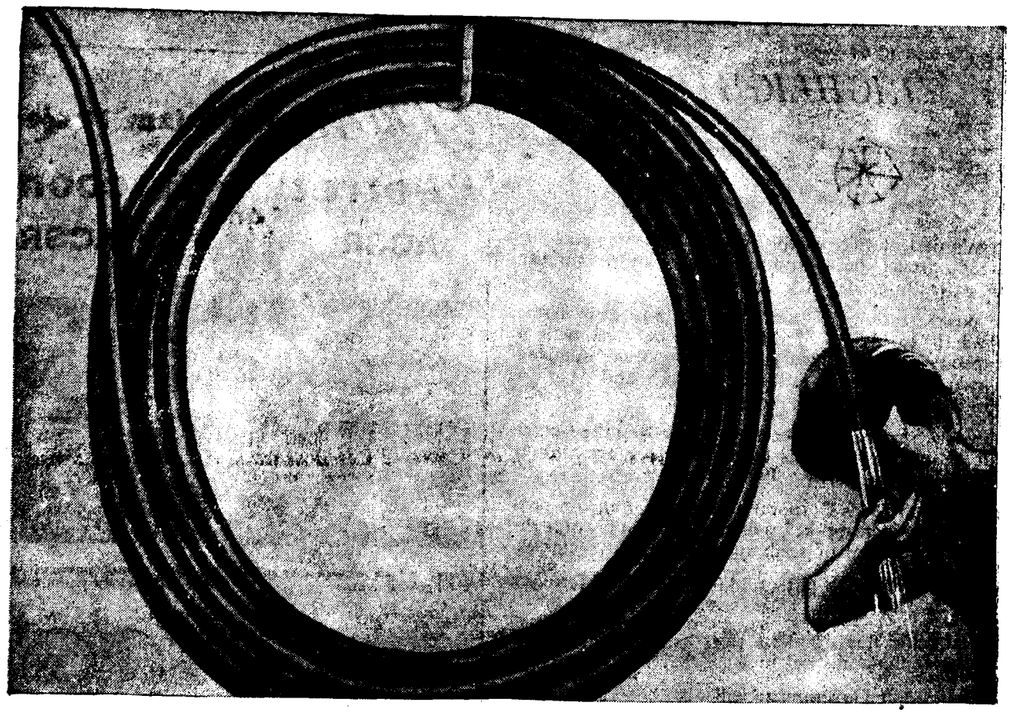
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UPPC-4

ANSWERS TO READERS' QUESTIONS

YOJANA invites questions from its readers, especially students, relating to various aspects of our planned development.

HEAVY BOILERS

P.K. Das Gupta, Bhilai

Will there be any shortfall in the supply of heavy boilers during the Fourth Plan? Is there any proposal to set up a plant for manufacturing such boilers in the public sector?

ANSWER: It is estimated that there will be a demand for thermal power boilers totalling 2.1 million k.w. per annum by 1975-76. The Fourth Plan demand is expected to be met from the capacities available at the existing plants for the manufacture of such boilers.

An American firm has been commissioned to undertake the feasibility report for setting up a project for manufacturing of power boilers to meet the gap of 1 million kw per annum that is likely to occur between supply and demand after the end of the Fourth Plan.

PRICE SPREAD

P. C. Khanna, New Delhi

What is price spread? What is its significance in economic analysis?

ANSWER: Even under ideal conditions, the price received by the producer for his product is not the same as the price paid by its final consumer. The greater the number of stages, and hence middle-men, between the first purchase and the final disposal of commodities, the greater is likely to be the "price spread". Under Indian conditions, price spread is observed to be very considerable in the case of primary products. In an extreme case the farmer may be getting only a half of the price paid by the final consumer. The difference goes into the pockets of the village trader, the commission agents, the urban wholesalers and retailers, and so on.

This is an indication of the lack of proper distributive machinery. The deficiency is sought to be met by cooperative projects and sales agencies and so on to ensure a fair return to the producer. The spread is a measure of the marking cost and the latter should be reasonably low, given an efficient marketing organisation.

ANTIBIOTICS

P.K. Ramanujam, Tanjore

It is reported that the research laboratory at Pimpri has developed two new antibiotics. Will you kindly give some details about them?

ANSWER : The two new antibiotics developed by the laboratory are aureofungin and streptocycline. They are useful in plant protection. Aureofungin is found to be better than blastomycin discovered in Japan. It could also be used against food crop diseases and is expected to replace the copper-based and organic fungicides presently being used in the country. They are produced mainly from copper and other materials imported from abroad.

Streptocycline has been found to be very effective in the control of paddy blight.

Some foreign firms have already shown interest in these antibiotics.

POSTAGE STAMPS

T. P. Shelke, Poona

What is the procedure followed in the issue of commemorative stamps? What is the total cost of such stamps issued in 1965-66?

Has any foreign exchange been earned from the sale of these stamps?

ANSWER: The Philatelic Advisory Committee examines the various proposals for the issue of commemorative and other special postage stamps. On their recommendation the Minister for Parliamentary Affairs and Communications takes a decision.

Thirteen commemorative/special postage stamps were issued in 1965-66. The total cost for manufacturing these stamps came to a little more than Rs 1.46 lakh.

The total foreign exchange earnings from the sale of these stamps through the Philatelic Bureau at Bombay and through Philatelic agents in U.S.A. in 1965-66 came to more than Rs 35,200. These stamps are also sold by various stamp-dealers in India and abroad, but it is difficult to estimate their sale proceeds.

LOOKING BACK

From YOJANA, August 25, 1957

In the last ten years we have done much to achieve a united India. We have amalgamated the princely States into the Union and re-drawn the boundaries of our provinces on a more rational basis. We have abolished separate electorates which had bred racial and religious factionalism in political affairs; we have removed legal inequalities of women and outlawed caste and untouchability. We did all this because our ideal is to build a classless socialist society and these things stood in the way of our achieving that ideal.

Much more remains to be done before our socialist society becomes a reality. We have yet to win the battle against poverty and unemployment. Our chief enemy in the battle of 1957 as in the battle of 1857 is disunity.

We have difficult years ahead of us. As the Prime Minister said, "We are on the blade of a sword." To achieve prosperity, we must fulfil our Second Five Year Plan. Since the Plan is to be fulfilled solely by our efforts, we need to put in every ounce of what we have without dissipating our energies in futile disputes. More than ever before we need unity.

The crisis is neither economic nor political, it is one of character. Let all of us who clamour for protection of racial, linguistic, religious or provincial rights put our hands on our hearts and answer the question Mr Nehru asked his audience in Delhi: "Is your first and primary loyalty to India or to a thousand other small, petty parochial things?"

Regd. No. D-876

QUOTATION BOX

"Who is he (Dr Lohia) to talk on behalf of the women of India?"

—Mrs Renuka Ray

Public opinion is of little value to a nation if too many people express it privately.

—The Granite City (Ili) Press Record

The greatest virtue of free enterprise is that a man would even offer his neck in competition if he thinks there is a chance to get a profit.

—Mr L. N. Birla in "Eastern Economist"

Mr Poonacha told the House that the Salem Flying Club could not be provided with an airstrip although there was a flying club there.

Mr Arora: "How then does the club operate? Do they fly aircraft or kites?"

Mr Poonacha: "I require notice of the question".

—A press report

It's a real friend who likes you in spite of all he knows about you.

—The Dallas (Penn.) Post

It is unfortunate I am a Minister today. I wish I am not.

—Mr T. N. Singh

We have come a long way in emancipating our women but the revolution of their emancipation cannot be complete unless we grant them the right not to have a baby they do not want. I cannot understand with what grace men, who are never pregnant, can deny women this right.

—Dr S. Chandrasekhar, M.P.

His (Mr Kamaraj's) Russian cannot be less than his English.

—"Now"

I don't know which will go first—Rock 'n' Roll or Christianity.

—John Lennon, one of the Beatles.

Our conflict with China is not a conflict with Communism.

—Mrs Indira Gandhi

What isn't done today will have to be done tomorrow, and you will probably be just as busy tomorrow as you are today.

—Lapeer (Mich.) County Press

If ministers wished to give up foreign cars and travel in India-made vehicles, they should have done so long ago and without the accompanying fuss as a concession to propriety and not, as has been done now, as an excessively publicised measure of economy.

—Mr Krishan Bhatia

Mr (Krishna) Menon said nobody could have an 'immaculate conception' of development. "It is a question of when, how, where and how much".

—Report in "The Hindu"

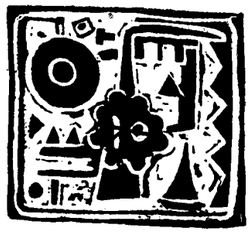
Indian actors...may approach each other with what is known as intent, gaze into each other's eyes with still more intent, and make the first movement towards an embrace—but the fadeout must overtake them before their lips can meet.

—David Lean

In Sukhdev's bright documentary "And Miles to Go" (1964) the following lines were ordered to be deleted:

"Said the poet:
When the world is full of paddy
When the world is full of wheat,
Why should there be thousands
Who have no food to eat?"

—S. Viswan in "The Times of India"



NEXT ISSUE

NEXT ISSUE

The next issue of *Yojana* dated September 4, 1966 will be entirely devoted to a Common Man's Summary of the Fourth Plan Outline. It will bring out the salient features of the Fourth Plan, emphasising those sectors which are of particular interest to the common people. There will be a number of graphs and charts highlighting important aspects of the Plan and also a number of statistical tables.

As there is likely to be considerable public demand for this issue, readers and agents are requested to place their orders in advance with the Business Manager, Publications Division, Old Secretariat, Delhi-6.

The two issues of *Yojana* dated September 18 and October 2 will be devoted to a serious study of the Fourth Plan Outline. In the issue of September 18, some of the leading economists of the country will join in a Symposium on the Fourth Plan Outline. It is likely to be the first Symposium of its kind on the Fourth Plan in the Indian Press.

The October 2 issue will be a Special Number called "Critique of the Fourth Plan Outline". We are expecting a very large number of economists all over the country to contribute searching, thoughtful articles on various aspects of the Fourth Plan Outline, each dealing with subjects in which he or she has specialised. The Special Number will be of 64 pages and will be priced at 50 Paise.

Orders for these two numbers of *Yojana* should also be placed in advance with the Business Manager, at the address noted above.

In subsequent issues, the Editor will welcome short articles, not exceeding 300 words, from readers expressing their reaction to the Fourth Plan Outline. The idea is to open a forum for public discussion on the Fourth Plan and the Editor hopes that the largest number of readers will take part in the discussion.

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25 PAISE

YOJANA

TENTH YEAR 18 SEPTEMBER 18 1966

FIRST SYMPOSIUM ON FOURTH PLAN

YOJANA seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion on problems of social and economic development.

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Although published on behalf of the Planning Commission by the Ministry of Information and Broadcasting, *Yojana* is not restricted to expressing the official point of view.

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The *business office* is in the Publications Division, Old Secretariat, Delhi-6. All business inquiries are to be sent to the Business Manager at this address. Subscribers are requested to make remittance by postal order. They should communicate with the *business office* and not with the editorial office.

Next Issue

The next issue of Yojana, dated October 2, 1966, will be a Special Number of 64 pages, devoted mainly to a Critique of the Fourth Plan Outline.

Many leading economists in all parts of the country, belonging to universities and specialised research and higher studies institutions, have agreed to send in their contributions. Also taking part in the Critique will be some of our ranking economic journalists.

This Special Number is expected to be a distinctive contribution to the national debate on the Fourth Plan.

In view of heavy public demand, agents should please book their orders soon with the Business Manager, Publications Division, Old Secretariat, Delhi 6. The surest way to get your copy is to [illegible] in advance to the Business [illegible] giving specific orders [illegible] by VPP.

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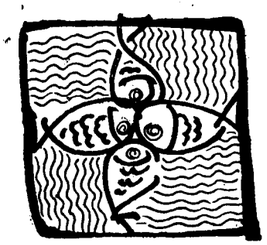
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YOJANA

September 18, 1966 Fortnightly Journal Published on behalf of the Planning Commission Bhadra 27, 1888

Vol. X No. 18

THE GREAT DEBATE



THE Draft Outline of the Fourth Plan constitutes, in the debators' terminology, the opening remarks of the prime-mover. However, its aim is to initiate a debate which has to lead to the emergence of a Plan that could legitimately be viewed as a framework for operational decisions on economic matters in the next five years. The public discussion that follows the presentation of the Draft Outline is in the nature of a consultation; and since the Plan touches all sections of the community, the consultation has also to be with all sections of the community. *Yojana* is happy to present in this issue a part of this great debate in the form of the first impressions of some of the eminent economists in the country.

The Draft Outline, says one of the contributors to the symposium presented here, is neither a manifesto nor a technical document. It can, in the nature of things, be neither of these—since it is not a product of a political party or a research organisation. But the point has relevance in the sense that the Draft Outline has to perform functions of documents falling in either of these two categories. It has to place before the country certain courses of action for acceptance by the people at large; and it has, at the same time, to set out the logical basis of the programme recommended for acceptance. In doing so, the Outline must treat the whole community, rather than any one section of it, as its audience. The very purpose of presenting an Outline will be defeated if it is viewed as either a programme on which people are simply asked to vote for or against, or just a technical monograph to be studied and commented upon by specialists.

Because the Outline seeks, with greater or less success to be both or neither at the same time, it is inevitable that every commentator should focus his attention on some particular aspect of the programme presented. The economists will naturally look at the economic logic inherent in the programme. Insofar as this is their special problem, they have at the same time the right as well as the responsibility to apply more rigid criteria of assessment than the lay commentators. This is not to say that economists have any less claim than the next man to have or express views on political or administrative matters. But it is their judgements on the economics of the Plan which should constitute the meat in their observations.

In the pages that follow, many weighty points have been made, and these will obviously merit serious consideration by the planners. But, perhaps for the reason that there has not been enough time to study

the Outline carefully, much of the comment has been in the nature of doubts about the feasibility or the realism of the Plan programme. No Plan is obviously worth the paper on which it is written if it is not feasible, or if it does not take into account the economic realities. It is therefore right that the economists like everybody else should raise these questions. However, how feasible or how realistic the Plan is in any given set of circumstances, is a matter of judgement. This is especially so when what is sought to be judged is what is likely to be possible over a period of years in the future.

Judgement becomes difficult because feasibility is itself a concept which can be interpreted differently. A Plan may be infeasible in the sense that the men who have to execute it are, for one reason or another, not competent enough for the job. Or, it may be infeasible because the instruments needed for implementing it are adjudged to be politically unacceptable. Likewise, the question of feasibility might arise in the sense that the resources needed may be considered incapable of being produced within the period; and when, as in the case of the Fourth Plan, a sizeable inflow of external credit is required, it might be held that the required amount may not after all become available. But viewpoints such as these cannot be proven or disproven in a completely objective manner. Basically, how one feels about feasibility depends very much on one's interpretation of what is generally called past experience.

The past is doubtless a guide to what could be anticipated for the future. But it is a guide in only the sense that it helps to give a measure of the extent of change required, in a quantitative as well as a qualitative sense, for full implementation of the Plan. When, for instance, it is argued that the resources for the Plan are over-estimated, it amounts firstly to saying that the increase in the national product will not be as much as is envisaged and secondly that the instruments required for resource-mobilisation cannot or will not be effectively used. These judgements derive from individual assessments of what is believed to have happened in some past period and the view one takes of the social pressures that can be brought to bear on past trends. In the final analysis, it is an assessment of the force of prevailing moods and attitudes, of the weight of social inertia and of other imponderables in a process of change that is involved. The basic argument in planning is that social attitudes and institutions inhibiting economic progress can be altered and adapted over a period of years by deliberate policy. And it is on the possibility or otherwise of such social change that a view has to be taken in the debate on the Fourth Plan.

There is little doubt that none of the objectives of planned development can be achieved if, as a nation, we continue to function in the future as in the past. Just as there is no particular advantage in over-estimating the possibility of such change, there is no particular merit in under-estimating it. It is in the derivation of a proper focal point in between these extremes that informed public opinion can materially contribute.

FOURTH PLAN

a symposium

NOT OVER-AMBITIOUS

M.L. Dantwala

AS a Plan document, the Draft Outline is almost perfect. The right sentiment has been expressed with right emphasis at the right places. There is, therefore, hardly anything in it to which one can take exception. Nor is anything left out which needed mention. All shortcomings have been freely confessed. What more can a Plan document do ?

But then, this writer's reaction to earlier Plans was also the same. Good faith was placed in all that was stated ; but to one's chagrin, the hope of each successive Plan has been belied. True, in many respects, the Third Plan period was abnormal, but none of the abnormal occurrences could explain the shortfall in several fields such as fertiliser production and expansion of irrigation. The Planning Commission has explanations for all the failings such as lack of co-ordination, administrative delays and cumbersome procedures ; but these are not new factors, and were known to the Commission when the Third Plan was formulated, and they are still with us. The promise of the Fourth Plan can be taken seriously only on the assumption that things would be different hereafter.

It is a matter of gratification that agriculture has been granted a very high priority. Public investment in agriculture and community development is to be stepped up from Rs 660 crore in the Third Plan to Rs 1,575 crore. Apart from the direct investment in agriculture, special emphasis has been given to production of such goods as fertilisers, insecticides and agricultural implements in the programme of industrial development. All this is very welcome. Agricultural development, however, involves much more than mere provision of finance. Much has been said about the importance of efficient implementation, but since all this is known to the Planning Commission, one does not make any useful contribution by reiterating the obvious. All that one can say is that there is no clear evidence of improvement in the efficiency of varied organisations and institutions which service agriculture.

There would be much scepticism regarding the Planning Commission's avowal of avoiding deficit financing and the maintenance of price stability. There is a stupendous increase in the Plan outlay from Rs 7,500 crore in the Third Plan to Rs. 16,000 crore in the Fourth Plan. Even the smaller Third Plan involved deficit

financing to the tune of Rs 1,150 crore ! While it may be stated once again that in several respects the Third Plan period turned out to be very abnormal, the fact that the consequences of this abnormality—high prices and high costs—have now become a built-in feature of the economy should not be ignored. To an extent, the devaluation has sought to remedy the abnormality in regard to international transactions. Heroic efforts were made in the Third Plan to mobilise additional resources. This has amounted to Rs 2;860 crore against the estimated Rs 1,710 crore ; and although a good part of additional resources was absorbed by the increase in non-Plan expenditure, the net contribution of revenue surplus shows an improvement of Rs 150 crore over the original estimate. In the light of this performance, the effort contemplated for the mobilisation of domestic resources during the Fourth Plan need not be considered as over-ambitious.

Arun Chandra Guha

UNDER THE SHADOW OF AN ECONOMIC CRISIS

THE Fourth Plan has to be taken in the background of the achievements of the Third Plan. It is admitted from all quarters that the country had to face a number of difficulties in the implementation of the Third Plan, and the overall target of increasing the national income by 5 per cent annually has been realised only up to about 2.5 per cent. It should also be remembered that except for one year, the entire period of the Third Plan was definitely bad for agriculture; and agriculture contributes even now about 46 per cent of our national income. Besides, there have been two conflicts with foreign powers during this period of the Third Plan, which necessitated huge unproductive defence expenditure. The hang-over of those conflicts is continuing in the sense that we have to increase our annual defence expenditure by a few hundred crore rupees. Another outcome of those conflicts is a sort of stoppage or reduction of foreign aid for some time, affecting the availability of intermediate goods to feed our industry.

Due to all these factors and due to the inflationary pressure in the internal market, the value of money went down considerably both internally and externally, leading to devaluation of the rupee. The country is, in fact, passing through a financial crisis almost unprecedented during the last 18 years. Many factors have been uncertain; and so the finalisation of the Fourth Plan was delayed by about a year. Even now all the factors are not quite certain. It can be said that the Fourth Plan has been drafted under the shadow of an economic crisis and uncertainty.

In the First Plan we were sure of our internal and external resources; in the Second Plan also, we began with a substantial sterling balance of Rs 902 crore; in the Third Plan, we had no such sterling balance. We had to depend substantially on foreign aid. The same position will continue in the Fourth Plan; and even for internal resources, the position is not quite sure.

Apart from this, inflationary tendency and rise in prices pose a serious socio-political problem for the Government. This has brought another issue before us very prominently—the necessity of avoiding deficit financing. In the Second and Third Plans, we accepted deficit financing as one of the sources to raise the necessary finance, and we utilised that source most recklessly. So the Fourth Plan begins with a number of handicaps. It has not much of elastic sources of revenue, either in the form of new taxation or any cushion of foreign exchange reserve or deficit financing to fall back upon ultimately.

The size of the Fourth Plan poses a challenge for the nation, and also puts a great responsibility on us. We would refer to the definition or implication of planned development as put in the Second Plan Report :

> A plan is an attempt to improve upon the results that can be achieved under an unregulated and uncoordinated play of private decision. It must, therefore, involve certain restraints and incentives..... It is necessary to ensure that sacrifices involved are shared equitably.

The Fourth Plan, as also the previous three Plans, is a call upon the present generation to make an earnest effort with some amount of austerity and sacrifice to build up a new society for the benefit of future generations.

The main objectives of the Plan may be summarised as the attainment of self-reliance and stabilisation of prices. The first objective was as put in the Third Plan Report, "The Third Plan represents the first stage of a decade or more of intensive development leading to a self-reliant and self-generating economy." The responsibility of attaining that stage will naturally fall on the Fourth and Fifth Plans. It would be the obligation of the nation to produce a self-generating and self-sustaining economy as has been reiterated in the Fourth Plan. The nation has to shake off its dependence on foreign countries' bounty and generosity.

For achieving the second objective of the Plan, stabilisation of prices, priority in production should be so fixed that the supply of consumer goods may not so far lag behind the purchasing power of the people; there should not be a wide disparity between the supply of money and of consumer goods. The first item for this is food; next, other industrial goods like cloth, kerosene, shoes, etc., needed by the people for a higher standard of living which they aspire and which the Plan has promised them.

We hope the Government will guide the operations and implementation of the Plan on proper lines so as to avoid deficit financing and any rise in prices. A self-generating economy will then follow somewhat easily. It should also be realised that economic development is almost meaningless without a broader social transformation. It is a slow growth but essential to make economic development purposeful. The people must feel the flow of the social revolution through which they are passing so that they may be enthused to work hard, accept austerity and follow a disciplined path.

K. T. Merchant

INCENTIVE NEEDED FOR PUBLIC CO-OPERATION

THE proposed outlay in the Fourth Plan is not as big as it appears. The argument that the Plan aims at an outlay equal to or more than the combined outlays of the first three Plans is quite misleading because it is on the basis of July 1966 prices. Adjusting the targets of outlays in the first three Plans (which were presumably in terms of 1951-52, 1955-56 and 1960-61 prices) to the level of July 1966 prices, so as to get a correct comparative picture, we find that the outlays in the First, Second and Third Plans were Rs 6,277 crore, Rs 14,494 crore and Rs 16,936 crore respectively, as against the proposed outlay of Rs 23,750 crore for the Fourth Plan.

But the Plans are not to be judged only in terms of outlay. It is an unfortunate fact that our planning has all along been concerned about the targets of expenditure and that a true assessment of actual achievements of targets in physical or real terms has been neglected. Is it the outcome of too much preoccupation with mathematical relations and statistical ratios ? In the final analysis, the success of Plan is to be judged in real terms and not in financial terms and, that too, not merely in terms of production but its actual availability to the consumers at reasonable prices. Then alone can one see the real impact of the Plan on the common man.

Thus the Fourth Plan is to be judged in the light of past performances, the feasibility of the proposed targets during the Plan period and also our resource position. This resource position has to be realistically assessed in the context of the continuous inflationary pressures which have been accentuated by the heavy deficit financing during the Third Plan and the devaluation of the rupee. This is a fact that cannot be written off.

Looked at from these angles, one feels that the Fourth Plan is ambitious and unrealistic. It is true that the planners have eschewed resort to deficit financing unlike in the Third Plan where Rs 550 crore of deficit finance were provided. Not only that, they assert that "financing should be on a completely non-inflationary basis". But they also emphasise that "since the gross inflow of external credits will depend on actual trends in imports and exports during the Fourth Plan period as well as on the policies of the countries and institutions extending such credits, the budgetary receipts corresponding to this item will remain an uncertain magnitude". This is very significant. It is, therefore, not unlikely that deficit financing will have to be resorted to, if the inflow of external credit does not come up to the expected level, which is over-ambitious.

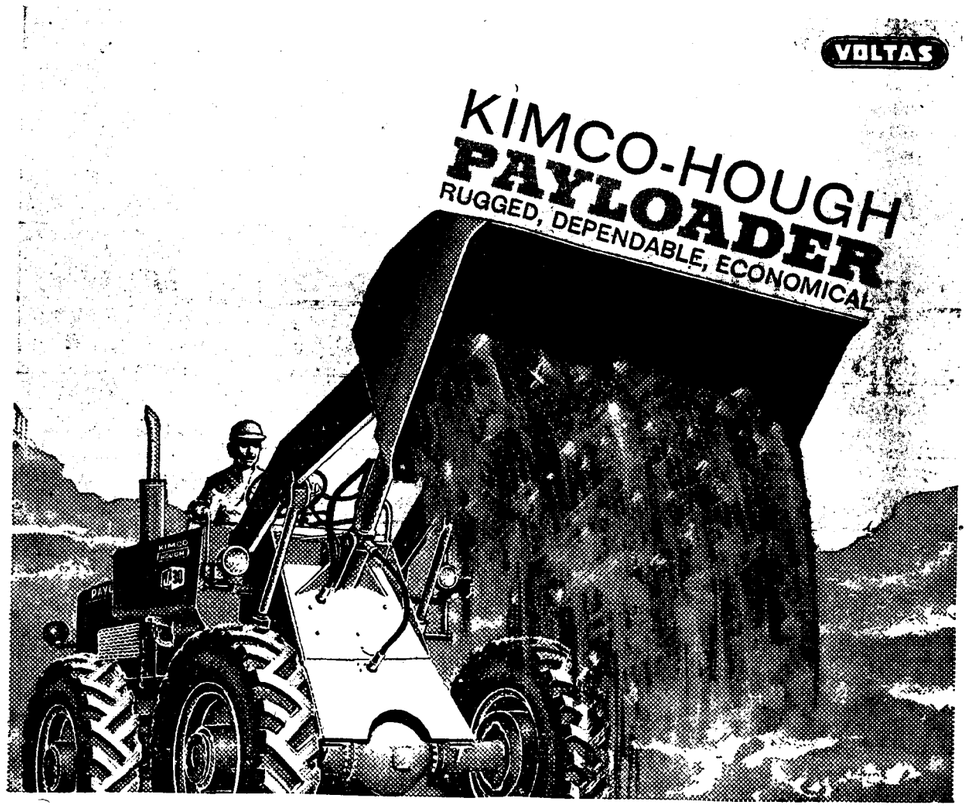
It must be admitted, however, that the deficit finance of Rs 1,150 crore in the Third Plan was due to the increase in defence expenditure compelled by two invasions. The total defence expenditure during the Third Plan period was of the order of Rs 2,881 crore. It rose from Rs 289 crore in 1961-62 to Rs. 769 crore in 1965-66. This increase was over three times the defence expenditure of Rs 248 crore in 1960-61. Assuming the average defence expenditure at Rs 300 crore a year, the excess of expenditure during the Third Plan period comes to Rs 1300 crore—an amount larger than the actual deficit finance of Rs 1150 crore resorted to during the period. The Plan did suffer grievously by this factor which diverted the resources to unproductive channels.

We must assume the continuance of the present level of defence expenditre. The probability of an increase in it, however, cannot be ruled out in the existing circumstances. It is unrealistic to assume that defence and development can go together in the context of our limited real resources.

Moreover, the feasibility of the various programmes suggested by the planners regarding resource mobilisation is extremely doubtful in the existing institutional framework. These can be called mere aspirations in the present set-up which would need a radical transformation for their fulfilment.

The most crucial factor in the entire planning is public co-operation and participation. No concrete incentives are spelled out for this. To enthuse the public, we need a complete break with the present attitudes and behaviour patterns.

A Plan is not a dream or a vision ; it should be a blueprint of actual achievable targets so that there need not be a wide gap between promises and performances. An ambitious and unrealistic Plan is likely to create despair and disillusionment and the resulting frustration might make the people lose faith in planning itself.



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S. Chandrasekhar

Family Planning Priority Welcome, But...

THE Planning Commission deserves the country's warm congratulations for giving family planning top priority. Even the most casual student of our economic problems cannot but concede that the problem is simply one of poverty, one of balancing our limited resources with endless but legitimate needs, reconciling soil fertility with human fertility.

Our poverty is aggravated by the large annual addition—more than 12 million a year—to the existing population. Since our numbers are massive, even a modest rate of growth—and our rate of growth of 2.4 to 2.5 per cent is *not* modest—adds to our burden. Today we are nearing 500 million. And we cannot afford to add to this burden but we are bound to add to this as the death rate in all its components (infant, maternal and overall mortality rates) is registering a dramatic decline.

What is really crucial is not even the decline in the death rate, but an increase in the expectation of life at birth and total life span.

The ability of a population to register a modicum of surplus over current consumption depends, among other things, upon the fraction of life span that can be devoted to productive activity as part of the labour force. If a person starts work at 15 and dies at 30, his productive career is only half of his life span. But if he dies at 45, his productive career is increased to two-thirds of his life. What matters, therefore, is the ratio between an individual's maintenance cost during the unproductive period to his total contribution to the national output. In other words, it is the expectation of life and not the rate of growth of population as such which is the determining factor in the process of economic growth or stagnation. Thus, while the increase in life expectation to 50 years is welcome, it also means the possibility of a higher fertility.

Our first concern is to feed, clothe, house, educate and keep the existing population in good health. How one wishes we had the resources to give all our people a New Deal. Since we do not, we ought not to make the problem more intractable by adding more people to compound the misery. We certainly cannot afford to reach 560 million or more in the next five years.

But we have good news. Rupees 95 crore will be spent on family planning in the Fourth Plan period ; this is almost four times the outlay in the Third Plan. This is much but *not too much* and, fortunately, further funds (Rs. 144 crore), on an annual basis, may not be wanting to implement all the worthwhile family planning programmes.

In 1956 we had less than 150 family planning centres, the number increased to 11,474 by 1965-66. During the Fourth Plan there will be 28 new regional family planning training centres which will train medical and other workers to man the new family planning centres in the 5,000 Community Development Blocks that will be opened.

We shall need more doctors and other medical personnel. During the Fourth Plan period medical colleges will increase from 87 to 112. The total number of doctors is estimated to increase to 1.31 lakhs by the end of the Plan period.

All the scientific methods will be available but emphasis will be rightly laid on I.U.C.D and sterilisation. Once the female system tolerates the I.U.C.D, it can be considered the best method because of its acceptability, efficacy and reversibility. And in other cases, sterilisation, preferably on the male, can be performed. There are about a hundred million families in our country today. *The aim must be to give I.U.C.Ds. to 50 million mothers and sterilise one million fathers during the Fourth Plan.*

But we shall have problems. Money is not enough. It cannot buy everything. We have, first of all, to create the motivation in the rural areas for the poor mothers and fathers to create the demand for family planning services. What is needed is dedicated propaganda with the zeal of a missionary. It is doubtful whether all Government servants can do this.

Secondly, we need doctors and other personnel who enter this field not so much for emoluments (necessary though they are) but with a spirit of service to meet a challenge, a national crisis. I have no doubt that we have plenty of such young men and women in our country. We must have the capacity to attract such people.

Thirdly, do we have the ability to spend this large amount of money ? Do we have the necessary top leadership from the Centre and State ministerial level down to the Directors of Public Health and State Family Planning Officers? One Dr Sushila Nayar at the top cannot solve the problem alone. We need more enlightened people. It is a well-known scandal that several States have not spent the money earmarked for family planning, while there is a pressing need for the services. Care must be taken to see that this is not repeated.

Fourthly, supplies and services must be available to all mothers and fathers all over the country, almost on a 16-hour-a-day schedule. Once we put our fight against improvident maternity on a war basis, we can do it. Let us not go through mere motions as we have become used to in some sectors of our national endeavour.

And, lastly, the success of family planning as a national movement depends upon our ability to rope in every individual, association and institution sympathetic to our cause. Let not government servants and institutions stand on protocol. There are countless non-medical and non-clinical approaches in the solution of our population problem. These need not be forgotten. We must launch a multipronged drive. We are bound to win.

C. N. Vakil THREE KEY PROBLEMS

WHILE appreciating the great amount of careful work put in by the Planning Commission in evolving the Draft Outline of the Fourth Five Year Plan, it may be appropriate to comment on a few key problems which may determine the course of the economic events in the immediate future and help or hinder the implementation of such a Plan. Among these the following may be mentioned, (1) the price policy, (2) the export policy and (3) the machinery for implementation of the Plan.

The main causes of rising prices are (1) the long gestation period for big projects; as these are launched in quick succession, there is continuity of the consequent process of large quantities of money being pushed into circulation without the production of goods for long periods; (2) the existence of large unproductive expenditure either for the Plan or for non-Plan activities, which does not result in consumer's goods; (3) the wasteful expenditure in Government because of inefficiency, corruption or other causes, and (4) deficit financing. While saying that deficit financing will be avoided, the Planning Commission has not taken into account the other causes of rising prices, which will continue perhaps with greater intensity because of the large dimensions of the Fourth Plan.

In view of the devaluation of the rupee, it was necessary to decide that the economy must be reoriented to the needs of the export markets and production in agriculture and industry reorganised. This has not been done. This would have involved important changes in the proposals.

Among the causes of the failure of the Third Plan, the weakness of the administrative machinery was important. Though a few general aspects regarding the implementation of the Plan have been discussed, there is nothing to show the awareness of the problem and the urgent need for taking effective steps to remove the evils in the system. Unless positive steps are promptly taken to give tangible proof to the people regarding the proper use of public resources, it will not be easy to prevent the growing belief among the ordinary citizens regarding the possibility of the increasing misuse of public resources by those in charge.

S. B. Rangnekar

Outlays Not Linked With Performance

ONE way to plan is to budget for the investments in real assets the nation must have over a given span to reach desirable heights in living standard, and trust that the 'finance' for asset formation will, by and large, take care of itself. The other is to make a sober assessment of resources and not to allow the desirable get-out-of-line with the feasible in-getting-on to the heights. For the first time in our planning experience we have been willing, no doubt after a considerable self-search, to follow the second way. Even so, the controversy over the size has not died down and it continues to mask the basic issues.

What is relevant is : (a) how soon we can close the existing savings gap, between investment running at 14 per cent and domestic saving at 10.5 per cent, of the national product ; (b) to what extent, as a second best, we do not allow the gap to widen over the next five years, despite the struggle to attain a 5.5. per cent growth every year. It is evident that any failure to close the gap will only strengthen the inflationary pressures. The success of the Plan must, then, hinge upon prices being firmly tethered to levels of productivity. Does the Draft Plan envisage an effective machinery for achieving this end ?

No doubt the well-known prescriptions are written into the Draft Outline either by implication or in a clear-cut way. All the same, one important area, which directly impinges upon prices, costs and savings, hardly gets its due—Linking Plan outlays with performance audit.

Our fifteen-year plan record only shows too plainly how between the 'idea and the reality, between the motion and the act, fall the shadow', or the logic of preference it works out ; surely not by the subtle nuances of its drafting. Performance is the only witness one calls in and believes in. No doubt the successive Plans for the Centre and the States work out targets in real terms and the corresponding accomplishments. But then what ? No legislature knows how the financial outlays are matched by the emergence of durable assets on time as scheduled in project blueprints. In the private sector plans, this is safeguarded by the logic of profits *vs* costs. Our plan machinery is seriously wanting in regular project-by-project assessment reinforced by a tariff of rewards and penalties linked with the primary and secondary impact of the projects.

In this context special importance attaches to the utilisation of foreign exhange resources, whether project-tied or not so tied. Delays in utilisation imposes a much greater (potential) loss than is reflected in financial measures. The Plan does not get behind the surface issues : why the authorised and uti ised aid lags from one period to another ; how these lags can be cut down not by exhortations but by the financial inducements or their reverse.

The Draft Outline also appears to be lacking in strength in regard to the Centre-State relations *vis-a-vis* plan implementation. The November-December parleys held every year in the *Yojana Bhavan* on the plan progress and assistance have a close resemblance to the auctioneer's market. How can this disturbing situation be controlled and the States made Plan-efficient ? This issue requires more thinking than what it has earned, at any rate, in the Draft.

K. S. Sonachalam

TOP PRIORITY FOR AGRICULTURE REALISTIC

NEITHER the objectives nor the priorities of the Fourth Plan need any comment. The former are consistent with the ethos of our Constitution and aspirations, and the latter with the fruits of our hard experience. It is the mobilisation of financial resources, implementation of the agricultural programme, achievement of the targets of export promotion and import substitution, holding the price line and the strategy for enlisting wholehearted public co-operation which warrant some comments.

In the art of mobilisation of financial resources, the eschewal of deficit financing and the emphasis laid on domestic savings are points on the credit side. By far the largest source is taxation—taxation of the pre-Plan period and the measures adopted this year and contemplated in the future amounting to nearly 3/8ths of the total of Rs 16,000 crore. Despite low levels of income and taxable capacity, the economy has shown, particularly after the foreign aggression, a high degree of resilience. Hence this target may not be unfeasible. However, the surplus from public enterprises and the railways seems to be rather high-pitched in a milieu in which the "no profit, no loss" principle has for long held sway. Even in electricity schemes, the dead hand of custom and tradition blocks efforts towards creating surpluses. Similarly, the combined total of Rs 2,500 crore to be raised from loans and small savings is a stiff target. Even if realised, there is a big risk of achieving merely book-keeping credit without mopping up real savings. If this risk materialises, it will add to the inflationary spiral. External credits are in Fortune's lap and are a function of exogenous factors of international diplomacy.

The highest priority accorded to agricultural production is indeed imbued with a deep sense of realism. The problem of implementation appears *pro tanto* stupendous. Even from 90 million tonnes (based on potential created in 1965-66), to reach 120 millions is to achieve more than 33 1/3 per cent of additional output. This target depends on stepping up nitrogenous fertilisers by 233.3 per cent and phosphatic by 566.7 per cent. Imports-*cum*-domestic production should rise to these tremendous levels; they perhaps may, but certainly a time lag there will be. The entire agricultural target hinges on closing this time lag. Stepping up the acreage under green manure from 21.5 to 64.0 million acres will be a *tour de force* in the sphere of administration. Full utilisation of the irrigation potential, hoping minor irrigation performance is faithful to targets, offers another species of exercise in administrative efficiency.

Export promotion has so far remained a hard insoluble lump. This could not have been otherwise, regarding the traditional variety of raw materials and consumer goods, in a growing economy with income-flow into lower income groups with the highest propensity to consume. To a lesser extent the same logic holds for the new types of exports like electric-motors and sewing machines for which income elasticity of demand is pretty high. Successful efforts in this direction involve a panoply of physical controls. Import substitution presents the other side of the medal in the economy striving to reduce the balance of payments disequilibrium. To what extent the private sector will respond to the policy of import liberalisation in developing machine-building rather than machine-importing depends on its innovating spirit and risk-taking attitude and enterprise.

After the recent sharp upsurge in prices, the economy is overloaded with inflationary pressure. Even the slightest retreat on the agricultural front is bound to cause an explosion in prices. A multi-pronged strategy is called for to stabilise prices. Efficient government or co-operative distribution alone would not suffice. Products must abate the profit margin, consumers their appetite and workers their restrictive practices. All this entails a psychological revolution in the minds of the public. In bringing this about lies the success of Government strategy.

P. C. Goswami

IMPLEMENTATION CRUCIAL

THE Fourth Pan envisages an outlay of more than the combined outlay during the previous three Plans. In the public sector alone the amount of the proposed investment will be around two and a half times the investment made during the Third Plan.

Investment of such a large sum of money in proper manner would require an efficient implementation machinery. The burden of implementation of the Plan would fall on the same administrative personnel who were responsible for the successes as well as the failures of the first three Plans. The same administrative machinery will have to take up the task of mobilising the private sector, for an investment of nearly the size of the Second Plan outlay under both public and private sectors.

To ensure proper implementation it will be necessary to fix responsibility at each stage of administration with fixed physical targets to be achieved within a reasonable period. When a project is in progress, there should not be much dislocation of the project-executing machinery,

JAMSHEDPUR STEELMEN WIN SHRAM VIR NATIONAL AWARDS

In March 1966, the Government of India held the first ceremony to honour the country's new heroes—technicians and industrial workers—with *Shram Vir* National Awards. These awards will be made every year in recognition of suggestions leading to higher production at less cost.

Of the 27 awards this year, no less than five, including two top prizes, went to Tata Steel employees—the largest number won by any industrial unit in the country.

At Jamshedpur, during the last 20 years, employees have put forward over 12,000 suggestions, of which nearly 1,000 have been accepted. These suggestions have helped to increase productivity and make operations safer, and have led to the utilisation of local know-how and materials for self-reliance.

Tata Steel is proud that it pioneered the Suggestion Box Scheme to encourage initiative from the shop floor ... a scheme which is becoming a standard industrial practice in India today.



R.C. BHAKAT
won top award of Rs. 2,000 for suggesting modifications to the New Floor Charger in the Plate Mill.



M.M. MAZUMDAR
won top award of Rs. 2,000 for suggesting use of basic bricks in door arches of open hearth furnaces.

TATA STEEL



K.B. DUBEY
won Rs. 500 for devising a gadget for protecting wagon brass-bearings from pilferage.



BALWANT SINGH
won Rs. 500 for suggesting modifications to top coolers of open hearth furnaces.



AFZAL HUSSAIN
won Rs. 500 for suggesting modifications to the side frame of L.B. wagons.

The Tata Iron and Steel Company Limited

JWGTN 2274AB

especially that of the head of a particular project, by transfer, retirement or promotion.

To gauge the progress of work at each stage there should be an efficient evaluation machinery. Such a machinery need not scrutinise all the development works. But it will be able to indicate failures, loopholes, successes, deficiencies and so on and suggest remedial measures by surveying a few instances. Apart from the evaluation machinery at the Centre, such machinery should be set up at the State level under the State Planning Board.

Whatever may be the size of our Plan, a common man will judge the performance of economic planning in terms of quantity of goods and services he can acquire at reasonable prices. We must be able to provide each citizen, even the lowest in the society, with certain minimum requirements in respect of food, shelter and social services.

Frequent and suddden changes in policy dampen public enthusiasm and lower public confidence on Government's intention and strategy. A very recent instance of such a change of policy is the abolition of State trading in paddy by the Assam Government in June. As a result, rice prices in the market increased by 35 to 40% within a fortnight. The Government as well as the consumers have become dependent on rice mill owners. This shows Government's lack of confidence in its own ability to provide food to the country through efficient procurement and distribution. We must be sure of our aim and try to achieve the goal instead of expressing our helplessness in a crisis.

It is encouraging to see references to some of these problems in the Draft Outline I feel our urgent need is to improve our execution process. Spending money unsullied by financial irregularity or audit objections is one thing and achieving physical targets is quite another. Sooner we realise this, better it will be for the country.

The magnitude of the planned targets and the anticipated rate of growth should force us to improve the implementation machinery at all levels. Definition and abstraction of our objectives will have little meaning unless we improve the efficiency of our productive and distributive units—whether it is in the public sector or the private.

O. P. Gupta

AUGURS WELL FOR IMPLEMENTATION

THE Fourth Five Year Plan is a management-oriented Plan. So it augurs well for successful implementation. In Chapter X of the Draft Outline, it has been observed, "The largest improvements in the existing systems of development administration are now likely to come from systematic application of the approach of modern management." In the operational aspect, the key role is to be played by the Annual Planning Budget system. This will provide a close link between the annual assessment of resources and appraisal of performance. The actual performance will be compared with the planned performance, and the shortfall, if any, will be made good.

On Page 61, it has been estimated that the economy will grow at the compound rate of 5.5 per cent per annum. But, during the Third Plan period, the rate of growth was less than 2.5% per annum. The low percentage of growth was attributed to, first, adverse weather conditions; secondly, external aggressions; and thirdly, suspension of foreign aid. All these three factors may still operate during the Fourth Plan period. Therefore, it is improper to estimate the rate of growth as more than 2.5% per annum. Further, the compound rate of growth of Real Product, during the years 1952-63, has been computed at 2.5 per cent (Reference—India Pocket Book of Economic Information, 1965, page 148). The computation of the growth rate, on the basis of real product, appears to be more realistic.

For financing the outlay of Rs 16,000 crore for the public sector programmes, the Planning Commission envisages that a balance of Rs 3,010 crore will be available from current revenues at pre-Plan rates of taxation (Page 80). But, in the light of past experience, it does not appear to be feasible. The actual outturn in the Second and the Third Five Year Plan periods showed that anticipated surplus balances from current revenues turned into deficits to the extent of Rs 50 crore in the Second and Rs 470 crore in the Third Plan, as against planned surpluses of Rs 350 crore in the former and Rs 550 crore in the latter.

An anticipated financial resource of Rs 335 crore for Plan purposes has been estimated from economies in non-Plan expenditure. This has been estimated on the assumption that the rate of increase in non-Plan developmental expenditure is limited to 3½ per cent per annum rather than at 5 per cent. This provision is based on the expectation of rigorous discipline in curtailing non-Plan expenditure which may not, in fact, be possible, especially in view of the rising prices, and the consequent clamour for increase in pay and allowances, by Government servants.

Budgetary receipts corresponding to external credits of Rs 4,700 crore (including credits under PL480) have been estimated at the new rate of exchange. This is about 29.4 per cent of the total outlay in the public sector. The provision of external credits of such high magnitude will make the Plan much too dependent on foreign aid, and it is likely to land our economy in foreign exchange difficulties. Besides, it is inconsistent with the objective of self-reliance set out in the Draft Outline.

The Draft Outline makes good reading, and the Fourth Five Year Plan is a bold attempt to bring the country out of the morass of poverty and widespread unemployment, despite all difficulties.

Mohd. Shabbir Khan

A BOLD ATTEMPT, BUT .....

THE Draft Outline of the Fourth Plan is a bold attempt at accelerating the rate of expenditure and growth in our country. It envisages almost double the expenditure in the background of grave shortages and failure of the Third Plan. The review of the achievements of the Third Plan presents a gloomy picture. It shows that except for one year, 1964-65, agricultural production did not show any increase and industrial production was much below the target. The national income increased only by 12 per cent or just enough to keep the per capita income the same as by the end of the Second Plan. The prices of agricultural production rose by 48.4 per cent and those of industrial raw material by 32 per cent. Towards the end of the Third Plan, there has been a continuous price spiral as a result of an ambitious development plan combined with the high level of defence expenditure. As a matter of fact, the devaluation is an open admission of our living beyond our means for long.

And yet it has been suggested to raise the total public outlay from Rs 8,631 crore in the Third Plan to Rs 16,000 crore in the Fourth Plan. It is true that the value of the devalued rupee will reduce the total value of the Fourth Plan outlay to some extent insofar as, in the industrial sector, imported machinery and raw material will play a considerable part. Nevertheless, the stepping up of expenditure during the Fourth Plan in the present state of affairs is certainly being ambitious. If the per capita income during the Third Plan remains as it was towards the end of the Second Plan and the rate of savings increased only from 9 per cent to 10½ per cent, how can we expect that the additional real savings will be raised in order to almost double the expenditure in the Fourth Plan ? During the Third Plan when the public outlay was almost half of what we are planning for the Fourth Plan, the Government had to resort to deficit financing of the order of Rs 1,150 crore. The fact that the Fourth Plan rightly emphasises a definite and complete eschewal of deficit financing makes it very doubtful whether it will be possible to find resources of the magnitude suggested for the Fourth Plan.

Apart from the difficulties of securing the requisite foreign aid, there is evidence to show that the internal resources will fall much short of the requirements. There was a deficit from current revenue during the Third Plan of the order of Rs 470 crore. This deficit is expected to turn into a surplus of the order of Rs. 3010 crore at the present level of taxation by means of better tax collection and economy in public expenditure. While some economy in public expenditure can be allowed for, it is impossible to envisage that the Government can economise a great deal in view of the pressures from various ministries, States and, on top of all, defence expenditure which cannot be reduced in the present state of danger. An amount of Rs 1,800 crore is expected to be raised through changes in the taxation and price policy of the public undertakings. There is an unfounded optimism in raising the export target to Rs 8,030 crore in the background of sluggishness for our exports in the world market.

The Draft asks us to shift our attention from the failure in the agricultural and industrial sectors during the Third Plan to the many structural changes that have taken place in the country during the one-and-a-half decades of planning. But it does not underline the distortion of the economy insofar as there has been an all-round scarcity of consumer goods particularly of food production and the lack of human capital manifested by the inefficient organisation and administration. There is a pious hope that during the Fourth Plan the administration will be geared up to keep up with the requirements of the Plan. The essential consumers' goods is to be made available through expansion of State participation and control in both wholesale and retail trades. There is virtually no discussion of the market forces in the context of our price policy. Although agriculture is said to have been given the highest priority in the Plan, yet not enough has been provided even to carry on the commitments of the irrigation projects of the earlier Plans.

A comparative study of the allocation of outlays on various items of expenditure shows that whereas the expenditure on organised industries and mining is expected to increase more than twice, that on agriculture is not expected to even double. The Draft suggests that if expenditure on all items of direct and indirect benefits is taken into consideration, then the expenditure on agriculture will be twice as much as in the Third Plan. Even that is less in proportion to the proposed expenditure on organised industries. The great part of responsibility for carrying on the programmes of agriculture has been shifted on to the administration. It is amusing to find a suggestion that the Cabinet Minister who has the highest drive and organising capacity should be incharge of agriculture, implying thereby that the shortfall in the agricultural production during the Third Plan was due to the inefficiency of the Agriculture Minister !

There is need to revise both the basic objectives and the priorities of the Plan. The need for correcting the distortion in the economy at this stage can hardly be over-emphasised. It is no use planning for expansion of iron and steel when the people at large are suffering from acute shortage of basic consumer goods and the economy is showing signs of run-away inflation. The public sector should concern itself as far as possible on the development of agriculture and the infrastructure including power, transport and technical education.

The Plan also needs drastic revision of the final targets and expenditure to bring it in line with the real resources of the country.

Bhabatosh Datta

SOME QUESTION MARKS

THE two basic questions which arise in regard to any Plan are its social adequacy and its feasibility. The adequacy of a Plan depends, in its turn, on the objectives set out and on the pattern of allocation of resources. The first is largely a matter of value judgement, but in a country in which the elementary wants have not yet been met to the full, there should not be much difference of opinion about what is needed. Given this, the allocation problem is a purely technical one and it can be expected that our new Plan is based on technological data which can be broadly relied on.

The question of feasibility is, on the one hand, one of mobilising resources and, on the other, of the efficiency of the machinery of implementation. It is here that there are certain question marks. The difficulty one feels about the estimates of resources given in the Draft Outline arises mainly from the non-comparability of the data provided. The information that the total amount of financial resources mobilised during the Third Plan was Rs. 8,630 crore against an original estimate of Rs. 7,500 is misleading because the original estimate was made at 1960-61 prices and the *ex post* estimate is merely a sum of annual money figures each at the prices of the year concerned. A substantial part of the increase in receipts must have been due to rise in prices. The impact of price changes on revenue receipts is direct and large in the case of all *ad valorem* taxes, specially the sales taxes. It is also large in the case of taxes on incomes which necessarily go up in money terms with rising prices.

There is, of course, the fact that it is difficult to devise an appropriate deflator for making the *ex post* figures comparable with the *ex ante* estimates. But caution is necessary before conclusions are drawn from the information given that the mobilisation of resources through additional taxation etc. during the Third Plan period was fifty per cent about the original estimates. This has to be emphasised because past experiences are naturally projected into the future and, to a superficial observer, the performance in the Third Plan period would seem to justify the substantial step-up in the estimates for the Fourth Plan.

The estimates for the Fourth Plan are modest in respect of additional taxation. But the difficulty has shifted now to the estimated balances from the non-Plan account. These balances were originally estimated at Rs. 550 crore under the Third Plan, while, in actual result, there has been a negative balance of Rs. 470 crore. For the Fourth Plan period this estimate has been put at Rs. 3,010 crore. There is a further amount of Rs. 335 crore expected from economies in non-Plan expenditure. The total amount of the non-Plan surplus to be carried over to the Plan budget is thus Rs. 3,345 crore. If past experience is any guide, the greatest difficulty in financing the Plan is likely to arise here.

Just as there is a persuasive appeal in the term 'Plan expenditure', there is some sort of a shadow of aspersion on what is described by the portmanteau term 'non-Plan expenditure'. One has to be reminded that non-Plan expenditure is mostly unavoidable expenditure and that it includes all the expenditure for carrying on the accepted duties of the Government and also for maintaining all Plan schemes adopted during the earlier Plan periods. The scope for getting a substantial surplus from the non-Plan account has, therefore, to be very cautiously examined. One can, of course, argue strongly against new additions to non-Plan expenditure but the major component of such additions is likely to come from the expenditure on increases in pay and dearness allowances. The scope for reducing such expenditure will be dependent on the efficacy of the policies that will be adopted with a view to price stabilisation.

The other element containing a question mark is the quantum of foreign assistance. The mere fact that the Fourth Plan estimates have been made at the new rate of exchange does not seriously affect comparability with the Third Plan figures, but one hopes that the re-calculations necessitated by devaluation have been carried out in detail for each import-using and export-providing item. The real point here is how far the new figure of Rs. 4700 crore is derived after a full consideration of all export and import prospects and other balance-of-payments factors. The disconcerting element in the picture is that the import and export estimates appear to be mere arithmetical adjustments of the original figures, involving the presumption that devaluation will not affect the physical quantities at all.

Along with all this there is the problem of Plan implementation. Here again past experience shows that the most important bottleneck arises from administrative delays and inadequacies. This has been recognised for a long time, but very little progress has been made in streamlining the process of putting the Plan schemes into effect and carrying them to completion within the scheduled time. Planning is a bold venture and it will be unfortunate if it continues to remain inhibited by old methods from which many have not been able to cut themselves away. The information that there is a Plan to be implemented does not seem to have reached some of the persons or groups who exercise decisive authority over details.

Of late, Yojana has been devoting most of its pages to the Fourth Plan. Some of our regular features are therefore withheld. They will be resumed soon after the next issue.

H. Laxminarayan

TASKS CLEARLY INDICATED

UNLIKE the earlier Plans which enunciated the objectives in vague terms, the Fourth Plan Draft Outline has clearly indicated the tasks to be undertaken. It realises the need for revising the fifteen years' perspective of the Third Plan document for achieving self-reliance, in the light of the unsatisfactory performance of the Third Plan. While indicating the direction in which the perspective needs to be revised, the Draft rightly points out the numerous hurdles to be crossed. The national income target of Rs 19,000 crore set in the Third Plan could not be realised. Even in 1964-65 (a favourable year), national income reached the level of only Rs 16,630 crore. We are not likely to reach in 1970-71 a national income of Rs. 25,000 crore at 1960-61 prices.

While realising the need for revising the perspective, the Planning Commission is, however, reluctant "to lower the sights of perspective planning below the targets previously proposed" as "the pull with which an understanding and acceptance of the need for creating a socialistic society can give in terms of mass movement in the developmental process, will be enormously strengthened if the perspective for development includes the material and institutional ingredients for a significant betterment of mass welfare". It is high time that policy makers realised that it would be undesirable to raise the people's hopes by making promises that cannot be fulfilled. If the gap between promises and performances goes on increasing, it may create frustration at all levels instead of strenghening "the national will for the reduction and elimination of constraints based on current attitudes to consumption, savings, work, *swadeshi* and exports".

The very fact that the Third Plan Outlay of Rs. 8,630 crore was substantially higher than the original provision of Rs 7,500 crore and also that requisite foreign aid was made available (except in the last year of the Third Plan) indicates that the people have made the necessary sacrifices for the Plan. If the Five Year Plans have not been able to deliver the goods, it has been mainly due to the Government's inability to implement the programmes chalked out. It is superfluous to say that "it is necessary to stimulate in the people a general willingness to put up with the reduced availabilities" as people have been putting up with these at least for a decade, if not for centuries. Though the Draft Outline claims that resource mobilisation is the kingpin in the Fourth Plan, as a prelude to self-reliance, they can safely take comfort from the fact that lack of monetary resources has never been the obstacle in achieving Plan targets.

As the steps undertaken by the Government to bring down prices were not effective, the Third Plan's progress in physical terms was much below expectation. Deficit financing or no deficit financing, if effective steps are not taken to hold the price line in the Fourth Plan, we are sure to end up with the same story with the necessary financial targets being realised and progress in physical terms being even slower than what we expected. While defict financing did contribute to rise in prices, a substantial part of price increases has been due to the Government's failure to take effective steps to hold the price line.

Experiences of the earlier Plans indicate that inadequacy of agricultural output was the main factor responsible for sharp rise in prices. Though the Draft Outline realises the need for stepping up the outlay on agriculture, the share of agriculture in the total investment has actually been brought down from 14% in the Third Plan to 11.6% in the Fourth Plan. To some extent, this has been made up by building in a high priority into the industrial sector for the physical inputs needed by agriculture. All the same, a higher allocation should be made to the agricultural sector so that the small cultivators are provided with the resources needed for absorbing these inputs. This, when read in the background of the proposed decision of the U.S. Government to change the terms of PL 480 Agreement, makes one sceptical about the Government's ability to hold the price line. In view of this, the Government should take up the responsibility for providing the low income groups with basic necessities of life at subsidised rates.

Though the Outline mentions that external credits (except for inflow through normal commercial channels or international agencies) should completely cease during the Sixth Plan period, there is no assurance that external credit for the Fifth Plan would be of a lower magnitude as compared to that of the Fourth Plan period. The Fourth Plan aims at increasing export earnings by nearly Rs. 1,300 crore (at the pe-devaluation rates) or at the rate of Rs. 260 crore per annum. It looks rather a formidable task to be accomplished. This is particularly so, as the entire increase has to take place during the last four years of the Fourth Plan period. If this high target cannot be achieved, the gap will have to be covered by resorting to external credit, which, in turn, might defeat the objective of achieving self-sufficiency by the end of the Fifth Plan period.

Achievement of numerous objectives, such as speedy termination of dependence on external credit, speedy building up of country's capacities for both capital formation and adequate consumptions, price stability, assuring minimum level of living to every family in the country, reduction in income disparities, giving up of deficit financing and providing employment to people, looks rather formidable. Since many of these objectives are in conflict with each other, they need to be placed in a more realistic background.

THIS INDIA

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

MY milkmaid comes from a village about six miles away from the city. She sells milk to supplement the meagre income she gets from her two-acre land. The other day she entered my house when I was reading the morning newspaper. Just to know how she reacts, I showed her the picture of "Surveyor I" and told her that it had been sent to the moon.

She looked at the picture closely and was visibly amazed. Then I said that man could land there in a few years. She asked quietly, "Well, now that they can go there, do you think they will be able to send us rains in time?"

Dharwar *R. K. Koteshwar*

I was in Bombay during *Bombay Bandh*. As I could not transact any business on that day, I went out to have a closer view of the *Bandh*.

I accosted a villager from amongst the processionists near the Sachivalaya and asked him what it was all about. He replied in confidence that he did not know a thing about it. He belonged to Poona. He was given a free ticket to and fro. The organisers had promised him food and a cash payment of three rupees. But more than all that, what made him join the procession was the organisers' promise that they would show him all the film stars in person.

New Delhi *Tekur*

THE unusually large and alien-looking truck carrying India's most famous glass bangles had come all the way from Ferozabad. At the roadside we asked the young Sikh in the truck if we could buy some. His face glowed with pride as he brought out a few amber bangles from the only box that was left in the truck.

"Will you take them?" he asked.

We wanted a boxful and asked for its price.

"No price. You can have them," he said.

"No, no. How can we take them without paying for them?" we asked condescendingly.

"If you want to pay, I shall not give them to you," he replied with a youthful dignity that had everything bucolic about it.

It was useless to remonstrate with him. In his own village, *choodiyan* were sacred and signified a brother's gift of good wishes to his sister.

"Besides, these are in a sample box, and what is one box worth when we bring truckloads?"

Poona *Miss K.D. Shroff*

IT was the night after Mr. Shastri's death. Came over the radio in mournful tones a talk by a well-known Malayalam dramatist. He began: "I don't know where to begin, how to begin....." And the beautiful prose ran: "He lay in Tashkent with a smile that Death absent-mindedly left behind."

The mourning crowd in the park chimed in unison: "A poignant talk!"

Two weeks later, an article on Mr. Shastri by the same dramatist appeared in a daily. It began: "I don't know where to begin, how to begin....."

Next day, a condolence meeting at the city high school. The dramatist was among the speakers. The audience anxiously waited to hear the reputed author. He got up, smiled his usual wan smile, bowed his head, cleared his throat and was in a thoughtful mood for two minutes. Then in a drolling tone he began, "Friends, I don't know where to begin, how to begin....."

Like a bolt came a voice from a back-bencher in the audience: "Please don't begin at all, if you don't know even after two weeks....."

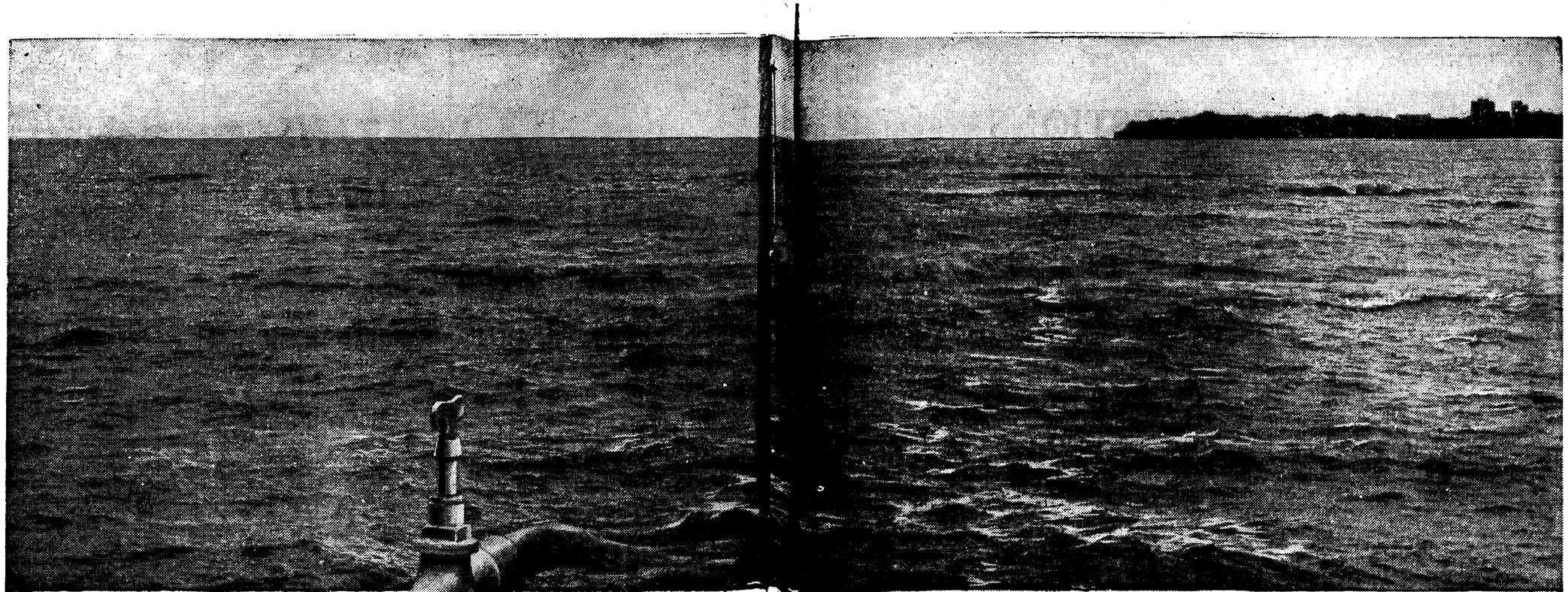
I turned back and saw that it was one among those who listened with me to the broadcast talk two weeks ago.

Trivandrum *B. Gouri Amma*

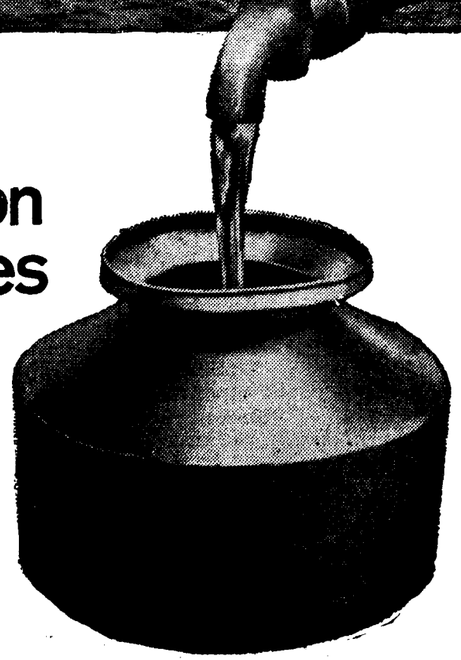
MY husband and I went to see a film in Dhanbad. We took our seats in the upper class. We felt a little uneasy to find a worker in dirty clothes occupying the seat next to us. The gentleman sitting near the worker was an ultra-modern *sahib*—coat, tie and all. I felt the worker had no place in the posh gallery.

At the end of the show the national anthem was played. The worker in dirty clothes immediately got up and stood attention in reverential deference to the flag while the *sahib* was forcing his way towards the exit.

Patna *Mrs Leena Sinha*



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T. N. Srinivasan

SOME PERTINENT QUESTIONS

A Plan Outline could be either a manifesto for rallying the people around a desirable programme for development or a technical document stating the assumptions and techno-economic relations from which the targets of the Plan are deduced. Our past three Plan Outlines did not serve either purpose fully, nor does the present one. The document is too long, too dry, and too platitudinous to be a stirring call for action. Nor does it spell out fully even the most aggregative type of relationships, let alone the details of inter-relationship between various parts of the economy. Anyone who tries to check the internal consistency of the Plan in an aggregative framework is doomed to be disappointed.

Even if one rules out any detailed check on the internal consistency of the document, one can still ask some pertinent questions. Does the document show any critical appraisal of past performance and draw some valid lessons for the future ? Does it avoid vagueness and platitudes and spell out the detailed rather than general policy measures that will be needed to implement the Plan assuming it to be internally consistent ?

The answers to these questions are in the negative. It is claimed that weather conditions were adverse in three out of five years of the Third Plan. The hostilities with the Chinese and Pakistani agressors are also blamed for the shortfalls. It is ridiculous to expect that there will be no fluctuations in the weather. If the data on agricultural production over the fifteen-year period from 1950-51 are examined, one would find that only 1965-66 will qualify for the description "abnormal".

It is not at all clear that the hostilities by themselves need have affected the investment programme—the Plan document itself shows that public sector resource mobilisation during the Third Plan was better than anticipated. It is not demonstrated that private investment was adversely affected. Of course, real consumption of the common man was affected by the rise in prices in the wake of additional public expenditure following the hostilities. The suspension of external credits came only in the last half of the final year of the Plan. Thus, the attempted explanations in the Plan document for the failures in the Third Plan are hardly convincing. The real causes for the shortfalls in the Third Plan have to be found if a similar fate is not to attend the Fourth Plan also. The platitudes (and the jargon) of the chapter on Plan implementation do not provide any glimmer of hope in this regard.

Self-reliance is the catch phrase these days and the Plan has a whole chapter on it. Rightly it emphasises that self-reliance does not mean merely doing without foreign aid but also being able to grow at a "satisfactory" rate of economic growth. This "satisfactory" rate is not quantified in the Outline. It is not inconceivable that the higher this rate the larger may be the volume of aid required in the Fourth Plan. It is stated that the aim should be that the export earnings during the Fifth Plan cover the cost of maintenance imports and debt servicing charges. It is by no means obvious why a poor country like ours should aim at generating enough surplus to repay debts so soon. Why not be satisfied with a less onerous task of not adding to our external debt from the Fifth Plan on ? One can also add that the objective of self-reliance need not preclude acceptance of foreign aid on our terms even during the Fifth Plan and beyond, if such aid will increase the rate of growth above the "satisfactory" rate to be achieved without aid.

This chapter has a whole list of "dos" and "don'ts" which start with the delightful sentence, "To begin with, every effort must be made to see that the Fourth is implemented in full." If not intended to be implemented in full, what is a Plan for ?

Now a few words about the income targets of the Plan. In September, 1965, the Planning Commission presented a document called "Fourth Five Year Plan, Resources, Outlays and Programmes". This document envisaged an outlay of Rs 21,500 crore and targetted an increase in national income from an estimated Rs 21,000 crore in 1965-66 to Rs 28,000 crore in 1970-71 at 1965-66 prices. The present document asserts that the Plan then presented will cost Rs 25,000 crore at June 1966 prices. The Draft Outline of August 1966 involves an outlay of only Rs 23,750 crore at June 1966 prices.

Though the axe has fallen more heavily on Plan current outlay than on investment there is, nevertheless, a significant reduction in real investment in the present Outline as compared to the September 1965 document.

However, the interesting thing is that the income target has been revised upwards—the income for 1970-71 is now taken as Rs 30,500 crore at 1965-66 prices, if all production targets are attained or Rs 29,500 crore, if some shortalls are permitted. This is to be compared with corresponding figures of Rs 28,800 crore and Rs 28,000 crore (both at 1965-66 prices) in the September 1965 document. Admittedly, there has been some price rise since September 1965. However, it is hard to believe that the figures of Rs 29,500 crore envisaged now can be far below the figure of Rs 28,000 crore of September 1965 in real terms. Thus the present outline targets roughly the same income as in the September 1965 document to be achieved with less investment.

The reason for this could be either that the income estimates are wrong or that investment pattern in the present Outline is different from the previous Outline in the sense that some long gestation investments have been pruned. The latter is more likely—the introduction to the present document says that "a reduction in some of the physical programmes has been made..... (and) this is likely to have adverse effect on the long-term growth prospects of the economy....." Also a comparison of the physical targets between the two documents show that the reductions have been more severe in the case of investment goods. All this raises the uneasy query: "Has the reduction in the size of the Plan been achieved at too high a cost in terms of future growth?"

The resources picture also calls for some comment. A rough calculation on the basis of the meagre data in the Outline shows that about 30 per cent of the additional income generated in the Fourth Plan is to be ploughed back in the form of savings, while the corresponding figure for the Third Plan is around 15 per cent. This doubling will need a tremendous effort in the form of taxation, and one doubts whether such effort will be politically feasible and forthcoming.

Another aspect of the resources picture that is disquieting, is that any shortfall in the anticipated volume of external assistance will be difficult to accommodate without a cut in the Plan. For such a shortfall has to be covered by additional domestic savings in the form of additional exports. The Plan document, as it is, targets over 10 per cent per annum growth in exports and a substantial portion of it has to come from agriculture-based commodities. It is difficult to imagine that exports could be increased at a faster rate. As such, if external assistance does not materialise at the rate assumed, the Plan will have to be cut. In the light of past experience, one can safely assert that the Commission will not be ready with a fully worked out alternative Plan to meet with such a contingency and cuts will be imposed in a more or less arbitrary manner. The economic cost of such arbitrary cuts can hardly be over-emphasised.

LAND POLICY THINKING TOO TENTATIVE

Ashish Bose

URBAN land prices in India have increased tremendously in recent years. The increase is far out of proportion to the general increase in prices or, for that matter, the increase in prices of building materials and other items listed under 'development costs'.

In fact, I cannot think of a single commodity the price of which has risen faster than that of land in cities during the last decade or so. As the pressure of population on housing increases in the cities, the demand for housing goes up, but the supply of developed land is largely in the hands of private 'colonisers' who have been minting money by cornering land.

In a city like Delhi, where there is a Master Plan and where urban land was frozen by the Government, the record is no better. The Government took years to develop the land acquired by them and that too, only a portion of it, and finally some of this land was auctioned at extremely high prices to wealthy people. As a result, Delhi is faced with the problem of increasing polarisation in housing—there is a sizable chunk of housing for upper income bracket people, precious little for middle class people and a large number of potential slums—the unauthorised colonies. This is indeed a dangerous development, even politically.

Every adult, whether he lives in an authorised colony or in an unauthorised colony, is a voter and I do not see how any party government can resist political pressure for 'regularising' these unauthorised colonies. I think that only a heartless military dictator can send his bulldozers to demolish over 80,000 unauthorised houses in over 100 unauthorised colonies of Delhi. The sad fact is that these colonies have come to stay, though there may be a few dozen houses which may be demolished here and there. I am not pleading for unauthorised colonies; but where could the lakhs of people coming to Delhi stay ? No middle class Indian can dream of buying land at the rate of Rs 200 per sq. yard and constructing a house for Rs 40,000 to Rs 60,000 which is the case in Delhi today. The solution does not lie in subsidising land development or housing, as in that case, I am afraid, the amount of subsidy required for minimum housing standards in urban India will be much beyond the financial resources of any Five Year Plan. The least that the Government could do in this regard is to keep land prices down.

And it is here that the Draft Outline of the Fourth Five Year Plan disappoints me. The thinking in the Plan is far too tentative and the policy lacks boldness. To quote the Plan :

".....it is necessary to take note of the important issue of urban land values. The extremely steep rise in property values that has occurred on the outskirts of larger cities and metropolitan towns in recent years, has created a situation in which the policies of local Governments in regard to urban land and property rights calls for a major revision...It will be necessary to consider what legislative amendments are called for to ensure that a due proportion of the unearned increases in these land values is appropriated to public revenues and the loopholes existing at present for evasion of tax dues are effectively plugged. These problems are under examination. In the course of this examination, it may well be found necessary to consider making appropriate amendments to the constitutional provisions in respect of property rights for effectively plugging the loopholes for tax evasion. Indeed if such measures are not found adequate, it may even have to be considered whether in certain urban areas, land ought not to be brought under public control limiting private rights of sales in respect of such urban lands and properties".

I submit that control of urban land values calls for much more rigorous thinking. In fact, it is in no way less important or less complex than the problem of land reforms in agriculture.

The first tenet of any urban development policy must be *preventive control and positive development.*

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DUNLOP LEADS THE WAY

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Constitutional amendments, etc. may improve the capacity of the Government to curb speculation but this, by itself, will not ensure minimum housing standards to millions of urban dwellers. The economics of housing cannot be ignored. The net return on middle class and low-income group housing in the cities is modest. In fact, from the commercial point of view, investment in such housing is not attractive enough compared to other avenues of investment. Of course, most individuals would go to any length to acquire their own houses regardless of the rate of return. But how many have the capacity to buy land and construct a house ?

To sum up, the Government does not have enough resources to subsidise urban land development ; the private investor does not find it profitable to invest in modest housing and the average individual does not have the resources for private housing. The result is over-crowding in existing houses and the proliferation of sub-standard houses verging on slums. In 1971 the urban population of India will be well over 100 million which is roughly the total population of Pakistan. And it is not a question of a few big cities. The problem is pressing in all the 2,700 cities and towns of India.

A. Ghosh

FARM PLAN BASED ON TOO MANY HOPES

THE first overall impression that one has from a careful study of the Draft Outline of the Fourth Plan is an uncomfortable sense of unreality. In fact, a comparison of the First, Second and Third Plan Drafts with the Fourth shows very little difference in the main outlines of approach except that a new set of 'figures' called targets is conjured up to replace the old set.

Starting, therefore, with an idea that the Planning Commission is to be congratulated on not giving way to panic and surrendering the rate of growth of the economy, one is forced to ask the question how seriously is the Plan itself to be taken. This is a real problem for serious students of the Plan. If it were a Plan for the things we would like to do provided certain other things happen, this would be encouraging reading. But if this is to be taken as the Plan which has to be executed under favourable or unfavourable circumstances, then this is a peculiarly fatalistic document which could lead to a ridiculous fiasco.

It is not enough to initiate a Plan hoping for the best but actually letting things slide. In initiating a Plan, resources are irreversibly committed to certain courses and vagueness about such courses may be permitted only marginally, not all along the line. This happy-go-lucky attitude, for example, is best illustrated in the Commission's hopes regarding agriculture :

"It may not be unreasonable to expect that the unusually long spell of bad weather that the Third Plan faced may not be repeated in the 4th Plan period. If weather conditions become normal and Indian agriculture can repeat the performance of 1964-65, the situation on the food front should be much better."

No one grudges the Planners a bit of good weather but one would like to know what, if any, ideas they have for a repeat performance of bad weather and how this will affect the Plan.

I do not hold a brief for the other camp that advises a lapse into inactivity as the solution of our troubles. They are always raising the cry of 'go slow' as 'things are getting out of hand'. It should be remembered that difficulties of a crucial type are essential components in the growth process of an underdeveloped economy, and to give up growth because of difficulties is to perpetuate backwardness. But a sober appraisal of the difficulties and how they are to be surmounted is what one would expect from a Plan. It should, in fact, be like a military campaign plan which takes into account possible enemy actions and how to meet them.

From this angle, the price-rise is our major trouble today. Very little has actually been advocated by the Commission to counter the price-rise except a set of pious hopes about better administration, more savings and so on.

A little careful analysis of the price of cereals and supply of cereals show that prices have been rising steadily with a rising per capita supply of rice and wheat !

In a recent study into the rice and wheat supply position in relation to price and income, I found the following set of figures:

Index of 1964-65 *with* 1946-47 *as* 100 *per capita supply*

Rice	*Wheat*	*Income*	*Price of rice*
124	200	207	129

Fitting a crude regression equation on the data for 1946-65 it was found :

Price of rice=64.2—57.3 (supply of rice)
—22.4 (supply of wheat)
+1.07 (income)

This actually gave us a decrease of 24 points and 10 points respectively for increased supply of rice and wheat and a rise of 72 points due to rise in income during 1946-64 !

This shows that even at its best, supply will not take away the main force behind price rise. It then becomes essential to go into the distribution problems in essential foodgrains so that future price rise may not affect vulnerable groups. Obviously, the problem of equitable distribution of essential commodities to the poorer masses in rural and urban areas cannot be avoided if planned expansion goes on. The only way to avoid it would be to achieve an unprecedented rise in output to counter the pressure of growth.

Can we attain such an unprecedented rise in output ? The answer frankly is, no, certainly not within the next five to ten years. The difficulties in agriculture are far more intractable than those bedevilling industry. Organising

into highly productive farms millions of petty farmers, most of whom are very poor, backward, and scattered over large areas with complete dependence on the monsoon, can only be a slow process at best. Being a slow process, its impact is neutralised by a rising population. Growth, therefore, has to be sustained inspite of the poor performance and vagaries of agriculture. Such a sustenance is only possible if a real effort is made to distribute shortages in the economy whenever and wherever they occur over the whole community.

Reducing expenditure, specially non-Plan and non-developmental, raising taxes by defeating evasion etc. are all intractable tasks. It is not safe here to make Plans on hopes for better and better performance but to be prepared for future performance only marginally better than actual present achievement and to plan on that.

If, however, the Planning Comission believes that pushing the economy into high gear will automatically evoke larger response without any troublesome preparation for such response, then it could become a costly gamble endangering the stability of the economy itself.

D. G. Karve

SLOW TO LEARN FROM EXPERIENCE

IT is most regrettable that even at the end of fifteen years of Planning, the Commission cannot muster enough courage to undertake a severe evaluation and self-analysis of its past efforts. Even more regrettable is its unwillingness to base its future planning on a realistic appraisal of potentialities revealed by past performance. The Commission seems to have as its motto the Shakespearean adage: "Not failure, but low aim (target) is crime." But a continuous policy of in-built failure is hardly conducive to success in planning.

Thus, in spite of the past experience of a comparatively slow progress of both the availability and utilisation of improved agricultural inputs, and the disturbing effects of seasonal variations, the Commission has assumed a 33 per cent increase in foodgrain production for the Fourth Plan. Even this figure is based on a calculated base figure of 90 million tons for 1965-66, which is more an indicator of potentiality, forgetting the seasonal effect, than an estimate of actual outturn. Unless the target also is one only of estimated potentiality and not of actual outturn or availability, this technique of planning would be misleading. Even as an indicator of enhanced potentiality, an increase in irrigation, and fertiliser use, of the order adopted by the Commission does not seem to be based on a realistic evaluation of past trends.

In regard to introduction of new strains and high-yielding varieties, there is reason to believe that enough experience of pilot projects under different physical, organisational and climatic conditions has not yet been gained to justify either the policy of pushing them in all areas which are high-yielders of traditional varieties, or the estimates of their actual success as contributory to the high target adopted for foodgrain production.

All that is claimed by way of progress in land reform is almost fully negatived by contents of para 8, at page 127, of the Draft Outline, which briefly records that "there were shortcomings in several directions". And yet the Plan goes on to suggest (para 11, Pages 130-31), as though it is a much simpler task than has been attempted in the past, that the State should interpose itself between the tenant and the landlord as the exclusive recoverer of rent. Nationalisation of the business of rent recovery would create political, economic and administrative problems of immense significance which have never been fully discussed either with representatives of tenants and owners, or of State Governments.

The need for a frank and full appraisal of past mistakes was obvious in regard to the co-operative structure. Against all expert advice and against all experience, the Planning Commission had earlier frowned on the policy of what were described as large-sized societies, though, in reality, they were no more than viable societies in the context of expanding business. The Commission has never specifically recognised its responsibility for the great harm done by this act not only to sound co-operative growth, but also to the full servicing of programmes of intensive agricultural development. All the same, they now adopt a target of revitalisation and reorganisation of small societies, whose number is expected to be reduced from over two lakh to a little more than 1.25 lakh.

It is satisfactory to note that the size of agricultural lending by co-operatives at the end of the Fourth Plan is indicated as a tentative estimate, and not as a target. Co-operative organisation for the conduct of efficient business is not a simple and easy process. It is even more complex and refined than its obvious alternatives, *viz.* private business and governmental management. As in other branches of social and economic transformation, there is a certain minimum of time-input which is essential for the training and healthy progress of co-operative organisations. In the somewhat rare case of other aspects of development reacting favourably to new influences, while co-operative institutions alone lag behind, it is much better to move along alternative lines, at least pending the normal growth of co-operatives, than either to force the expansion, or vitiate the healthy functioning, of co-operative bodies.

In all these spheres, agriculture, land reform and co-operation, future planning, in quantity as well as in quality, should be far more firmly based on lessons of past experience than appears to have been done in the Draft Outline of the Fourth Plan.

Baljit Singh

TARGETS WITHIN REACH OF THE ECONOMY

GIVEN the conditions and constraints assumed by the Planning Commission, the targets set out in the Draft Outline of the Fourth Plan are well within the reach of the economy. But one cannot be equally certain about their assumptions and about the capacity of the existing institutional milieu to cope successfully with the tasks of the Plan. These desiderata are grave and need to be given immediate consideration.

The institutional vulnerability of the Plan inheres as much in the existing economic mechanism as in the emerging political situation and administrative system. Even the established process and machinery of planning itself may be exercising certain inhibitive pulls. Hence institutional planning should be given its due weight particularly to integrate 'implementation' with 'formulation' of the Plan. Let it be stressed that the poor achievements of the Third Plan have been due, to no inconsiderable extent, to failures in this context. It is true that institutional reforms involve a more serious operation than linear or non-linear programming. But in their absence not only will the political demand for scrapping of planning and plans gather momentum, the Plan itself may run into serious difficulties.

Apparently, we are trying to establish a planned market economy with a dominant public sector that would assure social direction of all its activities. Thus out of a proposed investment of Rs 21,350 crore during the Fourth Plan period, nearly two-thirds will be in the public sector. Actually, during the construction phase, public sector projects are mostly executed through private contractors who are also employed during the operational phase for handling most supplies and distribution of output. In consequence, the emerging economic system is part private and part public-*cum*-private with little sense of social direction. The entire economy has thus been left to drift. Contractors who have come to dominate the economy have seldom any technical competence, financial risk or direct interest in the success of the enterprise. Very often the contract system results in increasing costs, delays in execution, and deterioration of quality as well as in tax-evasion, hoarding and even in black-marketing. At the managerial level 'bureaucratisation' and lack of economic incentives operate against individual initiative and enterprise. The distributive system is still as disorganised as ever, while the chain of middlemen is ever lengthening and creating further scope for malpractices at every stage.

Economic mechanism needs early differentiation of the public and private sectors, elimination of the system of contracts and tenders, establishment of direct links between producers and their markets, rationalisation of the distributive and banking systems, and co-operativisation of the household sector of production. The Draft Outline places little emphasis on the reform of the economic mechanism and at best proposes minor modifications here and there. A high-power expert committee should be appointed to review the working of the economic system in all its bearings and suggest reforms to establish its social direction.

Further, the Plan Outline fails to recognise the serious flaw in the approach and strategy of earlier Plans in respect of employment and carries it further to dangerous dimensions. The phenomenal rise in the backlog of unemployment from about 5 million to 13 million during the last ten years and a further likely addition of 4 million to it during the next five years requires serious rethinking and a revision of Plan allocations. The conflict between income and employment goals is due to the weakness of the underlying growth model and must be resolved.

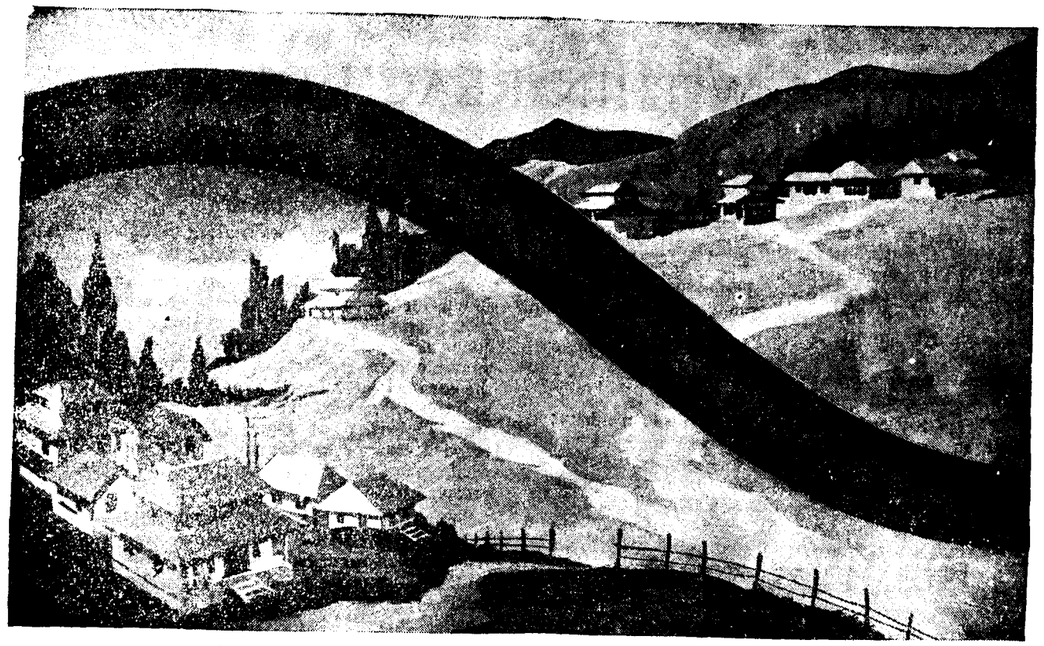
Finally, monetary policy including currency reforms should be given an active role in holding the price line. The ratio of money to income has increased from 0.20 to 0.30 during the last fifteen years and the per capita supply of money has increased from Rs 50 to Rs 90 as against only a 17 per cent increase in per capita income. There seems to be a mistaken belief that money is neutral or all that needs to be done to enforce monetary and fiscal discipline is to avoid deficit financing.

Dharm Narain

Serious Gap in Domestic Resources

THERE are several aspects of the Fourth Plan which create misgivings. One such pertains to the picture of resources for the Plan. It is convenient to consider the external and domestic resources position separately. What if external resources of the magnitude postulated in the Plan do not become available ? How far the required adjustment will take the form of applying cuts on the Plan and how much of further intensification of import substitution is not spelt out in the Plan. Since the dependence of external resources is so large, one is left wondering whether the immediate scope for import substitution has been exhausted in working out the external resource requirements of the Plan. This is a question which needs a satisfactory answer.

With regard to resources amounting to Rs 13,270 crore, an exercise has been presented in the Plan. The remaining gap of Rs 2,730 crore is expected to be partially closed through a further accrual of resources expected from measures adopted in 1966-67. This still leaves



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a gap of Rs 1,800 crore. This gap is a little less than one-fifth of the total domestic resources accounted for and in sight, and is indicative of the additional effort required in the mobilisation of domestic resources. That such a sizeable gap in domestic resources should have been left unfilled is a serious matter, specially in view of the decision not to have recourse to deficit financing in the Fourth Plan period.

In view of the obvious political constraints of an election year, it seems unlikely that many of the sources for these additional funds—like increase in land revenue rates, irrigation charges or imposition of special surcharge on commercial crops—will be tapped in the year 1966-67. Since this would increase the burden of mobilising these additional resources in the remaining four years, one is left in doubt whether it will be possible to implement the Plan without recourse to deficit financing within the stipulated period. To say the least, the Five Year Plan is likely to become in practice a Six Year Plan.

An increased reliance on the mobilisation of savings which come from small and medium income groups is a very welcome feature of the Plan. An increase in the public sector's draft on such savings, however, calls for measures to enlarge the stream of such savings. Here, we need to take a cue from the experience of Japan. One of the important factors behind the high saving ratio in Japan is said to be the very high proportion of bonus payments in the incomes of the wage and salary earners. The effectiveness of a step-up in the proportion of transitory or temporary income to permanent income for lifting up the saving ratio needs to be ascertained in India; and if found encouraging, this proportion needs to be stepped up in a big way in an effort to mobilise additional resources for the Plan.

Since a great deal of the resource availability position will depend upon the performance of the Plan in physical terms, the importance of the factors on which the success of this performance depends can hardly be overstressed.

D. T. Lakdawala

Can Deficit Financing Be Avoided ?

THE Fourth Five Year Plan is launched in a context very different from its predecessors. Success in the present venture seems more difficult than in the earlier ones. The Draft Outline of the Fourth Plan will, therefore, be judged by more stringent tests. In the course of fifteen years of planning, India has acquired considerable experience of the potentialities as well as the limitations of democratic planning, and of the techniques of the direction and regulation of the economy. It is to the extent that the past has been studied and the right lessons drawn therefrom that the Plan document will be regarded as technically competent. The emphasis on agriculture, self-reliance and family planning, and the eschewal of deficit financing, are all aspects in which, obviously, the lessons have been well learnt. For the first time, the targetted rate of growth of the economy has been somewhat stepped down to 5.5 per cent per year. With all the abnormal circumstances like two bad monsoons, and the war with China, the Indian economy grew at the rate of 4.2 per cent a year between 1961-62 and 1964-65 ; the present target cannot, therefore, be styled as unrealistic, let apart unduly ambitious.

The estimate of the size of the needed investment, to secure this growth at Rs 21,350 crore, needs some explanation. Why should the economy need double the investment of the Third Plan to grow at almost the same rate under more favourable circumstances ? The size of the economy itself has grown during the interval, and it needs more capital to make a bigger economy grow at the same rate. The price level has increased, imports will be costlier after devaluation, and in real terms the increase would be much less. Even when allowance is made for these two factors, still the higher investment needs are largely inexplicable.

From the First Plan to the Second Plan the character of planning changed—it was no longer a question of rehabilitating the economy ; the problem was of laying the foundations for the structural changes necessary for achieving the long-term objectives of a rapidly developing equalitarian economy. This as well as the special circumstances and inexperience could explain the fact that investment doubled in the Second Plan, but the rate of growth did not change much. The Third Plan was conceived as the first stage in the development of a self-reliant and self-generating economy, but the transformation sought was not different from that of the Second Plan. In spite, therefore, of adverse circumstances and increase in investment by one-third, the economy grew in the first four years at the same pace as in the Second Plan. The slower growth compared with that estimated has been largely ascribed to the great time lag between investment and its fruits ; much of the investment in the Third Plan is still to fructify.

This has been considered as one of the major disguised advantages for the Fourth Plan ; it is the avowed strategy of the Plan to derive the maximum benefit from this. The First Plan achieved considerable success. The performance of the Second Plan was also not unsatisfactory. The record of the Third Plan, however, has not *prima facie* been good. Since the Draft Plan insists on a much better performance, it becomes difficult to understand the higher estimates of investment. Normally, this provision might have been defensible as providing a safe margin of error for the likely persistence of an undesirable tendency, which is difficult to eradicate. But, in the prevailing conditions where resources are extremely difficult to raise, the wisdom of this course is doubtful.

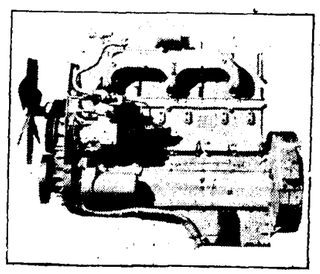
A great deal of attention has been devoted to the question of raising the necessary finances for develop-



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ment. There are two important issues which are, however, relatively neglected. The actual rate of growth considerably affects the ease and feasibility of securing resources. If the economy grows rapidly, tax revenues and savings also expand ; and if need be, it becomes easier to extract more of these. In the past our difficulties in this regard have been largely due to the wide gap between the planned rate of growth and the actual rate of growth. If for one reason or another the experience is repeated and one cannot rule it out at least because of our dependence on nature, what will happen to the Plan ? Will deficit financing still be eschewed and investment then changed ? How flexible really are our expenditure plans ? One finds no satisfactory answer to this problem.

As the burden of taxes and public borrowings increases, the financing of the private sector needs more careful attention. The Plan devotes little attention to this question. Whereas a whole chapter of seventeen pages is devoted to the question of raising financial resources mainly for the public sector, the parallel problem for the private sector, which will invest more than half the investment of the public sector, is discussed only in one page ; a rather unbalanced allocation of space, especially in view of the present stage of the capital market.

P. C. Joshi

EMPHASIS ON LAND REFORMS GOOD

THE emphasis on land reforms as an 'integral part' of the agricultural development programme in the Fourth Plan stands in marked contrast to recent discussions on the new agricultural strategy which relegated land reforms to the background. The following proposals for land reforms in the Fourth Plan deserve special mention :

(*a*) A high-level committee comprising Ministers and representatives of public opinion is to be set up in each State to supplement and expedite administrative action for land reforms.

(*b*) A Centrally-sponsored scheme has been included in the Fourth Plan with a view to bringing the record of tenancies up-to-date in each State. The appointment of tripartite committees including tenants' representatives is a new feature of this scheme.

(*c*) The Plan has proposed the termination of landlords' right of resumption for personal cultivation and the conferment of permanent, heritable rights on all tenants.

(*d*) For ensuring security of tenure and rent reduction to tenants, the State has been advised to acquire the ownership of leased lands and transfer them to the tenants.

(*e*) The strengthening of service co-operatives in the short-run and the introduction of co-operative farming in the long run have been recommended for raising the productivity of small holdings.

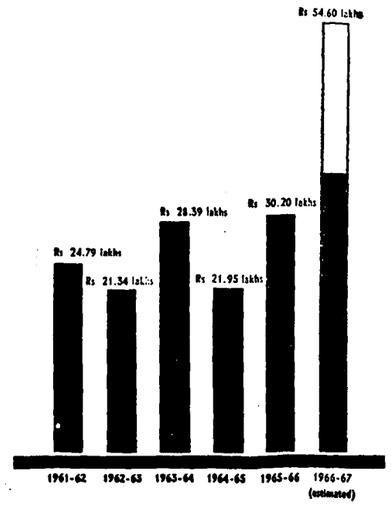
(*f*) Since transfers of land among relatives constituted the most important method of evading land ceiling, the Plan has suggested the application of ceiling to family holdings in areas where the principle of individual holding has already been adopted.

In view of the half-heartedness, if not apathy, of the State Governments to land reform programmes in the past, there is no assurance that the above recommendations will be implemented during the period of the Fourth Plan. On the contrary, there is considerable evidence to show that both at the level of the Centre and the States, the initial enthusiasm for land reforms has now significantly receded. No doubt references are frequently made to land reforms by the Government and ruling party representatives. But they are mostly in the nature of a political ritual ; land reforms hardly constitute a genuine element in the strategy for agricultural development in different States. Further, there is now a strong trend of opinion both inside and outside the Government which appears inclined to place reliance for increasing agricultural production mainly on the emergent groups of ex-landlord farmers and upper strata peasants. It is said that these groups, unlike others, are free from tenurial and size disabilities and also have the necessary dynamism and entrepreneurial potentialities.

Another trend of opinion holds that the agricultural sector cannot be rapidly activised except by importing enterprise from outside and by allowing urban entrepreneurs to organise large, commercial farms in rural areas. It was desirable and necessary that the Fourth Plan should have considered the issues of land policy in the background of these new trends and pressures and stated this policy in terms of the role of different types of interest-groups in the programme of accelerating agricultural growth during the Fourth Plan period.

Much of the recent criticism of the new agricultural strategy seems to have arisen out of the fear of one-sided concentration of the big farmers and of the exclusion of vast sections of small owners, tenants and share-croppers from the purview of this strategy. In this background, the Fourth Plan emphasis on land reforms as a pre-requisite for peasant participation is indicative of the return, at least in principle, to *the middle way*. This is not a mean achievement in the present political climate.

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3. Customers in export markets invariably demand prompt delivery service. To be in a position to provide this we need, and must be allowed to carry, adequate stocks of imported and indigenous raw materials at all times.

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PRICE POLICY OF THE PLAN

WITH regard to the proper price policy, the Draft Outline rightly mentions the following among the eight principal tasks kept in view :

(i) For ensuring price stability, effective steps will be taken to check all inflationary factors and avoid deficit financing.

(ii) For enlarging the supplies of essential mass consumption goods on which additional incomes will be spent, production of articles like textiles, sugar, drugs, kerosene, paper, etc. will be stepped up.

However, as the general index of consumer goods prices mainly hinges on prices of food articles, which have increased greatly in proportion to industrial prices, the emphasis given on "policies envisaged for reaching the targets of agricultural production" should be considered as a matter of basic importance for the attainment of "a stable price situation".

Thus the price policy of the Plan is essentially a policy with regard to the general price level and consequently with regard to inflation control and price control. A policy of administered prices under planning, however, is as much a policy of relative prices as one of the general prices and this aspect has, unfortunately, been postponed for detailed consideration in the Final Report of the Fourth Plan. It is in this field that some analytical suggestions may be made, specially with reference to the system of relative prices in public enterprises which are directly under the Government and hence are directly amenable to relative price reform measures.

It is estimated that as against Rs 395 crore realised from the surplus of other public enterprises (than railways) during the Third Plan, Rs 1085 crore would be realised in the Fourth Plan period on the basis of the pre-Third Plan prices of production. With a view to realise this huge surplus from public enterprises, many of which belong to the key-industry class and are still in their gestation period, a blanket formula of "a rate of return on capital employed of not less than 11 to 12 per cent" is given. It is also expected that this "can be achieved without undue increases in the prices of products or services sold by public enterprises."

Now it is desirable to analyse the inherent contradiction between the price policy and profit policy as envisaged in the Plan Outline.

In a controlled economy, not fully dependent on the price system or free market economy, the parametric function of prices is not discharged by the free play of the forces of demand and supply but by the Government or the Planning Commission. It should preferably be discharged by statutory price tribunals, which should be in possession of cost data and which should work out shadow prices on the model of horizontal price line under perfect competition.

In an ideal scheme of democratic planning, combining features of both centralisation and decentralisation, each production unit in the public sector, which is of the nature of an oligopoly market, should be given the freedom and incentive to minimise costs, raise efficiency, increase output to full capacity and earn optimum profit at the going shadow price indicated from above. But each unit should follow what is called the 'break-even' principle as the safest criterion of measuring efficiency.

A business is said to break even when its income equals its expenditure. From the marginal cost, the break-even point, that is, the volume of production at which income equals expenditure, can be calculated. If production exceeds this volume, the business makes a profit ; if it is below this volume, it runs at a loss. In a mature economy, it is enough if a public enterprise just breaks even. This argument holds better still for public utility services. But in underdeveloped economies which have embarked upon planning for rapid economic growth, it is desirable for public enterprises to more than 'break-even' and earn a positive surplus which should be reinvested for further capital formation and growth. In implementing such a policy the following basic considerations must be borne in mind :

(1) The blanket formula of a 10 per cent or 12 per cent return on capital cannot be applied to all industries in the public sector, working with different purposes and at different stages of production.

(2) At the initial stage of 'take-off' in a developing economy, the relative price policy of goods produced by heavy industries should be such that there is an incentive for utilisation of low cost products of these industries by other industries. This will not only give a "big push" to all other industries, but will also enable the heavy industries to develop at a faster speed than consumer goods industries. India can afford to have high prices of goods of key industries in the public sector, say, after the Fifth Plan and not now.

(3) Though it may be desirable to expect a 10 to 12 per cent return from many of the public enterprises, with a view to mobilise additional resources for the Fourth Plan of the size envisaged, yet it will definitely go against the inflation control and price control policy of the Plan. Administered prices of public enterprises, as envisaged, may lead to further cost inflation and thereby there will be a situation of 'administered inflation'.

The above discussion makes it clear that while public enterprises should more than break-even, they should not be expected to earn on an average more than 5 to 6% return and yield more than Rs 500 - 600 crore in the Fourth Plan period.

K. Rangachari

MASSIVE OUTLAYS NOT JUSTIFIED

FOR more than two years discussions on the Fourth Plan have provoked controversy. The Draft Outline presented to Parliament will do little to end it. In terms of broad objectives, priorities and pattern of allocation of resources, this Plan does not differ much from the three earlier Plans; but when we proceed from generalities to particulars of strategy, techniques and estimates of actual physical and financial resources, the national consensus gives way to sharp disagreements, which create an altogether wrong impression that the critics are opposed to the basic objective of planned development to remove poverty. This is far from the truth.

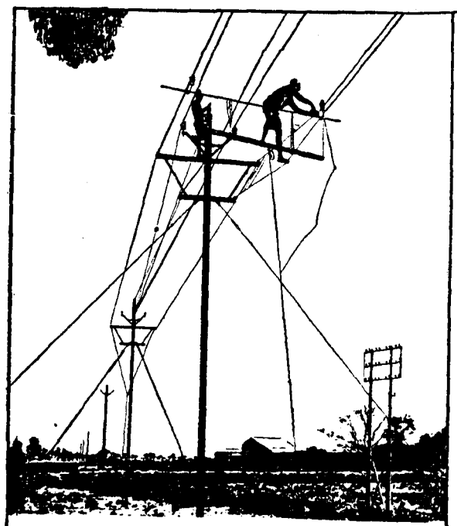
The controversy centres round the size of the Plan in financial terms. In both the Second and the Third Plans, outlays were fixed larger than the visible resources at the time of preparation of the Plans. Both were implemented with deficit financing of about Rs 1,100 crore resulting in rising prices which not only caused hardships to the people but devalued the content of the Plans; in real terms of project completion, the achievement was about the same as what might have been possible with a smaller Plan but without deficit financing. It has also been proved that the rate of growth is not proportionate to the size of the outlay; the Third Plan has yielded a rate of increase of only 12 per cent in five years.

The main lesson to be learnt from experience is not only that deficit financing should be avoided (as the Fourth Plan now assumes) but also that the available resources, domestic and foreign, should not be spread too thinly over a wide range of the economy. That way, projects take long to complete and bear fruit and inflationary pressures are created while money is spent on them. On the other hand, efficient use of available capital and manpower can conceivably yield higher returns in the short term. This has relevance particularly in agriculture and small industries, but the search for this right combination has hardly begun because of the continuing preoccupation with the still unproved relationship between outlay and the rate of growth.

The main economic principle is that unless investment in the economy is matched by corresponding saving, there will be a rise in prices because of the competition for the same volume of real resources between the demands of consumption and those of investment. A Plan of Rs 23,750 crore will be double the size of the Third Plan. Is there a corresponding increase in the resources ? Since national income increased only by 12 per cent, and has been almost wholly offset by the increase in population, we are not very much above the levels at which we began the Third Plan and ended it, in inflation. More defence expenditure and other diversions to current consumption have certainly not increased our rate of saving. Even the Draft Outline assumes that saving has increased only from 9 to 10.5 per cent.

Since there is nothing firm about the private sector's share of the outlay of Rs 7,750 crore (which may well fall to half that level), we may confine our examination of the resources to the public sector's share of about Rs 16,000 crore. In the current year which is the first year of the Fourth Plan, the provision was Rs 2,082 crore ; for completing the Fourth Plan total, annual outlays will have to be stepped up by Rs 600 crore every year till it reaches Rs 4,500 crore in the final year. Is this possible without deficit financing, when no substantial reduction is expected in defence expenditure and economies in civil expenditure are no more than hopeful expectations unwarranted by past performance ? The planners' reply that a good agricultural year will provide additional resources and cushion the inflation is unconvincing, when we consider that a peak year like 1964-65 for agricultural output failed to check rising prices.

Though development with stability has been the motto set for the Plans, stability has in fact been subordinated to accelerated growth. In the event, however, development has been only moderate while stability has been undermined. It has been apparent that the economy now needs more stability, and with development. Devaluation of the rupee underlined the miscalculations of the past as well as the requirements of the future. There are no serious differences in the diagnosis of the economic malady ; the repetition of the old prescription of massive outlays is therefore hard to understand.



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S. P. Sinha

OVER-OPTIMISTIC AND UNREALISTIC

THE Draft Outline of the Fourth Five Year Plan has appeared at a time of acute food shortage, the urgency of building up a dynamic defence potential and the need to attain self-reliance. To build up the structural depth of the economy, steel power, heavy machines, chemicals and metal industries need to be given top priority. In an underdeveloped country like India, pressure of consumer demand, by itself, cannot set off the cycle of production. The production of consumer goods requires some scarce raw materials and machinery, creating a mounting demand for producer goods and ultimately a larger dependence on imports. The emphasis in the Fourth Plan should have been on income-oriented projects rather than on consumption-oriented projects. Nearly one-fifth of the public sector outlay in the Fourth Plan is likely to be spent on social overheads such as education, health, family planning, water supply, housing and social welfare. The economic overheads, i.e. income-oriented investments, are rather of short-term nature, having provided a lower preference to the heavy and basic industries. The overall outlay to the industrial sector seems to have received more or less the same percentage allocation as that of the Third Plan ; although the emphasis on self-reliance should mean some privation on the part of the people, i.e. surrendering some claims of consumption in favour of either exports or building the structure of productive processes.

With regard to the physical targets, the target of food production fixed at 120 million tonnes by the end of the Fourth Plan, appears to be over-ambitious. With the experience of a shortfall of nearly 27.7 million tonnes in the stipulated target for the Third Plan and the severe drought and flood in the first year of the Fourth Plan, it is wishful thinking to achieve the targets fixed for 1970-71. The agricultural cycle indicates a period of three years of lean harvest and two years of heavy harvest. Similar is the case with the programme in respect of family planning, where a five-fold increase in expenditure over the combined expenditure of the past three Plans put together, has been contemplated. The Indian rural economy, as it is today, does not indicate much dynamism in the field of family planning. The religious attitude and the social taboos continue to dominate the scene. Mere increase in the financial outlay is not going to create any breakthrough effect unless education is widespread and income is enlarged significantly.

One may also look to the resources position as indicated in the Draft Outline. The total outlay of Rs 23,750 crore is to be financed mostly by domestic resources. Yet, 25.5 per cent of the resources are to be supplied from external credits. Deficit financing has been ruled out completely. But concealed deficits are apparent in the Draft. The proposed prospects in small savings, internal loan and receipts from taxation may not be realised on account of much slower rate of growth in the Third Plan (2.5 per cent) and a lower built-in potential for the Fourth Plan. The Draft Plan therefore depends upon assumed and uncertain resources (the deficiencies in the domestic resources and the uncertainties of the external credit). It may be said that resource mobilisation on such a vast scale could succeed only through the nationalisation of credit institutions. But no mention has been made of any definite programme to this effect.

The overall tone of the Draft is over-optimistic and therefore unrealistic. However, the Fourth Plan is on test. It will be a pity if the effort falls short ; it will be dangerous if the Plan proves over-ambitious.

TWO PROUD VILLAGES

KRISHNAVARAM, a village in Khammam district of Andhra Pradesh, has a population of 2,200, divided in about 380 households. And it has now a high school, a primary school, a hostel, a Panchayat Ghar, a Mahila Mandal, a youth club, a Bhajan Mandali, a veterinary hospital, a co-operative society and a new temple, all within eight years.

The village Panchayat came into being in 1959 with six Panchas including the Sarpanch. Now the Panchayat has nine Panchas. Elections to the Panchayat are unanimous and uncontested since inception and all the resolutions at the meetings of the Panchayat are adopted almost unanimously.

The Panchas take keen interest in their work. Hardly a member is absent from meetings. This unity has given a lead to the neighbouring villages.

Krishnavaram has another proud achievement. There is no litigation in the village. When asked, the Up-Sarpanch Mr Ramachandra Rao could recollect only four persons who had gone to a court of law to settle their disputes. All the villagers are now determined to settle their disputes amicably through peaceful negotiations. They have set up a committee whose decision is accepted by contestants as final.

The villagers have adopted improved methods of cultivation and use chemical fertilisers. Almost every house has a compost pit. They rely more on green manure than on fertilisers.

The Japanese method has been adopted in paddy cultivation. Eight pump-sets with oil engines have been installed. The farmers maintain a seed farm, and supply seed to neighbouring villages. Thus the villagers earn additional income.

The Panchayat is trying its best to eradicate illiteracy. All the children of school-going age go to school. New buildings have been constructed for both the primary and high schools. The villagers donated Rs 12,188 for school buildings. Besides, they contributed a radio set and a wall clock to the high school.

The Mahila Mandal has a membership of 35 women. It runs a sewing centre at which 20 women are undergoing training. It has an Ambar Charkha Centre too where spinning has been taught to 50 women. Now, each trainee earns 75 paise per day.

Literacy classes are also conducted for women. A Gram Lakshmi training camp was recently organised by the Panchayat Samiti. The Panchayat maintains a library for children. The 320 books in the library have been donated by the villagers.

The Panchayat Ghar was built by shramdan on the land donated by the Patel.

A new temple has been built in the heart of the village by voluntary contributions of Rs 15,000.

The Harijan colony is another landmark. Villagers helped the Harijans to build their houses. The Panchayat has laid roads in the colony and provided drinking water facilities.

Attention is paid to the education of Harijan children. A hostel has been built where free board and lodging facilities are given to local as well as outside Harijan students. There are 66 students in the hostel.

Krishnavaram has a number of other modern amenities. It has purchased a community radio set. It has built a public library, with 1,200 books. There is also a veterinary centre. Roads are metalled.

The village has a neat and clean appearance—the roads, the lanes, the houses, the well, the drainage system, the simple pucca latrines, all show the sense of the people about cleanliness and sanitation.

Fifty wells, two pools and canals of 1,200 feet in length have nearly solved the problem of irrigation for the cultivators. Two regulators have been fitted for permanent irrigation. There are 107 wells in the Gram Panchayat area.

A primary school for children was opened recently. Literacy classes are held for adults. A half of the men as well as of women are now literate.

A Gram Swayam Sewak Dal has been organised, with 20 youngmen. The Dal helped the villagers to build a *pucca* approach road, with trees on both sides.

The Mahila Mandal and the Yuvak Mandal have been taking a number of steps in removing untouchability and extending social service.

The villagers have also constructed a Panchayat Bhawan. They propose to have a spacious park for children and a well-equipped library and a gymnasium.

The Gram Panchayat intends to start a poultry farm and pisciculture.

Ghisi—A Model Village

Ghisi, once an obscure village, has now become one of the model villages of Madhya Pradesh. It was adjudged the second best in Jabalpur Division in the last Panchayat Parva.

Out of its total population of 172 families, 122 families are cultivators and the rest are labourers and shopkeepers.

Why not buy a Year's Subscription to 'Yojana' by sending a Postal Order of Five Rupees only ?

YOU NEED YOJANA
YOJANA NEEDS YOU

Letters

When Politics Hampers Development

IN the *Hindustan Times* (Dak Edition) of July 17, it was reported that the Chief Minister of Mysore strongly opposed the attempts of Maharashtra and Andhra Pradesh for "western diversion" of the tributaries of the Krishna river for power generation.

There can be no two opinions about utilisation of river waters primarily for irrigation purposes, as the country is now experiencing a critical shortage of foodstuffs. To divert rivers mainly for the purpose of power generation, and not for food production, is a crime against the nation. I am aware that Maharashtra has already diverted Koyna waters westward and proposes to divert some more water for power generation. But I am not aware of Andhra Pradesh attempting the diversion of Krishna waters.

It has been reported that the Chief Minister of Mysore appealed to the Members of Parliament to prevail upon the Centre to increase the allotment of Krishna waters to Mysore. The Chief Minister is reported to have exhorted his audience "to do something or the other", if necessary, "to observe satyagraha or go on hungerstrike to make the Centre concede Mysore's demand for either a Central take-over of the Krishna Project or grant the State a loan of Rs 120 crore to execute the project."

It is indeed a great pity if the Chief Minister of Mysore has advised his audience direct action as reported above. It is expected of a State Chief Minister to exercise restraint instead of trying to arouse the passions of his audience. It, however, pains me as a Mysorean to watch the way in which politics in my State is moving nowadays. The administration in Mysore seems to be blind to its own shortcomings.

It is beyond my comprehension why the Centre should finance or give a loan for a project unless the project is proved beyond doubt to be a boon to the people concerned and is economically justified. If the Planning Commission makes it very clear to the State that unless a return of 12% is assured from any project, it would not be accepted, all this agitational approaches will stop. Experience shows that any project can be got approved by the Planning Commission on the basis of a preliminary estimate so long as the returns are shown to be about 4½%. It is also quite common for a project, when completed, to cost 100% more than the original estimate.

The Upper Krishna Project, now estimated to cost Rs 120 crore (as stated by the Chief Minister), may well cost not less than Rs 200 crore by the time it is completed. Where is the justification then to resort to satyagraha or 'some other' agitation?

Another point: West Bengal is reported to have sought compensation from the Centre for the loss of about 700,000 tonnes of rice every year because of the diversion of about 110,000 acres from paddy to jute.

Similar things may be happening in other States too. It looks rather ridiculous that we reduce food production and grow commercial crops for export and then import foodstuff in large quantities. Has the notice of the Planning Commission been drawn to these anomalies that exist in this country?

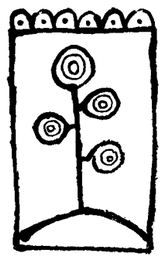
"ANONYMOUS"

** The writer of this letter wished to remain anonymous and sent no address. This letter is, however, published because the points raised seem to be interesting. Normally anonymous letters are not entertained ; writers' identity, however, is not disclosed if a wish to this effect is clearly expressed. Editor*

ESSENTIAL OR NO?

THE distinction drawn in India between essential and non-essential commodities and services is the root of all evils in the country. Taste differs from man to man and so something which is non-essential to me may be essential to another. Let the Government abolish the distinction and allow the prices to find their level themselves.

Tanjore R. V. IYER



Yojana Bhavan Diary

Along with the publication of the Draft Outline of the Fourth Plan, the Planning Commission has been holding meetings almost daily from August 26. The subjects that have been discussed include hill areas development (on August 26 and September 7), pattern of Central assistance to States and Centrally-sponsored schemes (on August 29, 30 and 31 and September 1 and 2), institutional finance for projects (September 7).

The National Planning Council held a full meeting on August 31 and its various study groups met on September 1.

The N.D.C. Committee on pattern and procedure of Central assistance to States met on September 2.

Professor M.S. Thacker, Member, Planning Commission, left Delhi on September 10 for New York to attend the meeting of the UN *Ad Hoc* Committee of Experts on Programmes in Fertility. He will later go to London for discussion with the Delhi Institute of Technology Trust in U.K. regarding the affairs of the Institute.

Mr C.S. Chandrasekhara, previously Town & Country Planner in the Town & Country Planning Organisation, has joined the Planning Commission as Chief (Construction) on September 2.

Mr P.N. Gadi, retired Chief Surveyor of Works in the Military Engineering Service, joined as Senior Specialist (Construction) on August 29.

Regd. No. D-876

PAISE

YOJANA

TENTH YEAR 19 OCTOBER 2, 196

FOURTH PLAN : A CRITIQUE

QUOTATION BOX

A well-known public speaker who has stepped on nearly every important platform in the State (Madras) once apparently forgot where he stood. After speaking for 40 minutes he declared in a burst of eloquence: "I am speaking not only for you but for the generations yet unborn", whereupon someone interjected, "If you do not hurry, they will be here before you finish."

—From "The Hindu" Staff Reporters' diary

Indeed, the more incompetent a Minister, the more durable his hold on office.

—S.M. in "The Hindustan Times"

We are not a legislative factory.

—Mr M. Ruthnaswami, M.P. in the Rajya Sabha

Few ever regarded the Central Cabinet to have been blessed with an embarrassment of political wisdom and administrative talent. Most of Mrs. Gandhi's colleagues can justifiably be described as prime examples of mediocrity, but even they are capable of giving a better performance than they did during the past three weeks.

—Mr Krishan Bhatia in "The Hindustan Times"

The latest instance of Hindi imposition which I have is the replacement of the English letter S.R. (Southern Railway) by the Hindi letter *Dha Re* on the Railway compartments.

—From a letter in "The Hindu"

Romanticism and euphoria have prevented our planners and our Government from realising the seriousness of the yawning gulf between plan formulation and implementation.

—Dr C.D. Deshmukh

According to an agency report, exactly nine months after the failure of electricity in New York last year, major hospitals there have reported a marked increase in births.

—Rambler in "The Premier", Bhopal

A speech by the Prime Minister or the Chancellor of the Exchequer ought to be a major event, but in recent years the public has come so punch-drunk with Ministerial oratory that even a nation-wide broadcast from 10, Downing Street, causes hardly a flutter. Churchill himself would have made little impact if he had spoken in the country every other week-end and on the wireless every two months or so.

—Mr John Grigg in "The Guardian"

In July every year, one gets the impression that all young people in the country want to go to college. And during the other eleven months of the year, they seem to want to keep out of college as much as possible.

—Prof. V.V. John

We can think of nothing that will put Americans on their feet quicker than the report that car insurance rates may double in the next few years.

—The Suffolk Country News

This week, I should have written about the Fourth Plan, the only flickering star on an intensely dark and gloomy horizon.

—Mr D.R. Rangnekar in "The Economic Times"

The extent to which any person's words may be accepted is usually in inverse ratio to the volume of them he uses.

—The Ballinger (Texas) Ledger

When their troubles are deep-seated and of long-standing, some people try kneeling.

—Granite City (Ill) Press Record

Perhaps nowhere else can we find a better example of unnutritive cooking as the North Indian way of cooking potatoes.

—From "The Century"

Posters appeared on the walls of some embassies (in Peking) last night (September 3) saying that Chinese soil could no longer be contaminated by the bodies of 'imperialists' killed in the suppression of the Boxer rebellion or the bodies of 'revisionists' who died in Korea.

—An A.F.P. report

In Europe people have cars. In the United States cars have people; or almost..... In America they have cars the way they have legs.

—From "The New Statesman"

Outside Andhra Pradesh, Andhra cuisine is probably the most misunderstood territorial cooking in India : people seem to think that it consists mainly of red chillis! Not at all. Green chillis too are often a feature of Andhra dishes.

—Mr M. Krishnan in "The Illustrated Weekly of India"

To Readers and Contributors

Contributions to YOJANA should be on specific aspects of economic, social and cultural life in the country and in those parts of the world in which we are especially interested; articles of a subjective, general character are not likely to be entertained. Reports of empirical studies, written for the layman, within 1,500 words, will be welcome. All published articles are paid for.

Readers are invited to send to the Editor their comments on matters of public importance in the form of Letters. Comments on YOJANA will be welcome.

While many entries come in for THIS INDIA, few are of good standard. What is wanted are significant anecdotes of Indian life; contributors should note that what may be an interesting incident to them may not be of much interest to others. Preference is given to entries which picture the human element in India's changing social, cultural and economic life. Each published anecdote gets Rs 10.

For subscriptions and other business enquiries, please write to the Business Manager, Publications Division, Old Secretariat, Delhi-6. All editorial correspondence is to be made with Chief Editor, Yojana Bhavan, Parliament Street, New Delhi.

Looking Back

—From Yojana, September 22, 1957

At long last the fog has lifted. We can now see more clearly what the Second Five Year Plan is going to look like and how much more it will cost. We also know the amount of money we have to raise ourselves and what we will need from foreign countries. All this happened over the last week during the debates in the two Houses of Parliament and in the deliberations of the Standing Committee of the National Development Council.

The Plan will remain in tact in its essentials and is to be completed within the five years prescribed. On the matter of scope and time there is no compromise. There is as yet no precise definition of the essentials for the simple reason that besides steel, coal, power and transport which are usually referred to as the 'Core' of the Plan much more is to go through unaltered. The rephasing or postponing will apply only to items of lesser importance. This clarification should silence criticism that the Plan is ill-conceived or too ambitious. If we mean to achieve the modest target of doubling the average income of our citizens in the next 17 years, it would be extremely unwise to slacken the pace of industrialisation.

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COVER by JIVAN ADALJA

YOJANA

October 2, 1966 — Fortnightly Journal Published on behalf of the Planning Commission — Asvina 10, 1888

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RELENT WE CANNOT

SINCE the Draft Outline of the Fourth Plan was issued on August 29, there has been a considerable amount of discussion in the Press and at public forums on the state of the economy and on the economics of the new Plan. The debate will continue. It will gather new momentum when Parliament reassembles on November 1, for its brief winter session. The ensuing general election which naturally heats up the political climate, also offers an opportunity for the debate to be carried forward to almost every home in this vast country.

In an underdeveloped nation which is as vast and varied as our own, economics happens to be the most important affair involving a huge mass of people on the move. Politics is only the external reflection of deeper social and cultural urges in a changing pattern of society. The preoccupation of our people with politics—which often becomes almost an obsession—is understandable only when it is rationally analysed as an active and conscious quest for a better standard of living. In other words, the biggest challenge before this country is that of economic growth, and insofar as each Five Year Plan offers our people a workable programme of continued economic development, it naturally becomes the focal point of the nation's intellectual and emotional exertion.

This exertion has to be conducted as far as possible on a rational and objective basis. The question may, therefore, be asked whether an election year is the best time for the inauguration of a new Five Year Plan. There is, of course, the advantage of getting some kind of a national involvement in the debate and discussion on the Plan. This advantage, however, is to a large extent lost by the intrusion of party politics into what should normally be a dispassionate and objective assessment of the economics of the Plan.

This is not to suggest that a Five Year Plan does not have its own politics—the ideological content of a Plan and the fundamental democratic aspect of our planning are both essentially political phenomena attached to the economics of the Plans. In the pre-election political fever, however, the political debate tends to be unusually hyperbolic; a great many simulated political issues are imported into an economic debate without adequate justification.

It is, perhaps, pertinent to suggest therefore that for a better national appreciation of our Five Year Plans, the coincidence of a Plan year also being an election year, should better be avoided in future. Perhaps the best time for a new Plan to be put before the public is after each general election is over; it will then also bear the stamp of the new Government elected by the people. This involves a certain amount of rescheduling of the process of Plan formulation. But the advantages are likely to more than make up for the difficulties and readjustments involved.

In the Symposium on the Fourth Plan Outline which we published in our last issue, as well as in the Critique which appears in the present issue, the contributors, however, have tried to avoid the heat of election politics. The questions which have been raised are now fairly well-known —has the country enough resources to implement a Plan of this magnitude? Has it learnt all the lessons from past experience and is it prepared to make a bold attempt to correct past mistakes? Is the administration strong enough to carry the burden of the new Plan? Is the Plan adequate to meet the challenge of food shortage, of rising prices and inflation? Is the statistical basis of the Plan sound? And so on.

The economists and others who have asked these questions will certainly be read carefully by the planners. Their view-points will be fully taken into account before the Fourth Plan is given a final shape. But the economists constitute only a segment of the people. In the ultimate analysis, a Plan fails or succeeds to the extent there is a determined national will to overcome difficulties and to push ahead on the road to progress.

The hardships and difficulties of the last few years have created a climate of scepticism in the articulate sections of the community. But beyond this section, are the vast masses waiting to be enthused to creative activity. Basically, it is a question of leadership. If the leadership fails the people at this crucial turn of our history, the prophets of doom will clap their hands. If the leadership proves to be more than equal to the tasks ahead, we shall not only be able to turn the corner, the present climate will give way to new hope, aspiration and effort.

In several recent studies of developing economies, eight major standards of modernisation were accepted to measure a country's progress. These are: (1) political unification with popular loyalty directed towards the State rather than family, clan or other domestic groups; (2) political decision-making on a rational, secular basis; (3) role-achievement by talent and not by ascription;

(4) large administrative output reaching all segments of society; (5) high level of literacy in a single language and post-elementary education symbolised by widespread use of mass media of communication; (6) over 50% urbanisation, with high secondary and tertiary labour employment; (7) diversification and complexity of the economy—no single crop or industry to render the nation vulnerable to the world economy; (8) reduction of economic and social distance between higher and lower classes; elimination of caste, poverty and gross discrimination by race, class or status.

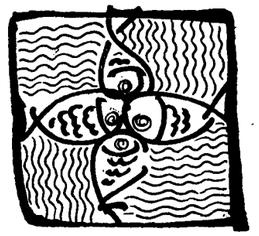
How many of these eight standards are applicable to the Indian society of today? We do have political uniformity to a great extent, but our loyalties are still partially directed towards smaller groups rather than the State as a whole. Our level of literacy is still relatively low; so also is our level of urbanisation. On the other hand, however, we have reached a stage of maturity when many of our political decisions are taken on a rational, secular basis. Talent has begun to be recognised in preference to ascription though not to the extent desirable. The economy has reached a reasonably high level of diversification and complexity. Although caste, poverty and social discriminations still exist and the disparity between the rich and the poor is still agonising, there is no doubt that the broad masses of people have begun to live a better and healthier life. In other words, measured by the standards mentioned above, we would seem to be at midpoint between underdevelopment and development. This is, for any country, the most crucial stage in its growth. It is at this crucial stage that doubts begin to assail people's minds and a kind of tiredness sets in. It happened in the Soviet Union in the early 30's, and it is happening more or less in every developing country today. In a very Chinese way, it is happening in China also.

The test of leadership and popular will at this crucial stage almost inevitably is: whether to relent or to go ahead. Historical experience shows that to relent is to go down and to go ahead with vigour and determination is to succeed.

Yojana Supplement

From the next issue, YOJANA will have an additional four-page supplement on the growth and development of Rural Industries in our country. This new regular feature will highlight the problems of rural industries and report on their systematic development.

Also with the next issue, YOJANA returns to all its regular features.



MORE ARTICLES BY LEADING ECONOMISTS

Because of lack of space and, in some cases, late arrival, a number of articles by eminent economists invited for this issue have had to be held over. These articles will be published in the next. issues of yojana.

Also in the next issue :

INDO-NEPAL ECONOMIC COLLABORATION — ECONOMICS OF NON-ALIGNMENT— VILLAGE MAKES NO NEWS IN OUR PRESS.



A Yojana report based on the proceedings of the Informal Consultative Committee of MPs at its seven meetings in August and September.

M. P.s SCAN PLAN OUTLINE

WITHIN two days of the presentation to Parliament on August 29 of the Draft Outline of the Fourth Plan the meeting was held of the Informal Consultative Committee of Members of Parliament for the Planning Commission. The two Houses of Parliament had adjourned by September 9. During ten days the Informal Consultative Committee met seven times on August 31, and on September 2, 3, 5, 6, 7 and 9. In the discussions on the programmes and policies outlined in the Draft Plan, 49 MPs took part. While the Lok Sabha and the Rajya Sabha as a whole are expected to discuss the Outline at the next session beginning on November 1, several committees of the MPs are expected to be set up to go into the Draft Outline.

Meaningful Discussion

In order to initiate a meaningful discussion of various aspects of the Plan, Mr Asoka Mehta, Deputy Chairman, told MPs, it was necessary to provide an integrated framework. With the publication of the Draft Outline, the Planning Commission hoped to profit over the next two months from comments, criticism and suggestions from MPs, State legislatures and Governments, Zila Parishads and other representatives of public and institutional opinion. This was essential both in order to create a full sense of involvement all over the country in the formulation of the Plan and to pave the way for effective implementation.

The comments from members came between the opening remarks of the Deputy Chairman and the exposition by Members of Planning Commission of the thinking on policies and programmes, especially on important points made by MPs.

Mr Mehta described this series of meetings as very important. The Outline was the third document the Planning Commission had placed before Parliament on the contents of the Fourth Plan, and it had to be discussed before it was finalised.

In the Draft Outline the basic framework had not been altered. But we had been compelled, Mr Mehta said, to abridge to some extent the programme contents of the Plan. This was so because of the rise in prices and other difficulties. In order to make a realistic presentation of our programmes, these modifications had to be made. But the basic balance inside the Plan had not been disturbed. The priorities given from the beginning to agriculture, to those industrial programmes which would enable us to achieve self-reliance over the period envisaged earlier, and those programmes which strengthened our security, had been maintained. Wherever possible, they had been strengthened.

To agriculture in the wider sense, the Planning Commission had tried to allot as large resources as administratively and technically this sector could absorb. Whether it was minor irrigation, soil conservation or any other activity, there had been a marked step-up. Rather than start new projects, the Commission had suggested that we carried forward and completed the various projects on hand so that they might begin to yield results in the high priority sectors.

Balance Between Sectors

Referring to the balance between the public and private sectors, Mr Mehta said that any deduction from the programmes of the public sector had been accompanied by similar reductions in programmes in the private sector, particularly in industry. Nowhere had the Commission reduced the public sector outlays and allowed the private sector to play a larger part. In fact, the quantum of external inflow of investment into the private sector had been cut down. Foreign private investment in the private sector had been put at about 500 million dollars as against 600 million dollars assumed in the document of September 1965. Likewise, institutional assistance that might flow from foreign countries and international organisations into the private sector had been reduced. It was a misplaced feeling, Mr Mehta said, that because of difficulties in mobilising resources, the public sector programme was going to be hamstrung, or

that the private sector, indigenous or in collaboration with foreign investors, was being permitted to expand in its place.

The Draft Outline expected the external credits to be of the same order as earlier. The question had often been asked as to how the draft document could be prepared on the assumption that external credits of the order of 8.4 billion U.S. dollars would be available. This was the amount of actual disbursal that would be necessary during the Fourth Plan period. Something like 2 billion worth of external credits were already committed and were in the pipeline. Something like a billion U.S. dollars worth of external credits would be available from the Soviet Union, credits to the order of a billion U.S. dollars should be available during the current year from the Consortium countries. The Eastern European countries had offered some external credits. On a rough calculation, there would be private foreign capital inflow of 500 million U.S. dollars. And the debt servicing liabilities were of the order of 2.8 to 2.9 billion U.S. dollars. So the next additional inflow that was necessary to put through the Plan over the remaining four years was roughly of the order of about a billion U.S. dollars or so.

Explaining the likely effects of non-availability of adequate external assistance and credits, Mr Mehta said that the performance in the Fifth Plan might be placed on doubt. This was a matter which the Commission hoped to examine in detail.

Import Needs

Referring to import requirements over the Fourth Plan period, Mr Mehta pointed out how they had been maintained almost at the level indicated in the earlier documents. At pre-devaluation rates, they stood today at Rs 5,300 crore as against Rs 5,200 crore assumed earlier. The alteration really lay in the composition of the imports. Those which provided inputs for agriculture were now given preference, particularly fertilisers and pesticides.

Mr Mehta explained why, on the export side, there was no change. If the export targets had not been revised after devaluation of the rupee, the reason was that without devaluation the old export targets would not have been reached; or reached, if at all, only with the help of very heavy subsidies. In examining our export performance and targets, Mr Mehta added, one had to take into account not just the export targets but export costs also. Devaluation had made our exports more competitive in the world market.

When the Commission gives a look at the planning process somewhere in the middle of the Fourth Plan, we shall have to see how far we had underrated the needs and requirements of the Fifth Five Year Plan. The two Plans had to be viewed together if we were to achieve self-reliance. From that point of view, again, the Draft Outline was not as complete as the Planning Commission would like it to be.

In order to start consultation on the making of the Outline, the Planning Commission had, more than a year ago, communicated to the State Governments, the agricultural programmes and other programmes which had to be maintained. These programmes had to be broken up for districts and blocks. In drawing them up, the concerned interests had to be associated. Just as it was then necessary to have close participation of the people at the grass roots level, Mr Mehta said, it was important to have the participation of the leaders of the people in determining the matters of policy in planning. The disciplines of development, the hard choices the country had to make, the conflicting considerations and the divergent needs of the economy had to be taken into consideration. There had to be a great deal of understanding of the Plan as a whole and not only of particular programmes. The Planning Commission could not bring these varied considerations together unless it drew up the Draft Outline.

Improvement Possible

The Outline was capable of changes and improvement. The Commission thought that it should give as detailed an exposition of the Plan as possible if it was to benefit by comments, criticism and advice. Any fragmentary or segmentwise presentation would have defeated this purpose.

The Draft Outline involved, Mr Mehta said, mobilisation of additional resources. A certain degree of economy in administration had to be achieved. Unless we consulted the Chief Ministers and unless the Cabinet gave its views, the Commission could not claim for the Outline a validity which deserved careful consideration.

Matters like Centrally-sponsored schemes, patterns of assistance, the principles of Central assistance are still to be decided. These vital matters were being considered in consultation with the State Governments. The Draft Outline had grown out of a great amount of devoted work that had been done here, in State capitals and at district headquarters. Officials and non-officials had helped greatly through panels, through working groups and various discussions. But the document carried forward our development along the lines which had been firmly laid down.

Concluding, Mr. Mehta said, the Outline underlined the great faith and determination that the people had in strengthening economic independence of the country. It believed that they would be willing in the next five years to make the necessary sacrifices by looking upon development programmes as more important than any immediate unplanned increases in consumption.

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MEMBERS of Parliament belonging to the Informal Consultative Committee for the Planning Commission took an active part in the discussion on the Fourth Plan Outline held on August 31 and on September 2, 3, 5, 6, 7 and 9. Given below are the main points made by the participants. It is not a verbatim report of the members' speeches.

Mr. SHASHI RANJAN

(Bihar-Pupri)

Self-reliance could not be achieved without self-confidence. The Planning Commission must take steps to create it. The Fourth Plan Outline should have explained the key production targets. A Plan of this size was of no use unless it was possible to spend effectively Rs 13 crore a day. In view of the wide disparity between the incomes of different districts in the country, the Plan should help all the districts to develop equitably. Only then would the Plan be generally accepted all over the country.

Mr. P. R. PATEL

(Gujarat-Patan)

Our approach to farmers has to be changed in order to organise and involve them in more agricultural production. Why is it that the policy of ensuring a remunerative guaranteed minimum price to the farmer, enunciated in the Third Plan, has not been implemented. The food deficit was growing in spite of the large expenditure on agriculture. Before applying fertilisers, soils should be analysed. Otherwise, fertilisers will be wasted. Water is not being properly used, although expenditure on irrigation is rising.

While existing industries are not fully utilised, if new industries are established under every Plan, how will the targets be achieved ? The reasons for shortfalls and failures should be analysed.

Mr. K. D. MALAVIYA

(U.P.-Basti)

Without a basic revision of our entire way of life, the imbalances in our thinking and action cannot be corrected. Socialist implementation of Plans from the beginning would have brought double the benefits we have got now. For this, the objectives of the Constitution would have to be changed. The entire system of administration has also to be changed and people taken into confidence. Self-reliance had to come from within and can never be attained through aid.

All the revenues envisaged by the Plan are highly exaggerated. Public sector undertakings will not be able to give a return of 11%. And enough money will not come from taxation, railways and small savings. Government should not be afraid of deficit financing. What is needed is an effective control on distributions and prices. There should be an integrated price policy which should be linked with the economies of production and distribution.

There is no mention of a national food policy in the Draft Outline. Coal production should be increased. Coal should be used for producing hydrogen gas.

Mr. T. SUBRAMANYAM

(Mysore-Bellary)

Keeping in view the experience of targets and actual consumption in the Third Plan, present targets for foodgrains and fertilisers seem to be ambitious. There should be a proper follow-up of implementation at various stages. For this, the Commission should set up a machinery at the Centre and the States.

Mr. KASHI RAM GUPTA

(Rajasthan-Alwar)

The Fourth Plan Outline does not give details about the availability from different countries of the foreign exchange of Rs. 6,000 crore visualised in the Plan. Foreign exchange requirements of different industries should also have been given.

To provide employment avenues in the villages, it is necessary to double the allocation for rural electrification. We should find resources for that.

In the case of scarcity areas assistance should be given only to practical schemes drawn up in detail.

The Planning Commission should give its views on urban property ceilings.

The Fourth Plan has not provided for new irrigation schemes. This will affect development under the Fifth Plan.

The Planning Commission should suggest steps for checking evasion of taxes.

Mrs. RENUKA RAY

(West Bengal-Malda)

It is not clear on what price level the Fourth Plan estimates, specially in respect of capital goods, have been based. The 5.5% rate of growth envisaged in the Fourth Plan should not be allowed to be affected by increasing prices. We have to achieve this rate by proper implementation.

The Draft Outline has not explained defence development, for example, electronics seems to have been included in industry.

No specific steps have been mentioned for reducing the non-Plan expenditure. It is also not indicated as to what steps have been taken to ensure the expansion of exports to the extent mentioned in the Outline.

Every time there was a crisis, the allocation meant for human develop-

ment was cut, this was most unfortunate, as successful implementation of the Plan depends largely on the human factor.

Mr. G. Y. REDDY

(Andhra Pradesh-Markapur)

The Draft Outline does not make clear how the old physical targets have been adjusted in the present Plan despite devaluation. It is also not known in what specific directions further mobilisation of industrial resources is going to be achieved.

Mr. M. P. SHINKRE

(Goa, Daman, Diu-Marmagoa)

Our economy is still in the age of bullock-cart technology. The Planning Commission should see that the Central and the State Governments fulfil their targets Additional taxes should be in the form of indirect taxes.

Mr. BANKA BEHARY DAS

(Orissa)

The schemes in each sector should be divided into those depending on available indigenous resources and firm foreign exchange commitments and others depending on uncertain factors.

The Outline should state in the chapter of implementation that every project would be time-and money-bound.

New industries dependent on foreign raw materials should not be encouraged.

Our educational system should be science-oriented.

The Planning Commission should examine the possibilities of doing away with prohibition. Tax on liquor will be a better source of income than tax on land.

Mr. NEKI RAM

(Punjab)

Loans or grants for construction of houses should be given to small cultivators for using on the development of land.

Mr. SUPAKAR

(Orissa)

We should know when we would be able to achieve a balance in the balance of payments position.

There is lack of cost consciousness as regards projects. It is important to know how far we are able to produce goods on competitive prices for our industrial plants.

Mr. C. R. BASAPPA

(Mysore-Tiptur)

There is no cohesion or co-ordination in planning as between the Centre and the States. The Centre should allocate more funds to the States.

Large irrigation projects should be taken over by the Centre. Famine-stricken areas should get special treatment.

The Planning Commission should give due consideration to establishing a Development Board for Malnad area in Mysore, a Ragi Research Station and the small car project in Mysore.

Mr. PETER ALVARES

(Goa, Daman and Diu-Panjim)

The Plan should be re-oriented. The Planning Commission should distinguish between need-based and resource-based schemes.

The reasons for shortages in the Third Plan have not been fully analysed. There is a large market in our neighbouring countries for our finished goods.

The cost structure of our projects is fantastic and it should be reduced.

Deficit planning would be inevitable. Care should be taken to see that prices do not rise beyond 2.5 per cent. Counter-measures to check them should be adopted.

All credit institutions should be nationalised.

Figures of per-capita availability of food are wrong.

A policy of diversification should be followed in industry. Attention should be devoted to the rural sector whose productivity is very low.

Mr. V. B. GANDHI

(Maharashtra-Bombay City)

If deficit financing could help in developing the country, it should not be avoided.

There should be economy in Government's expenditure.

There is a great possibility of increasing the country's resources through a betterment levy. Unearned income from increase in land prices in rural as well as urban areas can be mopped up this way.

Dr. M. M. S. SIDDHU

(Uttar Pradesh)

Our medical colleges are not properly equipped. There are certain medical colleges which even after four or five years do not have their own laboratories. An organisation on the lines of the University Grants Commission should be set up to look into medical and technical education.

The hospitals and dispensaries are in a very bad condition. The Planning Commission should go into the matter and see that the allocation for these is increased.

There should not be any disparity between the pay scales of doctors in the Primary Health Centres and those in the proposed task-force for implementing the family planning programme.

Drug prices should be kept low.

Mr. JASWANTRAJ MEHTA

(Rajasthan)

There is no guarantee that the shortfalls of the Third Plan would not occur even in the Fourth Plan.

The same priority that is given to steel should be given to fertilisers as well.

Mr. YOGENDRA JHA

(Bihar-Madhubani)

Even if we achieve the target of 120 million tonnes of foodgrains by the end of the Fourth Plan, it will not be sufficient to meet our needs.

The big farmers go in for cash crops because, for example, the net profit from the production of sugarcane per acre is Rs 1401 while that from wheat is only Rs 57. And it is the big land owners who make profits from the rising prices. Higher tax should be imposed on big land owners and small owners should be exempted from tax.

In addition to crop insurance suggested in the Fourth Plan, cattle insurance should be also started to help the farmers. At least those who are engaged in co-operative farming should be covered by these. Villagers should be helped to improve fisheries in ponds.

Mr. SUMAT PRASAD

(U.P.-Muzaffarnagar)

There is no enthusiasm among the people for the Plan.

Co-operative farming has not made uneconomic holdings economic?

Mr. SINHASAN SINGH

(U.P.-Gorakhpur)

All public sector undertakings are headed by retired persons who may be good advisers but as administrators they are not as good as the younger people.

Even in the Fourth Plan the amount allotted to agriculture is less than that to industry. Agriculture should have a programme of small industries attached to it. The limit of Rs five lakhs fixed for small industries makes it difficult for people with smaller capital to take advantage of it to start small industries.

Betterment levy will harm small farmers.

The quality of our goods is not good. Some goods exported even by some public sector undertakings have not been up to the mark and have been rejected.

Mr. K. L. BALMIKI

(U.P.-Khurja)

If the total amount spent on all the Plans till now had been distributed equally among the people it would have benefited them more than planning.

Co-operatives have been a failure. Even in consolidation of holdings the bigger farmers have gained.

Small industries should be properly dispersed in all villages and small towns. The maximum possible help should be rendered to backward classes. More house-sites and better supply facilities should be given to them.

Prohibition should be implemented in a better way.

Mr. Y. P. MANDAL

(Bihar-Jainagar)

Under research scheme for irrigation and power artesian wells should be sunk, particularly in the Indo-Nepal border where vast resources of underground water exist. In electrification programmes, towns and villages should be separated. Otherwise money meant for the rural areas may be diverted to towns.

Special programmes should be taken up for the welfare of landless labourers. Schemes for extension of agricultural credit also should be taken up along with implementation of land reforms.

Mr. T. V. ANANDAN

(Madras)

In a Plan there should be no question of a wage-freeze. It would be better to merge dearness allowance with wages as it would enable employees to make more contributions. Dearness Allowance given to private employees also should be controlled by merging it with wages.

The provision of Rs 94 crore for family planning is not necessary at this stage. Three advance increments may be offered as incentive to employees in some selected industries who undertake to use the new devices of family planning.

The public sector undertakings have not risen to expectation because the General Managers posted to such undertakings are not fully familiar with their work.

Our villagers have not felt the impact of planning at all. It is only towns and cities that are progressing. Industrialists should be given incentives to invest in rural areas.

Mr. P. VENKATASUBBAIAH

(Andhra Pradesh-Adoni)

The Plan has not allotted any money to famine affected areas. A comprehensive scheme should be drawn up for all such areas. The States should co-ordinate their work in providing drinking water to the villages.

There should be a systematic study of the outlay on irrigation projects. The Centre should share the financial outlay in major irrigation projects with the States because they alone will not be able to meet the expenditure from their resources. The performance of medium and minor irrigation programmes has been poor.

The funds for reclamation of land are inadequate. The shortage of agricultural machinery and spare parts is a hindering factor. More money should be provided to manufacture them.

Consolidation of holdings has been neglected.

While more money is being spent for erecting fertiliser and pesticide plants, the allocation for production of hybrids seeds is meagre. With the setting up of hybrid farms in the States, extension services should also be strengthened. The structure of the co-operative movement should be oriented to meet the needs of the agricultural production programme.

Mr. H. C. MATHUR

(Rajasthan-Jalore)

The Draft Outline does not mention as to how the masses have been benefited by planning.

The planners have outstretched themselves in the calculation regarding resources. The taxation envisaged in the Plan would only create inflationary changes. Resources available in the country have not been utilised in productive channels and the measures adopted so far have only pushed up the prices. A better strategy will be to take measures which will give immediate return in the first two years of the Plan. One such is minor irrigation schemes.

In spite of three Plans the national disparity has grown, which has a serious bearing on national integration. It will be necessary to earmark Rs 300 to 500 crore for bringing up each State to an average national level in some specified programmes and projects.

In drawing up programmes, a close check is necessary to see that ambitious schemes are not drawn up. In the Third Plan Rs 11 crore was allocated for T. B. Control programmes of which only Rs 4 crore was utilised. When this is the case, why should Rs 33 crore be allocated in the Fourth Plan for this programme.

To increase the production of wheat, it will be useful to concentrate in three or four States on rural electrification.

Mr. RAMANATHAN CHETTIAR

(Madras-Karur)

In spite of our experience with three Plans, we have not been able to present a realistic Plan. The poor utilisation of foreign aid stands in the way of achieving success in the Plan. The Fourth Plan which is based on a high target for national income and savings may not achieve success.

There has not been sufficient follow-up work after devaluation. The targets for exports, namely, Rs 8,000 crore, look nice on paper but it is doubtful whether they will be achieved. The Salem steel plant should be included in the list of approved schemes in the final Plan. The Japanese experts have upheld the feasibility of the scheme. The Madras Government wants only Rs 35 crore of foreign exchange for this plant.

Mr. S. N. MISHRA

(Bihar)

An impression has been created that this Plan is an autonomous one. This contradicts an earlier impression that planning was a continuous stream. The perspective plan which was drawn up earlier has almost been lost. The present Plan may be theoretically perfect but it is doubtful

whether its implemention will be any better than before. An income and employment Plan for each year is needed. The Planning Commission should be well-equipped for material budgeting. Another Plan is necessary for studying the material balance in inter-industry study will be helpful in this regard.

The social objectives have taken a back seat in the Plan. This is a *status quo* Plan in terms of income and occupational patterns. The income pattern has not been affected at all by the Plans and, therefore, there is a general disenchantment in the country with planning.

The current view that the country is in no mood to bear additional taxes should not go unchallenged. If it is allowed to prevail, the income structure would remain congealed.

A control machinery is necessary to check that non-Plan activity, a cell may be created in the Planning Commission and in the States to approve of any negative measures which may be advocated. The management of foreign exchange should be more responsible.

A Parliamentary Committee with the status of Estimates Committee or the Public Accounts Committee should be set up to study progress of the Plan.

The Community Development programme is almost dead and needs to to be regenerated. There is no move to enforce land reforms programme, consolidation of holdings, etc.

There is not much evidence of improvement in the tools of planning or in the collection of statistics or evaluation and allied fields.

Our industrial policy resolution has been watered down. I want to know whether the public sector is really in a commanding position. What is the provision under the Fourth Plan for advance action on schemes to be included in the Fifth Plan ?

What are the arrangements in the Fourth Plan for reduction of items which come under maintenance imports ?

There must be village plans in addition to block development plans. We should give further thought to the rephasing of the Community Development programmes.

Mr. B. N. MANDAL
(Bihar)

The three Plans have actually increased the sufferings of the poor. To have a realistic Plan, the families should be encouraged to draw budgets and State budgets and the national budget should be built up from them.

Landless labourers should be given land and fuller employment.

A price policy that is acceptable to all political parties should be drawn up.

Mr. S. N. CHATURVEDI
(U.P.-Ferozabad)

We will have to guard against shortfalls in all vital sectors in the Fourth Plan.

Indirect taxation leads to rise in prices and direct taxation is already heavy.

Very little has been done to explore and utilise the possibilities of indigenous manure. The figure in the Draft Outline for green manure seems to be deceptive.

Is the power potential that has been created in the Plans being utilised in full ? Even now it takes 12 to 18 months to get power connections for energising the tube-wells.

Is it possible to implement this ambitious Plan with the administrative machinery that we have ?

Mr. C. M. KEDARIA
(Gujarat-Mandvi)

Funds should be provided from the general budget for social welfare and development of backward classes. Rural industrialisation schemes should be implemented in the adivasi areas also. In tribal areas, funds provided for tribal development should not be spent on anything else. To find out the benefit that the tribals have got from these schemes, a quality assessment must be made.

An agro-industrial policy should be evolved to increase the income of farmers.

Mr. ERA SEZHIYAN
(Madras-Parambalur)

How many top priority schemes are there in the Fourth Plan ? We have been laying too much stress on outlay. There should be a check on the fulfilment of physical targets.

Mr. BIBHUTI MISHRA
(Bihar-Motihari)

Every farmer wants to produce more, but the attitude of Government officials is not helpful. The bureaucracy has no urge to implement the Plans.

There should be uniform power rates in all the States. At present, it is the highest in North Bihar and lowest in Mysore.

Replies by Members of the Commission

Mr. TARLOK SINGH

REFERRING to some of the points raised by MPs, Mr Tarlok Singh drew attention to measures proposed for implementation of the programmes and absorption of the new labour force in the Fourth Plan. Besides proposals for economy in construction, project planning, management, area development and administration, training for management, administration and planning, suggestions had been made for improving formulation of annual Plans, both at the Centre and in the States. This would help remove deficiencies in implementation and introduce greater flexibility to meet current developments in the economy, correcting targets and estimates. It should also become possible to take forward view of the growth of economy and of favourable technological and economic possibilities. He said that co-operative action between the States and the Central Ministries was essential. Referring to the employment policy, spelt in the Draft Outline, Mr Tarlok Singh said that a programme for rural works had been formulated in the Fourth Plan for extending employment to the rural youth. This was a vital area for the success of the Plan.

Mr Tarlok Singh added that it was proposed to organise labour co-operatives in varied fields of activities for not only providing work for landless labourers but also for other welfare activities. Work was being done on materials planning as well. With regard to development of rural sector and welfare of backward classes, Mr Tarlok Singh said funds would be made available for all essential activities.

Mr. S. G. BARVE

Mr S. G. Barve, Member in charge of Industry, said that the main strategy in formulating industrial programmes for the Fourth Plan was to advance towards the goal of self-reliance.

He said that in certain sectors of industry, for instance, in machine building, power generation equipment, machine tools and transport needs, self-reliance had already been achieved to a considerable extent. Our total machine making capacity, he added, would be more than tripled over the current Plan period. It was also hoped that we would achieve full self-reliance in many of these fields. In metallurgical industry generally, such as in steel, alloy steel, aluminium and making of fertiliser machines, we would achieve full or near self-reliance by the end of the Fourth Plan.

In the industrial programme, Mr Barvè pointed out the likely outlay, foreign exchange component and extent of import substitution had been mentioned in the Draft Outline. In drawing up the industrial outlay of the Fourth Plan, the foreign exchange saving to accrue on completion of the project was weighed against the foreign exchange outlay for its execution. Only those projects were included which showed a high proportion of net foreign exchange saving.

Mr Barve also said that industrial programmes in the private sector accounted for nearly Rs 2,650 crore, of which foreign exchange was computed at approximately Rs 900 crore. He further said that in calculating project costs, escalation due to devaluaton had been taken into account.

Prof. V. K. R. V. RAO

Answering why in spite of large investments and increase in food production the deficit in food supplies seemed to be growing, Prof. V.K.R.V. Rao, Member (Agriculture) said that there was a difference of about 6.3 million tonnes in the peak production of 82.7 million tonnes during the Second Plan period and of 89 million tonnes during the Third Plan period. Taking the Second Plan and the Third Plan period as a whole, however, the average production during the first four years of the Third Plan was higher by about 8 million tonnes than the average during the Second Plan. During the first four years of the Third Plan, the population increased by about 46 million. Against this growth of population and the increase in money incomes that took place during the Third Plan period, the increase in food production that took place during the Third Plan period was not adequate. This was partly responsible for the large food imports that took place during the period.

There were other factors also at play which aggravated the disequilibrium in the food economy. These were changes in the distribution of money and real incomes, growth of urban population, and improved capacity of the producers to retain more of their produce. This last factor is reflected in a sustained fall in the arrivals of foodgrains in the market. It must also be admitted that another factor was the slackening in domestic procurement. Thus, in the early years of the 50's, procurement was significantly higher than it was in the 60's when production was larger. For some time to come, production alone will not solve the food deficit. Arrangements to mobilise the additional production in public distribution channels have to be taken up more vigorously along with the increased production. This is being attempted now by the extension of the crop loan system by the co-operative movement and by the operations of the Food Corporation of India.

Prof. Rao emphasised that there had been practically no cut in the allocation for agricultural sector in the Fourth Plan since the publication of the Memorandum in October 1964. He added that nearly Rs 5,000 crore, out of Rs 16,000 crore in the public sector, would be available for agriculture and allied programmes. Money alone could not, however, raise production, as administrative, technical and operational difficulties had also to be removed simultaneously.

Analysing the effect of devaluation on the original outlay of Rs 2,400 crore for the agricultural sector, raised to Rs 2,410 crore in the Draft Outline, and retention of the Fourth Plan target of 120 million tonnes of foodgrains, Prof Rao pointed out, that the foreign exchange component in the Plan programmes of agricultural sector proper was small. For imported fertilisers and import component of domestic production of fertilisers, foreign exchange had been provided for in the Plan. Government had also agreed to prevent a post-devaluation rise in fertiliser prices by subsidisation. For these reasons, agricultural production target had been retained without any significant increase in public sector outlay for agricultural programmes.

Prof Rao also suggested organisation of "rural compost estates" by panchayats for production of indigenous manure for use by cultivators. He said that half or one acre of wasteland in each village should be set aside for composting. In addition, development of alternative fuel supplies for the rural areas, provided for in the Fourth Plan, would relieve pressure on raw materials, now being consumed as fuel, which would then be used for rural composting. Similarly, it was proposed to raise production of urban composts in the Fourth Plan to 5.4 million tonnes, from 3.5 million tonnes in the Third Plan.

Prof Rao also called for greater co-ordination between the people and local leadership for fuller utilisation of irrigation waters. He suggested that seed corporations in states should be set up on the lines of the National Seeds Corporation for production, certification, inspection and distribution of hybrid seeds.

In view of the importance of soil analysis for recommending fertiliser doses, about 58 soil testing laboratories would be in operation in the Fourth Plan, each laboratory having facilities for analysing on an average 30,000 samples a year. There was also a proposal to organise mobile soil testing vans.

Prof. Rao was in favour of setting up of agricultural cells in the States as well as in blocks and districts for planning of agricultural programmes. In this work, panchayati raj and co-operative institutions should have to be strengthened and local leadership fully involved in raising agricultural production.

With regard to incentives for raising agricultural production, Prof Rao pointed out that guaranteed minimum prices and incentive procurement prices now forward an establishment part of Government's agricultural policy. Adequate attention was still to be paid to land reforms. In conclusion, he said that public co-operation was imperative for raising agricultural production along with availability of adequate inputs.

Prof M.S. THACKER

Referring to points relating to major irrigation and electric power projects, Prof M.S. Thacker, Member (Natural Resources), said that schemes for the "servicing sectors" had been prepared in a rational manner.

Master plans for rural electrification in States were being prepared. Prof Thacker thought that about Rs 50 crore, in addition to Rs 250 crore, provided for in the Fourth Plan, should be made available for this purpose. There was also an attempt at balancing of power generation programme, the hydro-power to contribute 40 per cent, and thermal (including atomic) power, 60 per cent of the total production by the end of the Fourth Plan. This was necessary as, in the Sixth Plan, over 30 million tonnes of coal-middlings would be available from washeries. These were of no use whatsoever, except in power production. With the formation of regional grids and a national grid and their integrated operation, there would be substantial savings in capital and running costs and more efficient operation.

Prof Thacker also said that for those major irrigation schemes which conferred benefits in the Fourth Plan itself, funds would be available. He was, however, not happy at the existing provision for major and medium irrigation projects and hoped that in the final Fourth Plan—a little more consideration would be given to them. The tempo built up would not be allowed to lose momentum in ensuing Plans.

It was important to use more fully the irrigation potential created and to bring closer the factors of potential to utilisation. Here considerable co-ordination between agriculture and irrigation was imperative. He emphasised that no irrigation project should be considered as complete unless all its ancillaries, such as field channels and levelling of field were ready.

Stressing the need for economy in construction of civil works, Prof Thacker felt that at the rate of 5 per cent there could be economy of approximately Rs 400 crore in the Fourth Plan. More than half the total outlay in the Fourth Plan was devoted to construction. The family planning programme was of great significance to the success of the national Plan.

QUOTATION BOX

Our destination is the coffee-hotel. Just because the distance looks formidable, can we slip into the toddy-shop on the roadside?

—Mr Kamaraj quoted in "Broadway Times", Madras.

The loops are being distributed in the villages as *prasad* is distributed from the Hanuman Mandir.

—Mr Hem Barua, M.P.

I see a new organisation has just been formed to provide an ethical code for fortune-tellers.

—From "Humanist", London

A wife went to a psychiatrist for advice about her husband, who was imagining himself to be a lawnmower.

"Pure fantasy," the doctor said, "It will pass away".

"It had better pass away", the wife said. "I'm getting tired of lending him to the neighbours."

—From "Hemet (Calif.) News"

DTU bus conductors get wiser day by day. The latest is that they consider stopping the buses at every stand an unnecessary bother. A bus that has to stop at every stand is described in bus conductors' parlance as a "bad bus", and a bus that roars imperiously past every bus is a "good bus".

—From "The Statesman" New Delhi Notebook

A certain amount of good behaviour is the result of knowing that the lady next door is a terrible gossip.

—From "The Eaton (Colo.) Herald"

I am greatly indebted to a colleague in Bombay who has made the significant discovery that the two latest additions to the Central Board of Film Censors are an astrologer and a hotelier. We are certainly moving with the times.

—"The Statesman" Film Critic

Black Power — the new slogan which is frightening white America is an indication of the increasing militancy of the Negro struggle. They are tired of asking for their rights; they now demand them.

—Mr Philip Altbach in the "Tribune" of U.K.

For newspapermen throughout the world Washington has already been the Mecca of journalism. It is—or as the foreign correspondents' legend has it—the one capital city where all hearts are open, all desires known and where no secret is hid (at least not for long).

—Mr Anthony Howard in "The Listener"

Indonesian women yesterday urged President Sukarno to abandon voluntarily his string of honorary titles such as "Great Leader of the Revolution, Champion of Islam, Great Fisherman, Supreme Teacher and Great Farmer".

An A. F. P. report

(In India) too may decisions about the use of science seem to be taken after dark and before dawn... Everywhere the scientist is on tap; nowhere is he on top.

—Prof Maurice Goldsmith, Director of the Science Foundation, London.

An unwavering look at Indian socialism today would reveal that it is a house built on evocative phrases.

—Mr Chanchal Sarkar in "The Hindustan Times"

Some worship God, some money, others the chair they sit on.

—From "Himmat"

Malays now say what they think. But does the Tunku?

—A heading in "The Economist", London

This 'Ticketeering' Phase

—Mr Romesh Thapar in "The Economic and Political Weekly"

No doubt some of the Red Guards will have to fall victim to the restoration of order, but most will be satisfied when the haves are reduced to the level of the have-nots. And when they are physically and intallectually exhausted, China will once again know the happiness of normal everyday life.

—MrRobert Tung in "The Far Eastern Economic Review"

THIS INDIA

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

It was a village of poor people. I went there to meet some primary school teachers who were good social workers as well. The teachers took me to the class. When we went to the first standard, I was surprised to find a dozen little kids who looked 3 or 4 years old. I asked the teacher about their age. "Some of them are four years and some a little below," said the teacher. "How could you admit them when there is a restriction about age?"

"But hunger does not bother about age. These kids starve at home. The parents have brought them here because they can get at least mid-day meals under the noon-feeding scheme. The children will continue to sit in the class till they reach minimum age. Till then the school records will show them as having failed in the exams."

Kottayam *K.S. Nair*

I used to frequent a *pan* shop. The shop sold not only betel and cigarettes, but also aerated drinks, biscuits and bananas. People who ate bananas at the shop used to toss the fruit peels all over the pavement in front of the shop. Many a pedestrian slipped over the peels. The shopkeeper did not bother about the pavement's cleanliness.

It was after a month that I called at the *pan* shop.

Now I found the spot to be very neat. The shopkeeper had provided an iron receptacle in a corner of the pavement and was exhorting his customers to throw all the fruit peels into it. Now and then he used to go out of the shop to collect the fruit peels that were strewn about and put them into the bin. I had hardly congratulated him on his new-found civic sense when another customer drew me aside and said, "He is no fool to do all this. The milkman living in the opposite lane has installed the bin at his cost. The *panwalla* gets a rupee every week from the milkman who collects the peels every day to feed his cows."

Madras *A.V. Sundaram*

I was at the shop for the weekly ration. Among the large number of customers, all except me were women. They refused to stand in a queue or observe any orderliness. The shopkeeper stopped distributing ration and said loudly—"All old women, stand here. I will distribute the ration first to them. All others, please form a queue up there." He pointed to another corner.

A queue was formed in a few minutes. All the women stood in a queue and none was there at the place indicated for old women. The shopkeeper distributed the ration without any further difficulty.

Madras *S. Chandrasekar*

A few days ago, at a cremation ghat, I saw a man kneeling beside a corpse and trying to take its teeth out with a pair of pliers. A number of mourners were looking intently. I became inquisitive and had a closer look.

The man had pulled out a pair of gold plated teeth from the mouth of the body before the pyre was lit.

Delhi *Majid Siddiqi*

I was on Government duty at Roing, a village in NEFA's Lohit Division. One afternoon, I was strolling on the outskirts of the village. In front of a hut, some tribal children were playing. Their ages ranged from 5 to 11. Not far from them lay a baby of eight or nine months. Suddenly, the baby began crying bitterly. From among the children at play darted forth a girl who rushed towards it and took it in her arms. I guessed that the girl was the baby's elder sister. But, no. She opened her blouse, her eyes intently watching the game, and started suckling the baby. I thought of this India where a child, by all instincts still a child and ignorant of the gravity of motherhood, could be married to and become a mother.

Assam *Mriganka Mohan Das*

A politician in Kerala was making a scathing criticism of Government policies and programmes, specially in agriculture. He complained of the Agriculture Department's discrimination towards cultivators.

"The Government have given the poor farmers only Tainan-3", he thundered. "But where are Tainan-1 and Tainan-2 ? I ask the bourgeois Government. Why and where have they hidden the finer varieties of the foreign seeds in a reactionary way and given only Tainan-3?"

Palghat, Kerala *C.S. Padmini*

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The Missing Fourth Plan

What matters in planning is how well we learn the lessons of failures in formulating and implementing the Plans. The Draft Outline makes bad guesses about the availability of resources and gives no alternative projections.

ASHOK V. DESAI

We have had fifteen years of Plans, and fifteen years of their underfulfilment. And the extent of underachievement has not been related, one way or another, to the size of the Plans. What matters, therefore, is not the figures of targets and expenditures in the Plan documents, but how well we learn the lessons of failures in formulating and implementing the Plans.

The success of Plans depends on the raising and allocation of certain scarce resources. Just how much of such resources will be available in a future period is not only somewhat uncertain; it also depends to some extent on policy. Hence a critical role is played by the effort which goes into improving the guesses about the availability of resources and analysing the effectiveness of policy measures which affect their supply. In certain cases, no amount of work would lead to a reliable estimate of availability; the Plan should then indicate the probable limits of its variation and work out the implications in terms of a number of alternative projections.

The Draft Outline makes bad guesses about the availability of resources, gives no alternative projections, and draws no lessons from the implementation of the Plans. I shall illustrate this for some of the resources.

Foreign exchange : For exports, the Draft gives two tables of their commodity composition and direction and brief textual descriptions of what the tables show. Even the most elementary lesson of these tables, *viz.* that the major factors behind the growth of exports in the Third Plan were the boom in industrial countries and trade agreements with socialist countries, is not drawn. No knowledge is betrayed of the well-known facts about our exports, for instance that even while exports increased, our share of world exports has continued to decline, or that this is due more to a fall in our share of exports of particular commodities than to our specialisation in slow-growing exports.

Thus, no factual underpinning is given to the export target; and in fact, it is difficult to see what facts could lead to a target of pre-devaluation Rs 5100 crore. This target does no harm; it is just a figure, and it will be forgotten after a few years. What is much more serious is the waffle about measures to achieve it. Phrases like "determined and well-articulated export promotion efforts", "a measure of sacrifice and social discipline on the part of the community in the immediate future", "a determined drive for improving productive efficiency through rationalisation of methods of production, better management, development of technology, etc. leading to a reduction in the cost of production"—they sound fine, but all the efforts and drives the Government organises will not add to exports a hundredth part of what could be added by improving the ports of Madras and Vishakhapatnam and their link with iron ore mines, or increasing the output of groundnut and jute.

On foreign aid, the Draft Outline is still more vague: it just gives some targets for imports and exports, and gets a nice round figure of prede-valuation Rs 4000 crore for the "gap to be covered by external credits" —as if credits were available for the asking and not to be repaid. After our travails with our foreign beneficiaries in the past year, this blithe approach to aid seems incongruous. If anywhere, there is a need here for alternative projections—for instance on the assumption that no aid might be received, or that absence of aid might be accompanied by absence of servicing and repayment of past loans, or that gross aid might be of the same order as in the Third Plan.

Agriculture : We should reflect why we want agricultural output to increase. It is true that we want the people to consume more of everything including food. But the main reasons why agriculture causes so much worry are that our growing urban population kicks up a row if it is not given certain minimum quantities of food, and that our exports depend a great deal on the output of some commercial crops. Thus the problem has commodity and regional aspects, and it is as much one of distribution of output as of its size. The crop estimates in the Draft Outline just do not provide a basis for the discussion of the problem. A start can be made on a Plan only when we have some information on trends in land productivity in different regions, flows of foodgrains between areas, regional trends in consumption etc. Not only is there no trace of such information in the Draft Outline, there is not even an indication that it has been sought.

Industry : As regards industry the Draft Outline says, "Foreign

Industry : As regards industry, the Draft Outline says, "Foreign exchange will continue to be an overriding constraint during the Fourth Plan period. A careful review has been made of the existing gaps in the industrial structure. The outlay on industries, especially in the public sector, is designed to make up these deficiencies and to provide for the widest possible measure of import substitution."

Whether the measure is the "widest possible" we do not know; but it is true that certain vital gaps in our capital goods production have been recognised—for instance, alloy steel, heavy electricals, heavy plates and vessels, and plant for fertilisers and chemicals; if the public sector projects succeed, our investment programmes will be much less dependent on imports after five years.

But if we look at our capital goods imports at present, we will find that only a small proportion of them consists of imports of complete machinery; the bulk consists of components. So import substitution requires not so much the filling of "gaps in the industrial structure" as diversification of components produced at home.

It is difficult to see how their production can be planned at present. For one thing, we do not even know what sort of components are being imported; the foreign trade statistics consign most of them to "not elsewhere stated" categories. For another, the arrangement we have for encouraging production of machinery at home and using indigenous machinery is inadequate even for its present tasks. The reports of the Study Team on the D.G.T.D. give abundant evidence of this: clearance of import applications from the indigenous angle, which simply requires a reference to a Handbook of Indigenous Manufacturers, takes a month on the average; and almost everyone who appeals against a rejection on the grounds of alternative indigenous sources gets his import licence. Import licensing is vital to industrial planning, and some attention should be given to its criteria and modus operandi when a new Plan is formulated.

The above remarks help to illustrate the cavalier approach of the Draft Outline towards information.

FOURTH PLAN

Major Defects

N. DANDEKER

THE Fourth Five Year Plan is wrong in almost all its major dimensions.

It aims to achieve a rate of growth at 5.5 per cent per annum (compound). This is fantastic, especially in the light of the contradictory socio-economic objectives which it embodies and the actual experience extending now over fourteen years of planning (ignoring 1965-66).

It suffers from all the major defects of the Second and the Third Five Year Plans in regard to :

(1) fantastic and unachievable targets ;

(2) under-estimating the expenditure required by way of investment (and non-investment) outlays for achieving those targets; and providing no reserves either for a spurt in defence expenditure for even normally uneven monsoons ;

(3) under-estimating the time required for spending these vast sums efficiently and fruitfully;

(4) over-estimating the rate of saving;

(5) embodying contradictory socio-economic objectives, which continue to be concerned more with establishing industry, trade and distribution in the public sector than with growth of the gross national product; more with levelling down wealth, incomes and savings than with raising standards of living; etc.

(6) over-estimating in all directions the net resources likely to be available, both internally and externally, whether for the public sector or for the private sector requirements ;

(7) relying upon savage taxation, both direct and indirect ;

(8) mortgaging the future by excessive borrowings, both internal and external ;

(9) deliberately assuming that no deficit financing will be required when, in fact, it is quite obvious that without it there will be a disastrous gap between resources and expenditure;

(10) romantically assuming price stability by invoking the utterly discredited apparatus of licenses and permits, quotas and controls.

Either the Plan is just an "election eye-wash", or it is the modern Indian version of the "Midsummer Night's Dream". This is not, in fact, a Five Year Plan of an honest insolvent resolved to make good after declaring bankruptcy in the shape of devaluation. It is only a disastrous prelude to another bout of inflation and devaluation, followed by economic chaos, if not worse, on the Indonesian pattern.

Food for Plants

The target for the supply of nitrogenous fertilisers for the current year is being revised upwards due to response from the States to grow high-yielding varieties of wheat, paddy, maize, *jowar* and *bajra* which require higher doses of fertilisers. The target was fixed originally at one million tonnes.

The demand for fertilisers has been going up steadily. The consumption of nitrogenous fertilisers rose from 2.1 lakh tonnes in 1960-61 to 6 lakh in 1965-66, while that of phosphatic fertilisers from 70,000 tonnes to 1.5 lakh tonnes.

The Government has taken several measures for promoting the consumption of fertilisers.

The first fertiliser plant in the co-operative sector will be set up in Maharashtra with the help of a Japanese group of industries. The plant, expected to cost Rs 11 crore, will produce two hundred tonnes of ammonium chloride per day within a period of three years.

The fertiliser plant near Baroda will begin production in December or January next. In the initial stage, the plant will produce fertilisers at the rate of fifteen million tonnes a year. Later, production will be doubled.

AGRICULTURE IS THE ONLY REDEEMING FEATURE

The Plan should be divided into two parts—hard core and the periphery; and there should be no hesitation to postpone or even to abandon the expenditure in the periphery in the interest of growth with stability.

S. K. BASU

THERE is no basic difference between the Fourth Plan and the three previous Plans with regard to their objectives, assumptions and approach. The major difference relates to the size of the Fourth Plan. The total outlay proposed in the present Plan is Rs 23,750 crore of which Rs 16,000 crore in the public sector is almost double of what has been estimated to be the likely expenditure under the Third Plan in the same sector *viz.* Rs 8,631 crore. The order of investment appears to be rather too ambitious.

From the point of view of the poverty of the masses of people in India, there is undoubtedly a case for an ambitious Plan. If we are not sufficiently ambitious in setting our production targets, we may have to face an impossible situation over the next ten or fifteen years. But at the same time, as Prof Tinbergon has observed in a recent lecture, if the targets we set cannot be attained, then "we are doing an unrealistic job". When we say that the Plan is much too ambitious, it is from the point of view of the physical and financial resources available for a Plan of such a stupendous size.

It appears that the lessons of the previous Plans have not been learnt in this respect. The planners have been as optimistic in their assumptions with regard to the mobilisation of financial resources as in the past. The basic defect of the previous Plans consisted in the approach of fixing the targets first and then finding the resources to achieve these targets. When the resources had proved inadequate, the resources gap was cheerfully accepted as being in the very nature of planning itself. The same eagerness to cheerfully accept a resources gap permeates the Draft Outline, only in a more marked degree. There does not seem to be any heightened awareness of the immense inflationary possibilities inherent in such a gigantic scale of public expenditure.

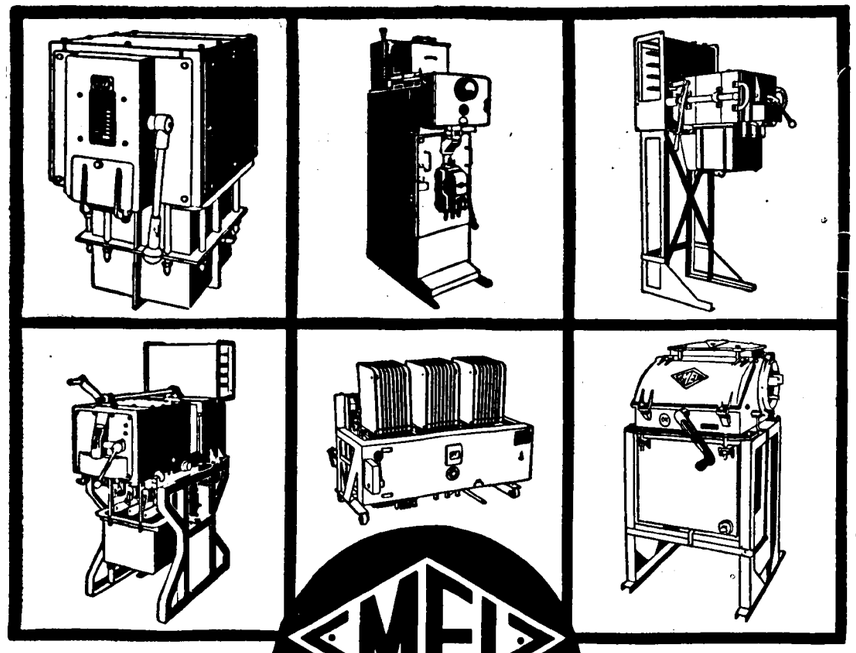
There has been a solemn affirmation to eschew deficit financing on the ground that it will be inflationary. But there is no explicit reference to what method would be adopted to close the resources gap, if deficit financing is to be scrupulously avoided. Would reliance be placed upon yet more taxation ? It may be observed, however, that tax-induced inflation may then arise in a hundred different ways as the imposition of the large variety of excise duties had shown.

INFLATION INHERENT

Again, deficit financing is not the only factor which produces inflationary pressures. These are inherent in the dimensions and structure of the Fourth Plan itself. Investment in the Third Plan of nearly half the order of what has been envisaged in the present Plan had worked havoc with stability. Indeed we shudder to think what will happen to the price situation if such an enormous amount of purchasing power is injected into the economy during the Plan period. Inflation would then be not a creeping one, nor even a trotting one, but it would be a galloping one. Whether investment in the Fourth Plan would give rise to inflationary forces would depend not so much on deficit financing, but on the types of investments to be made. Investments in projects which have a long gestation period, like the Bokaro Steel Plant, would certainly aggravate the inflationary pressures. Only when investments with a short "fruition lag" yielding quick results are carefully dovetailed into the programme of heavy industries, can such pressures be contained.

It is highly debatable again whether it would be possible to avoid deficit financing altogether. In spite of declared intentions, the amount of deficit financing could not be limited to Rs 550 crore in the Third Plan. It had to be stepped up to Rs 1,150 crore. It is rather curious that an allergy for deficit financing should have suddenly developed among the planners. Is this taboo of deficit financing intended to fall in line with the wishes of the foreign donors of aid? The pronounced antipathy of the I.M.F. against deficit financing is well-known. But it may be observed that some dose of deficit financing may indeed be preferable to heavy tax rates.

The estimates of financial resources for the Plan are over-optimistic. The targets visualised for internal resources as well as external assistance are unlikely to be realised. Surplus from current revenues at pre-Plan rates of taxation by the Centre and States is expected to yield Rs 3,010 crore. This is simply unbridled optimism. The yield from additional taxation over the Third Plan period had considerably exceeded the target of Rs 1,710 crore. But it is doubtful whether the targeted amount at the enhanced figure would be realised. Better tax collection and economies in non-Plan expenditure have been relied upon to do the trick. Past experience regarding the ineptitude of the collection machinery, the



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extent of administrative corruption and the widespread practice of tax evasion does not warrant much hope in the matter of augmenting the yield of tax collection.

A broad question mark also hangs over the ability of the Government to reduce its non-Plan or civilian expenditure. It may be recalled that a large percentage of the additional taxation undertaken in the Third Plan period was absorbed by increases in non-Plan expenditures so that the balance from current revenues was changed from (+) Rs 550 crore to (—) Rs 470 crore, representing a reduction of Rs 1,020 crore. In the Third Plan total foreign aid received amounted to Rs 2,455 crore. The Fourth Plan envisages a massive aid of Rs 4,700 crore at the new rates of exchange, of which firm commitments have been rather small.

Still there would be need of additional mobilisation of Rs 1,800 crore through further taxation and pricing policies of public enterprises. As regards taxation, what strikes one is the curious reluctance to tax the rural people. The employment of agricultural surplus as an instrument of financing economic development has been observed in many countries. But the planners have shown no enthusiasm to levy any new taxes or increase old ones on rural incomes. It may be due to political considerations and the proximity of the general election. As regards the pricing policies of the public enterprises, these primarily relate to prices of fertilisers, irrigation rates, electricity charges, railway freights, etc. It is well known that high prices charged for these items will enter into cost of production, or of transport of essential commodities and add to the already existing inflationary pressures.

EXPORT TARGET

Another unrealistic assumption relates to the export target of Rs 8,030 crore which in post-devaluation terms merely converts the pre-devaluation estimates of Rs 5,100 crore at the new exchange rates. In pre-devaluation value terms the Indian exports during the Third Plan period amounted to Rs 3812.40 crore. What increase should take place in the value and foreign exchange earnings of the exports so that they may reach Rs 8,030 crore at the present rates. Whatever claims may be made in favour of the new lines of exports, the main reliance admittedly would have to be placed on the traditional exports such as jute goods, tea and cotton textiles. An expansion of the production capacities in some cases to cope with the increased demand for exports would entail increased costs of either imported raw materials or equipment or both, which may nullify the advantage from devaluation.

BALANCE OF PAYMENTS

A close study of the balance of payments position of the export industries over the previous five-year period has to be made to find out whether or not their operations reveal a net deficit of foreign exchange—the balance between the foreign exchange earned and the foreign exchange component of the imported raw material and equipment used. Such a study of the foreign exchange incomings and outgoings in respect of the cotton textile industry for the quinquennium 1960-1964 recently undertaken by the Reserve Bank of India reveals a net deficit of foreign exchange of Rs 194 crore. The main item responsible for the deficit was the cost of imported raw cotton, the total foreign exchange cost of which alone exceeded the total foreign exchange earnings of the industry.

The Plan document has no doubt shown some anxiety about the spiralling of wages and prices and has observed that financing should be on a completely non-inflationary basis. Accordingly the planners have urged that efforts should be made to reduce the scope of automatic linkage between the cost and price increases or between price and wage increases. "Periodic stepping up of wages and salaries and dearness allowances consequent upon increases in consumer goods prices would reduce the balance available for the Plan." In this context the Planning Commission has made a proposal for freezing of wages and salaries in Government services and elsewhere.

Apart from the fact that there can be no question of wage freeze without a corresponding freeze of prices, dividends and other incomes, the planners have not shown any awareness of the problems that would have to be tackled and the loopholes that would have to be plugged in any programme of wage stabilisation. Any scheme of voluntary wage restraint as adopted in Great Britain under the labour Government of Mr Attlee would not be feasible in our country owing to inter-union rivalry and the pronounced myopia and irresponsibility of labour leaders.

The wage freeze programme of the previous Labour Government in Great Britain was wrecked as a result of price rises of imported goods after the devaluation of the pound. The present Labour Government has adopted the wage freeze plan to avoid the drastic step of devaluing the pound. Curiously enough the Indian planners are thinking in terms of a wage freeze plan after devaluation of the rupee when prices are most likely to rise.

CENTRAL BANKS

The Planning Commission seems to rely upon monetary control as an instrument for checking inflationary price rises. Chronic inflation such as is to be witnessed in developing economies could not occur without continued excessive monetary expansion. This indicates that central banks play an important part in the generation of inflationary pressures. Central banks in these economies, however, suffer from certain inhibitions. Even if the central banks are equipped with the necessary tools of monetary policy, their use may prove to be ineffective because of structural and psychological factors characteristic of the developing economies. A rigorous application of the tools could reduce the rate of inflation. But the central banks are by and large reluctant to exercise a high degree of monetary restraint. This unwillingness is accounted for, first, by their views of the objectives and criteria of monetary policy and, secondly, by their apprehensions regarding the effects of a restrictive monetary policy on output.

Central banks have been so much looked upon as engines of economic growth rather than as agencies of restraint or stabilisation in these economies that they cannot refuse

credit to the public sector. In principle they can refuse it to the private sector but in practice they find it difficult to exercise restraint here also. A denial of credit to the private sector and the banks will expose the monetary authorities to the criticism that they are stifling productive investments. Apprehensions regarding the short-run output effects of a restrictive monetary policy on growth are an important inhibiting factor against the enforcement of sufficiently severe anti-inflationary measures. In these circumstances a high degree of reliance should not be placed on monetary policy as a weapon of restraint.

The performance of the authorities in the field of overall economic policy has been disappointing in the past. It led to the development of such a crisis that the drastic step of devaluation had to be taken. If the same old policy is followed and we continue to live beyond our means by launching such extravagant Plans, a second devaluation is inevitable in the course of the next few years which may even have to be followed by a policy of remonetisation with all its disastrous consequences.

The decision to give top priority to agriculture is the only redeeming feature of the Plan. The expenditure on agriculture, community development and co-operation has been stepped up from Rs 1,103 crore in the Third Plan to Rs 2,410 crore in the present. Lopsided emphasis on the capital-intensive heavy industries at the cost of agriculture and consumer goods industries was the major shortcoming of the previous two Plans. But even here the basic strategy of expansion of agricultural output has not been clearly indicated. Nor is there any stressing of the need to increase the supply of consumer goods on which the additional incomes generated by the huge Plan expenditure could be spent.

The above analysis clearly points to the case for considerable trimming of the Plan size. Even if the size could not be trimmed for political reasons, the Plan should be divided into two parts, the "hard core" and the "periphery". There should be no hesitation to postpone, stagger and even abandon developmental expenditure in the periphery in the interest of growth with stability.

Farming Colony

Punjab Government has purchased about 450 acres of inferior evacuee land in Dachaur and Gondar villages of Karnal District for establishing a colony of graduates in agriculture. The land will be allotted on a 10-year lease to agricultural guaduates who desire to pursue farming as their sole occupation. Each unit of land will be more than 25 acres, but no allottee will be allowed to hold more land than fixed as ceiling.

The land will be allotted to individuals, but they will have to form joint cooperative societies for farming. At least a fourth of the land will have to be brought under cultivation in the first three years and the remaining three-fourths in the next two years.



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WELL THOUGHT-OUT, BUT *Over-Ambitious*

A. S. KAHLON

THE Draft Outline of the Fourth Five Year Plan is a well thought-out document. It is, however, true that the Plan is somewhat over-ambitious. The proposed outlay of Rs. 16,000 crore in the public sector against a much lower outlay of Rs 8,631 crore in the Third Plan is perhaps necessary to urge the nation to a greater effort. Maybe this injection will provide the necessary stimulus to the economy to get over the hump and make its impact felt by the masses. The Plan does not, however, spell out clearly how the additional resources will be mobilised. If the past performance is any guide, these targets will be difficult to achieve.

At the present rate of taxation, the Fourth Plan provides a surplus of Rs 3,010 crore when in the Third Plan the return from this source was negative (Rs 470 crore). Again, the rate of domestic savings in the economy did not increase by more than 10.5 per cent of national income in 1965-66 when the ratio of investment to national income rose to about 14 per cent at the end of the Third Plan. How these savings will be stepped up to provide investment of a higher order in the Fourth Plan is not spelt out clearly in the Draft Outline.

When the whole nation is suffering from what the sociologists call 'Domestiation effect', there is very little chance of the rate of savings to increase to the level where they would match with the increased investment needs of the Plan. What educational processes will be released to usher in social changes that will change the psychology of the nation so that it could identify itself with the needs of the Plan and be ready to make greater sacrifices to be able to save more, invest more and help in stepping up capital formation in the economy, are not highlighted in the Plan. Faced with crises of character in the nation, our Plans must not ignore this aspect. Otherwise, the human agent which is the most potential resource of the nation will not get activated.

It is recognised in the Plan that a progressive, productive and commercial agriculture needs more and more of non-farm inputs. The Plan provides highest priority to the industries manufacturing such inputs for agriculture as fertilisers, pesticides, tractors, farm machinery and machine-building industries, etc. These programmes should become an integral part of the agricultural sector to ensure their expanded production in the public sector. But along with expanded production targets, timely supplies of production elements are even more important. Research studies have shown that untimely distribution of these inputs and inadequate quantities turned out to be important limiting factors to the adoption of improved technology by various farm organisations. More teeth should be put in the institutional structure prescribed in the Plan to provide efficient organisations that will ensure timely and adequate supplies at low cost because the farmers are becoming more and more sensitive to the prices of the purchased inputs.

NOT REALISTIC

Again, rational allocation of these highly scarce inputs on priority basis to high-yielding but highly fertiliser- and water-consuming varieties of crops covering as much as 32.5 million acres does not seem to be a very realistic approach to achieving food targets of the Plan. Experimental evidence has not generated sufficient and reliable input-output data on these varieties to warrant such a heavy allocation of scarce inputs to these varieties. The farmers will naturally use their own experience and horse sense in allocating proportion of fertilisers, water and other resources to high-yielding varieties and improved local varieties that can be grown on their farm organisations.

The Plan misses the focal point that managerial ability is as much an important input as any other conventional input for increasing efficiency of farm production units. Very little mention is made in the Plan to develop such training programmes which would fill up this gap in the agriculture sector. The Punjab Agricultural University has just completed an advanced training programme in Farm Management Extension. Such experiments need to be replicated in the country to replace the multi-purpose V.L.W.s and A.E.O.s with subject matter specialists in Farm Management Extension and allied fields such as Agronomy, Horticulture and Plant Protection.

It is emphasised in the Draft Plan that "Fourth Plan has to consolidate and carry forward the achievements of three earlier Plans and make up for their shortfalls as far as practicable.....". This sounds very good and should be followed both in theory and practice. Recognising the needs of improved agricultural implements and farm machinery, I watched with interest the development of 17 research testing and training centres for agricultural implements set up in the Third Plan. It takes some time before such centres get organised and are ready to go. Most of these centres gained some momentum by the end of the Third Plan and by the time they were ready to go into production, the Centre discontinued its financial support to this programme. And this is not the only case of its type. Consolidation of the gains made in the Third Plan is necessary and this cannot be done unless all such programmes which got organised by about the end of the Third Plan are carried forward in the Fourth Plan.

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OUR NATIONAL PRIORITY **FOOD**



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How Socialist Is The Plan ?

The Fourth Plan desires to change the economy on the basis of 'capitalist' methods and incentives. If Indian planning has to kindle the people's enthusiasm, it must be oriented towards socialist ideals. The property relationship must be changed to make the economy meaningful to the common man.

BAIDYANATH MISRA

WHATEVER the strategy of the Fourth Plan might be, there are bound to be doubts and misgivings regarding its success in view of the fact that the performance of the Third Plan has not been satisfactory. Some critics have even gone to the extent of pointing out that we need some Plan holiday to obviate the difficulties that engulf the economy owing to overplanning in the country. Though this demand is not justifiable, it shows that there is a psychological resistance to planning in the country. It seems necessary, therefore, that the Fourth Plan should be realistic and within easy reach of achievement in order to create an environment of acceptability for the Plan in the country. It is in this context that we want to examine three important questions regarding the Fourth Plan strategy.

Firstly, what is our economy's capacity for growth? The rate of growth of the economy can be viewed only in the context of its capacity to change and grow. The experiences of the last 15 years of planning show that there are certain inherent weaknesses in our economy which we have not yet been able to eliminate or correct.

The First Plan was successful because the weather was favourable; the Second and Third Plans were unsuccessful because the weather was unfavourable. The failure in the Third Plan was really alarming. While it was the aim of the Third Plan to increase national income at the rate of 5 per cent per annum, the actual increase was less than half the rate aimed at. Leaving aside the question of external aggression which certainly did damage the economy, it has to be stated that the drought conditions which prevailed in 1965-66 and the two bad harvest years in the first three years of the Third Plan upset the entire calculations of the planners.

When we know that we have not yet developed sufficient corrective measures to control the unfavourable weather, why do we make all kinds of complicated programme planning and give slogans like 'self-reliance in ten years'. It seems to us that these ambitious projects when unfulfilled create frustrations and hostile environments all around.

SIMPLE GOALS

It is not time for building models and fitting in different goals. Our economy is primitive and our administrative machinery is incapable of moving quickly to meet new situations. Why don't we become realistic and take one or two simple goals, like providing sufficient food to the people and making all-out effort at controlling the rate of population growth. If an all-out effort is made to achieve these two simple and clear objectives, there will be a change all around.

It is true that we have a long way to go to break through the vicious circle of poverty and economic stagnation. From the point of view of our needs, we must pitch our targets very high. But from the point of view of our capacity, we must slow down, consolidate and carry forward the achievements and make up the deficiencies so that we have reasonable chance of achieving success. A realistic Plan should probably give preference to the second aspect rather than the first.

The question of additional resources assumes great importance in this context. But how can you raise additional resources, if there is a feeling in the country that a great deal of resources are either wasted or not properly utilised?

Nobody can say that we have reached the limits of taxation. We have, however, increased taxes to a considerable extent. Even in the Third Plan the taxation effort has been substantial. Though the estimate of the Third Plan to raise additional taxes including measures to increase the surplus of public expenditure was Rs 1,710 crore, in fact, a sum of Rs 2,880 crore was raised.

Not much can be expected from personal savings in a period of rising prices. In a country where personal saving is low and only a portion of it comes to the institutions where it can be mobilised for public purposes, additional resources in the form of loans or small savings do not seem to be bright. The Fourth Plan has ruled out deficit financing as it is considered to be the main cause for the rapid rise in prices during the Third Plan period. The amount of deficit financing estimated at Rs 550 crore in the Third Plan actually rose to Rs 1,150 crore. But it is doubtful whether deficit financing could be blamed for the rise in prices. If so, even imposition of taxes can be blamed for it, for additional taxes have certainly been guilty in pushing up prices in the market.

However, in an inflationary situation, deficit financing has of course to be restricted. But when deficit financing is not resorted to and the scope of mobilising personal savings is limited, can we go on raising the taxation rate for meeting the cost of development? In the Fourth Plan, there is a proposal to increase additional taxes to the extent of Rs 2,730 crore. We do not say that the economy cannot stand it. But these additional taxes will certainly create resistance to the smooth working of the Plan.

There is no reason why we should not pause for a while and improve the economic organisation so that the waste of public money can be minimised. The non-development and non-Plan expenditure now comes to five per cent of the total expenditure a year. If it can be reduced to 3½ per cent there will be a saving of Rs 335 crore for Plan purposes. There is a great deal of unnecessary expenditure even in the Plan which does not add to the country's productivity. This has to be reduced to a substantial minimum before we launch another set of tax proposals or increase the rate of existing taxes.

Another question which needs emphasis is equality of opportunity. When we claim that the broad objective of our planned development is a socialist structure of society, we have to see to what extent we have progressed towards that goal as a result of 15 years of planning and what new directions does the Fourth Plan Outline give to bring the goal nearer our reach. *If the concept of equality is taken to be repudiation of classes, fair share in the distribution of good things of life and the longing for a society in which people, no longer divided by the barriers of privileges, can be conscious of their common humanity, we are far away from the ideal.* Probably it will be ages before we can attain this ideal. But even as regards equality in the narrower sense, of distribution of income and property, of the money spent on education and other social services, and of reduction of inequalities, we are far behind the socialist goal. *Planning in the last fifteen years has rather increased the concentration of wealth and power in the private hands and reduced the economic well-being of the common man.*

The stress and strain of economic life during the Third Plan has, it seems, obliterated the purpose of socialist goal in the Fourth Plan. The proposals laid down in the Fourth Plan towards the achievement of a socialist society are the same as in the earlier Plans. They can be summarised as: (i) extension of the public sector both in the productive and distributive systems so as to control and regulate the private sector, (ii) increase in taxes to reduce disparities in income and property ownership, and (iii) the establishment of various programmes of production, education and welfare to change the social and cultural climate of the country. But viewed in the context of the present Indian scene, these proposals are not likely to touch even the fringe of the problems. In view of this, definite social goals should be included in the planning mechanism and there should be an attempt to change property relationship by the process of which socialism as visualised in the Plans can be meaningful. In other words, the object of socialist planning should be to maintain a framework of opportunities — opportunities as secure as possible, as equal as possible and as large as possible—in which each individual can shape his own life.

The Fourth Plan gives only a picture of financial outlays and physical targets and desires to change the economy on the basis of capitalist methods and incentives. It must be reoriented on the basis of socialist ideals so that it can be both an inspiration and a guide to action.

UNION TERRITORY
OF
PONDICHERRY
A Glimpse of Its Progress

		1954	1966
Revenue	...	Rs. 130 lakhs	Rs. 370 lakhs
Food Production	...	34,880 tonnes	56,090 tonnes
Sugar Production	...	Nil	11,000 tonnes
Power Consumption	...	18 units (per capita)	196.4 units
Industrial Establishment (SSI)	...	18	207
Length of Black-topped Roads	...	52.24 kms.	256.51 kms.
Primary & Middle Schools	...	154	311
High Schools	...	18	40
Enrolment	...	20,526	64,115
Children Benefited by Mid-Day Meal Scheme	...	3,928	39,600
Degree College	...	Nil	1
Students in Medical College	...	12	420
Hospital Beds	...	651	1,648
Primary Health Centre	...	Nil	12
Veterinary Dispensaries	...	2	13
Co-operative Societies	...	Nil	191

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GOVERNMENT OF PONDICHERRY

Planning for FAMILY PLANNING

ASHISH BOSE

THIS paper evaluates briefly the *formulation* of the family planning programmes in the First, Second, Third and Fourth (Draft Outline) Five Year Plans.

In the First Plan, the problem of population growth receives attention in the very first chapter, but the advocacy of the need for population control is cautious. It said, "It is not possible to judge whether an increasing population is favourable or unfavourable to development...But in the short run—and we are concerned here primarily with the earlier critical stages of development—there is no doubt that, given a situation in which shortage of capital equipment rather than of labour is the main limiting factor in development, a rapidly growing population is apt to become more a source of embarrassment than of help to a programme for raising standards of living In other words, the higher the rate of increase of population, the larger is likely to be the effort needed to raise per capita living standards."

The Second Plan put the same idea in a more forthright manner : "The logic of facts is unmistakable and there is no doubt that under the conditions prevailing in countries like India, a high rate of population growth is bound to affect adversely the rate of economic advance and living standards per capita. Given the overall shortage of land and capital equipment relatively to population as in India, the conclusion is inescapable that an effective curb on population growth is an important condition for rapid improvement in incomes and in levels of living."

It will be noticed that while the First Plan refers to the shortage of capital equipment, the Second Plan mentions, in addition, the shortage of land. The Third Plan brought in the discussion on population two more factors—the rate of saving and the growth of labour force. "In an underdeveloped economy with very little capital per person, a high rate of population growth makes it even more difficult to step up the rate of saving which, in turn, largely determines the possibility of achieving higher productivity and incomes." The Plan also refers to "the formidable task" of providing employment opportunities to the new entrants to the labour force.

A detailed study of the Fourth Plan shows that there is a divergence within the Plans in the basic philosophy of family planning. The formulation of the Plan has been in terms of family planning as an integral part of development planning, but the formulation of the programme has been in terms of family planning as an integral part of health planning.

The most important single factor which influenced the discussion on population in the Third Plan was the 1961 Census which came as a shock to the planners as the Census revealed a much higher rate of population growth than was anticipated. This gave a new orientation to the role of population control. It was not merely a question of shortage of land or capital equipment but one of "the significance of population in relation to economic development". The Third Plan came out with a categorical statement: "The objective of stabilising the growth of population over a reasonable period must therefore be *at the very centre of planned development.*"

SOCIAL DIMENSIONS

The Fourth Plan (Draft Outline) adds a new dimension to the discussion on population control by bringing in social factors. It says : "Growth of population over the past decade and a half has diminished the impact of economic growth. Under Indian conditions, the quest for equality and dignity of man requires as its basis both a high rate of economic growth and a low rate of population increase. Even far-reaching changes in social and economic fields will not lead to a better life unless population growth is controlled. Limitation of family is an essential and inescapable ingredient of development."

To sum up, the need for population control has been emphasised on various counts in the Five Year Plans—shortage of capital equipment, shortage of land, low rate of savings, rapid increase in the labour force, equality and dignity of man, and the overall demands of economic growth, especially, increase in per capita income.

But interestingly enough, the philosophy of family planning put forward in these Plans does not emphasise the approach towards population control just outlined above. In other words, whereas the basic formulation of the Five Year Plans took due note of the economic consideration necessitating family planning, the advocacy for family planning in these very Plans was largely on grounds *other than economic.* The philosophy



of family planning rested on the twin pillars of health and welfare. Welfare was understood to mean happiness. Thus the posters advocating family planning said: FAMILY PLANNING FOR HEALTH AND HAPPINESS. One cannot blame the Health Ministry for this orientation which was so very different from the *economic* orientation contained in the very first chapter of all the Five Year Plans. Because in all these Plans, in the chapter on Health and Family Planning, the orientation was *not* economic.

As the First Plan put it: "The main appeal for family planning is based on considerations of the health and welfare of the family. Family limitation or spacing of the children is necessary and desirable in order to secure a better life for the mother and better care and upbringing of children. Measures directed to this end should, therefore, form part of the public health programmes."

The Second Plan emphasised the 'clinical' approach to family planning and set the target for opening 300 urban and 2,000 rural clinics.

The Third Plan pleaded for "the integration of family planning with the normal medical and health services, specially those rendered through the primary health centres".

MOST CLINICAL

There was, however, a new development towards the middle of the Third Plan period. There was a new policy orientation towards the *extension education approach*. As the Fourth Plan puts it: "During the Second Plan, an action-cum-research programme was initiated. The programme was intensified towards the middle of the Third Plan when the emphasis was *shifted from the clinical approach to a more vigorous extension education approach* for motivating the people to accept the norm of a small family." Subsequent events, however, leave one in doubt about the "vigorous" nature of the extension education approach.

The approach in the Fourth Plan is the most clinical so far (it is the "loop" approach) in spite of the clumsy attempt to inject some sociological thinking: "The programme involves *various aspects of* community life and social behaviour of the people" and instead of discussing what these aspects are, the Plan goes on to list in the very next sentence factors like the need for a large number of doctors, the need for training facilities and the supplies of contraceptives. Earlier in the section on Family Planning, there is a reference to the operational goal of "group acceptance of a small-sized family" by 90 per cent (the mathematics of 90 per cent is not clear at all) of the married population of India.

Thus a detailed study of all the four Plans shows that there is a divergence within the Plans in the basic philosophy of family planning. Whereas the formulation of the Plans has been in terms of family planning as an integral part of *development planning* the formulation of the programme has been in terms of family planning as an integral part of *health planning*. This divergence had far-reaching implications on the actual implementation of the family planning programme. The propaganda for family planning (the very first step in family planning) has been only in terms of health and welfare (understood in very general terms) and no effort was made to introduce any economic bias in terms of growing shortage of land, low rate of savings, the growing unemployment, the slow rise in per capita income, etc. Further, the emphasis on the clinical approach was responsible for the exclusion of non-clinical methods of family planning like the postponement of the age at marriage, rhythm method (only the First Plan seriously advocated it), and the withdrawal method. And the success of the clinical approach, it should have been visualised, was wholly conditioned by the success of the public health programme and insofar as there was hardly any public health programme worth the name in rural areas, the family planning programme was bound to fail.

The Third Plan nowhere said that the public health programme was at the very centre of planned development. It said that the objective of stabilising the growth of population —and by implication, the family planning programme—was "at the very centre of planned development". By hitching the family planning wagon to the passenger train of public health and not to the express train of development, the Plan blundered, and if family planning has not succeeded in making a dent on the birth rate in spite of 15 years of trial and error (not that one would expect a big dent), part of the blame must be shared by the Planning Commission.

WAY OF LIFE

If there was one method of population control which would have succeeded in making a dent on the birth rate in India in these 15 years —the early phase of development planning and family planning—it was *postponement of the age at marriage* both in rural and urban areas. But we have wasted 15 valuable years. And not even in the Fourth Plan is postponement of marriage advocated as a method of population control. In the Third Plan there was at least a vague reference to this subject. From the point of view of propaganda, it is easier to tell people that a person should not marry till he gets a job or has a sufficient income to support a family than to convince people that they would be better off if the family size is three. An average villager with only three daughters and no sons will be the last man to accept family planning advice. His definition of family will not include a family with only daughters who will be married away and who, therefore, potentially belong to other families. What does the Fourth Plan mean by "group acceptance of a small-sized family"? The loop approach has many loopholes and it cannot answer questions like this.

We must hasten to add that the Fourth Plan does mention that "The mass education and motivation programme will be intensified during the Fourth Plan. Steps have already been taken to make fuller use of various media like films, radio, press, etc. for promoting the acceptance of the family planning programme as a way of life". One fails to understand how "family planning programme" can be accepted as "a way of life"!

In all humility, we submit for the consideration of our planners and politicians the following suggestions in regard to family planning :

(1) Exclusion of picturesque phrases, slogans and catchwords, or in short, all drama from discussions and propaganda on family planning.

The real basis of population control in India is poverty and the evils of poverty are too well-known to be dramatised.

(2) The discontinuance of all posters on family planning. The people who can read them are already oppressed by high prices, high rents, high cost of education of children, rising unemployment and the growing strain of urban life. *They need not be motivated* for family planning. What they need is service. If the posters have to be there, they should merely indicate the addresses of family planning clinics. In the rural areas, the posters are even more useless, for very few can read and those who can read would not know what exactly is meant by "Plan your family the loopway".

(3) Legislation should be introduced to raise the age at marriage of girls to 19 years and of boys to 25 years. There should be a heavy tax on persons who marry earlier.

(4) At least for a couple of years, the entire propaganda machinery (films, radio, press) at the disposal of the Government should be used to bring home to the people the need for late marriages.

(5) There should be tax relief for persons marrying late. In the rural areas, there should be a rebate on land revenues for persons marrying late. For landless labourers, there should be a policy of incentives. Priority should be given to unmarried persons below 25 in regard to employment.

(6) In terms of feasibility, it is easier to make a success of the loop method of family planning in the urban areas than in the rural areas. In the Fourth Plan period, a serious attempt should be made to introduce an effective family planning programme in all the 2,700 cities and towns of India comprising over 90 million people today. In other words, there should be no guilt-complex in giving priority to urban areas over rural areas in regard to family planning. It is not true of India that the problem of rapid population growth is basically a problem of rural population. The available evidence does not suggest any marked rural-urban differential in fertility. It is manifestly unreasonable to expect that India can tackle a population of over 500 million and bring down the birth rate substantially in five or ten years. Most European countries took 60 to 100 years to attain the demographic transition from the high fertility to the low fertility pattern. And even then their total base population never exceeded 50 million. Our urban population alone is expected to be well over 100 million in 1971—the total population of Pakistan today. Let us, therefore, with our modest budget, make a success of family planning at least in the urban areas where there are already in existence hospitals and dispensaries with hardly any exception.

(7) As for the rural areas, we may, like the Intensive Development Programme in agriculture, select a few districts in each State for intensive family planning work.

(8) Lastly, the Constitution of India should be amended to make 'Family Planning' an exclusively Central subject. Only then can family planning have a chance to assume the role of an essential ingredient of development planning. It is also necessary to create a separate Ministry for Family Planning as it is not enough to have a separate *department* in the Ministry of Health and Family Planning, a Ministry which is treated both by the Parliament and the Government as an unimportant Ministry. The organisational changes listed on page 347 of the Fourth Plan make only an impressive reading. There is no evidence to suggest that a cabinet committee consisting of the Ministers for Planning, Finance, Information and Broadcasting, Food and Agriculture, and Health, will succeed in a speedier implementation of the family planning programme than a separate Ministry in charge of a cabinet minister.

Our final plea is that efforts should be made to broadbase the family planning programme and it should be regarded as a part of our efforts at modernisation of our economic and social life. If a small family pattern has to be accepted as a way of life, other pre-conditions have to be fulfilled. For example, we cannot have primitive agriculture, mass illiteracy and a *modern* small-family pattern co-existing.

PUNJAB

TODAY

tells a different tale

Remember the picture it presented 19 years ago after Partition ?

YET

the people had the will to live -- proud of their past and with faith in their future

THEY have built the PUNJAB of TODAY

which leads in

- ***Agricultural production***
- ***Small Scale Industries***
- ***Administrative Reforms***
- ***Defence efforts***
- ***Co-operation***
- ***Higher Living Standards***

THESE brave and enterprising people have once again resolved to work with determination for the new social order based on economic justice and solidarity of the NATION

PUNJAB PUBLIC RELATIONS

The Fourth Plan, like the earlier Plans, has left a gap between savings and investment. This is not a healthy strategy. It leaves the nation dependent on foreign generosity and tends to dislocate the economy to some extent. The Plan's size expects a nationwide economic and social discipline. The author hopes that the Government will have the courage and efficiency to enforce this discipline.

ECONOMIC DISCIPLINE VITAL

ARUN CHANDRA GUHA

THE Fourth Plan Draft Outline has to be considered in the light of the performance of the Third Plan. It is admitted on all sides that the Third Plan had not a smooth sailing. Calculations of resources are now found to have been over-optimistic. For one item, the current taxation, instead of Rs 550 crore of revenue, there was a deficit of Rs 470 crore, resulting in the loss of 14 per cent of the total expected revenue. For the Second Plan also, in this item, instead of Rs 350 crore surplus, we had a deficit of Rs 100 crore. There were shortfalls in other counts also, particularly those that were to be available from the public sector undertakings and small savings.

One important failure of the Third Plan is the shortfall in the increase of national income. Instead of having the gross national income of Rs 19,000 crore, we have attained only Rs 15,930 crore at an annual rate of 2.5%, instead of 5%. Two reasons have been assigned for this. In the Third Plan period, excepting one year, 1964-65, all the other four years were bad for agricultural production ; weather was unkind. Increase in industrial production was also slowed down on account of the lack of adequate provision of raw materials and components, which was due to shortfall in foreign exchange supply.

As regards availability of foreign exchange, many of our calculations in the Third Plan have not been fulfilled. Excluding P.L. 480 receipts, our targets of foreign aids, balance of trade, invisible exports, etc. did not come up to the estimates. It is to be noted that only about 5% of our gross national produce were exported. The figures for other countries are considerably higher. Our share in the international trade during these five years has gone down from 1.2% to 1%. Moreover the full benefits of the export earnings did not accrue to the nation because of the various incentive schemes for export promotion.

So the total effect of this was that there was an unexpected adverse balance of payments leading to serious foreign exchange difficulties. Many of our industries could not work to more than 50 or 60% of their installed capacity for lack of intermediate goods, namely, raw materials and components. The vulnerability of our industrial development can be realised from the fact that out of the estimated imports worth Rs 5,750 crore during the Third Plan period, imports of maintenance goods including intermediate goods were estimated to be of the order of Rs 3,850 crore. This dependence will continue even in the Fourth Plan.

WIDER GAP

The Plan envisaged a saving of 11.5% of our national production and an investment of 14% ; the gap was expected to be filled by foreign aid. From the Fourth Plan Draft Outline, it will be seen that savings from national income have been only up to 10.5% ; on the other hand investments went higher than 14% of national income. Both in the Second and Third Plans, there was a gap left between savings and investment ; and the gap was bigger than what was anticipated ; the Fourth Plan also has proceeded on the basis of a wider gap. It should be realised that it is not a healthy strategy. Apart from leaving the nation dependent on foreign generosity it tends to make certain dislocations in the economy of the country. The planners have themselves described these "desperate trends".

In the background of admitted failures of the Third Plan, there have naturally been many uncertainties of internal and external resources in drafting the Fourth Plan. In view of the failure of the Third Plan regarding financial resources and physical targets in terms of goods and services, naturally a question arises about the size of the Fourth Plan. It can be argued that a smaller Plan may mean, if not perpetuation, at least a prolongation of the period of backwardness of the country. That was the urge for a big Plan. As defined in the Second Plan, "A Plan is an attempt to improve upon the results that can be achieved under an unregulated and unco-ordinated play of private decision", that is, it is an attempt to have an accelerated economic and industrial development.

The Plan also assumes certain hardships and austerity to be undergone by the people. The size of the Fourth Plan expects a nationwide economic and social discipline and restraint on consumption. The Draft Outline also stated that "price increases induced by policy decisions of the Government...will have to be absorbed by the wage and salary

earners as by other sections of the people. Unless such a broad principle is accepted, and restraints on consumption expenditures made operative, the financial resources for the Plan may not reach the levels anticipated". We hope the Government will have the courage and efficiency to enforce the necessary economic discipline.

The planners have expected economies in non-Plan expenditure yielding a saving of Rs 335 crore including Rs 250 crore to be contributed by the States. It should be mentioned here that out of the total revenue of the Government, only about 42% are spent on Plan development items ; and 58% are spent on non-Plan and non-development items including defence. Expenditures on defence have been on the increase as also on debt servicing. Administrative expenditures are also fairly high. It has been expected that the annual increase of 5% in non-development and non-Plan development expenditures will be reduced to 3½ %. We hope the Government, or the planners, do not envisage any economies to be effected through cutting down of expenditure on social services, such as education, health, supply of drinking water, etc. These are essential components of the social transformation we envisage.

PUBLIC ENTERPRISES

Regarding another item of resources, namely surplus from public enterprises. Though there may be reasons for a pessimistic view on this, yet we may expect the public undertakings should now at least be able to give us a return of 10 to 11 per cent as expected in the Plan. Five very big public undertakings, namely, the three Hindustan Steels, Ranchi Heavy Engineering Corporation and the Bharat Heavy Electricals Ltd., Bhopal, after unduly long gestation periods, should now be in a position to give a dividend of at least 10% annually to the exchequer.

The planners have anticipated foreign aid of Rs 4,700 crore. Of this, Rs 360 crore would accrue out of the P. L. 480 aid. Leaving this aside, the amount of Rs 4,340 crore would appear to be somewhat on the optimistic side. Apart from that, the planners should not have depended for 29.5% of the total investment of Rs 16,000 crore to be made available through foreign aid. In the Third Plan also, the percentage of external assistance to the total investment was about 29.5 ; in the Second Plan it was about 10. This is not indicative of any serious attempt at a self-generating or self-reliant economy. We should also realise that foreign aids given to India are quite different, both in quantity and quality, from the Marshal Aids given to Germany, France, U.K., etc. We should also realise that apart from the fact that foreign aids cannot be completely free from political ties, these impose on the posterity an obligation of repayment. This will apply also to internal borrowings of Rs 1,500 crore. We only expect that this amount will be raised really from the public, and not by the subscription of the Reserve Bank which will be deficit financing and nothing else.

The serious gap generated between the resources available and the targets fixed was filled by additional new taxes of Rs 1,150 crore in place of Rs 550 crore estimated and deficit financing of Rs 2,880 crore in place of the Plan estimate of Rs 1,710 crore. Both these desperate steps were taken without the necessary precautionary steps, resulting in serious dislocation and imbalance in our economy, domestic and foreign.

The Draft Outline takes into credit Rs 2,730 crore as revenue accruing from new taxation. Tax proposals of this year are expected to yield in five years a revenue of Rs 930 crore. Another Rs 1,800 crore are expected to be raised by new tax proposals. We are told the Chief Ministers have already expressed their doubts. So rural sector is likely to be left out. There may be some possibilities of raising revenue by taxing urban property. Besides that, any new indirect taxation may lead to higher prices leading to social discontent. As for new direct taxes, its effect on equity market and also on prices has to be seriously considered. Here, it may be relevant to quote a passage from the speech of the Governor of the Reserve Bank : "The size of the Plan has indeed to be judged not by what is desirable but rather by what is possible." He has emphasised the importance of "control on the budgetary expenditures and avoidance of inflationary finance" and "a respite from constant pressure towards raising tax levels". He has also advised the necessity of "control of expenditure and the achievement of budgetary balance". It would require strenuous efforts to raise Rs 2,730 crore as domestic resources through additional taxation, without affecting internal social and economic equilibrium.

MAIN OBJECTIVES

Now the objectives of the Plan. The main objectives of the Plan are to attain self-reliance in ten years and price stability. Self-reliance is a very broad term and it should cover many aspects dealt with in the Plan report.

The first factor for self-reliance and price stabilisation should be self-sufficiency in food. It has been expected that import of food will be gradually reduced ; and that by the end of the Plan period, it will be possible for us to produce 120 million tonnes, the estimated requirements in that year. Considering the fact that in India, agricultural yield per acre is the lowest in the world, and the fact that our deficit is usually about 8 to 10% of our requirements, it should not be impossible for the nation to attain self-sufficiency in food, in addition to producing sufficient cash crops for export earnings. With the proper supply of fertiliser, seeds, credit and provision of irrigation facilities, the yield can be increased by even 30-40% during this period. Agricultural yield per acre should at least be brought to the present standard in other countries. We should also remind ourselves of our failure in the last 15 years in making agriculture less dependent on the vagaries of weather.

Another important factor towards self-reliant or self-generating economy is avoidance of heavy adverse balance of trade or of overall adverse balance of payments. Even after devaluation, the export earnings as visualised in the Fourth Plan do not envisage much improvement on the Third Plan performance of about 25% increase from the Second Plan. We fail to understand why the Government should even now put their maintenance imports at Rs 5,200 crore out of the total import estimates of Rs 7,650 crore, both on pre-devaluation exchange rate. As imports will now cost 57.5% more, maintenance imports should be considerably brought down by using import substitutes. The Government have re-introduced some export incentives, which would actually mean the acceptance of multiple exchange rate and a concealed devaluation, likely to lead to a further open devaluation. Such subsidies should be only a temporary phase.

We do not think we have much to say about the importance of price stabilisation. This solemn oath was being repeated several times every year with no effect or no sign of even a serious attempt. During the last 2½ years, price index has gone up by about 40 points. This has created social problems leading to a sort of social upsurge. If necessary steps are not taken even now it may lead to serious social disturbances. The investment programme of the Plan has potentialities of further inflation which should carefully be neutralised.

We all admit that in spite of the tangible improvements during the period of the three Plans, much remains yet to be done to bring the living conditions of the poorer sections to the human level. Nobody would deny the necessity of having a big Plan to accelerate social and economic development. But a big Plan imposes a financial and economic discipline which is to be shared by every section of the community, but mostly by the authorities in power, who should exercise utmost economy and austerity on themselves. There may be necessity of putting restraint on consumption to secure higher national savings. It may be necessary to considerably raise our per capita production, if the per unit production cost is to be brought down to the competitive level. If all these can be done, it is true that the "tasks set out in this Outline are the minimum that require to be done and are well within the capacity of the nation".

India's Aid to Indonesia

India has extended a credit of Rs 10 crore to Indonesia. An agreement was signed in New Delhi recently. Indonesia will utilise the credit to import Indian consumer goods such as jute goods, cotton textiles and yarn, engineering goods, spares and components, chemicals and drugs.

The agreement is an outcome of the goodwill visit to India by the Indonesian Minister for Economic and Financial Affairs, Sultan Hemangku Buwono IX. The visit marks the resumption of cordial relations between the two countries.

As another result of the talks with the Indonesian Minister, a trade pact between the two countries will also be signed shortly in Jakarta.

India has already agreed to set up joint industrial ventures in some African countries.

STORY OF A GLORIOUS PERIOD

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TECHNICAL EDUCATION

THE Commonwealth has been dying for a long while, but it is far from dead yet. The not-quite-Summit Conference in London last month didn't exactly hold the banner high, and the British Press itself almost sat down to write a half-column obituary. But the Commonwealth survived, and there may be another essay at the Summit not long hereafter.

In fact, the Commonwealth puts up a better performance in the non-political field than in the political. No scepticism attends the forthcoming Commonwealth Education Conference, for example. Over 100 delegates from nearly every Commonwealth country will meet in Huddersfield, England, from October 17 to 29 to discuss the education and training of technicians. A number of international organisations and specialist bodies active in the field of technical assistance will also participate.

The basic aim of the Huddersfield conference will be to enable each Commonwealth country, irrespective of its stage of economic development, to secure the maximum improvement in its arrangements for education and training at the technician level. The conference will examine the whole question of technician education and training, and look at the basic needs in various countries, their existing arrangements for education and training, and the forms of aid which would help in improving the supply of technicians.

Non-Trade with China

THE Journal of Industry and Trade, July 1966, lists three trade representatives in India of the People's Republic of China. There is the Counsellor Commercial to the Chinese Embassy whose office is at Jor-Bagh, New Delhi. There is a Chinese Trade Agent at Calcutta and another at Kalimpong.

How many trade agents do we have in China ?

Since April 1964, India-China trade has completely stopped. Indian exports to China were "negligible" in 1963-64, but imports continued at a trickle, Rs 6 lakh in 1963-64 and Rs 3 lakh in 1964-65. The peak trade year had been 1956-57 when our imports were worth about Rs 7.5 crore and exports Rs 2.89 crore. For two years, 1959-60 and 1960-61, we had a favourable balance of trade with the Chinese People's Republic. In 1959-60, our exports were worth Rs 7.72 crore and imports Rs 4.31 crore; in the following year, the figures were Rs 5.27 crore and Rs 2.57 crore.

The Age of Man

"ONE man in his time plays many parts," as Shakespeare well knew, and even a man of genius does not produce a steady flow of creative works throughout his life. An American psychologist has constructed a record of man's creative peaks—from dictionaries of biography, scientific catalogues, encyclopaedias, and so on—which shows the productivity by decade of life of 738 scholars, artists, and scientists who lived to at least the age of 79.

The earliest starters are the mathematicians (hitting peak in their 30's) and the composers of chamber music (writing a great deal in their 20's and also hitting the top in their 30's). Scholars seem to reach the most productive point when they are older (historians and philosophers in their 60's) but are able to go on producing into old age. Novelists are at their best in 50's and 60's, but not much below the peak even when they are between 30 and 49. The artists hit their stride early, but they show the earliest downcurve. They produce little in their 60's and practically nothing in their 70's. The psychologist explains these differences among different fields in terms of the practical circumstances of production. Artists can start young because they are not required to go through a long period of formal education. Mathematicians publish papers at a younger age than other scientists because they don't have to spend years on preliminary data gathering. These practical reasons may dictate the age of decline also. For most scholars, collaboration is an accepted thing—the historian with his flock of graduate students, or the scientist with his laboratory assistants, has lots of help to keep him going in old age. Poets and painters work alone. In many fields of scholarship one basic discovery can be mined, rearranged, and elaborated in a life-time of productivity; a historian can produce new books from data he (or someone else) gathered long ago.



IGNORAMAN

Wants to Know

How many Critics
Make
A Critique

Homesick

A headline in the July 23rd *India News*, organ of our High Commission in London, caught our eyes. "P.M. Warmly Welcomed *Here.*" Of course, Mrs Gandhi didn't visit London where *India News* is published, and we just wondered. But the news item was re-assuring. "The Prime Minister was given a warm welcome when she arrived back in Delhi on July 16 at the conclusion of her tour of the U.A.R., Yugoslavia and the Soviet Union."

The P.M. did not return, but 'arrived back', she had a 'warm welcome' in Delhi (what else could she have?); and it was at the 'conclusion' (not the 'end') of her tour. While writing the headline, our boys were just homesick.

Generous Outlay for Agriculture

No one hereafter will be able to say that Planning Commission is neglecting agriculture. The annual rate of growth envisaged in the Plan from an average of about 3.5 per cent in the past 15 years to 6 per cent in the next five years is a formidable challenge.

M. L. DANTWALA

IF gods have been unkind to the farmers during the Third Plan period, the Planning Commission has sought to restore the balance through the allocation of a generous outlay to the agricultural sector in the Fourth Plan. The public sector outlay on 'agriculture, community development and co-operation' will be stepped up by 100 per cent, from the estimated expenditure of Rs 1,103 crore in the Third Plan to Rs 2,410 crore in the Fourth. The farmers, in their turn, may take it easy ; the corresponding increase in private sector investment in agriculture is expected to go up only by Rs 100 crore—from Rs 800 crore to Rs 900 crore. No one hereafter will be able to say that the Planning Commission is 'neglecting' agriculture ! Adequate provision has also been made for production of agricultural inputs of industrial origin like fertilisers, pesticides and implements.

The responsibility for the fulfilment of the Plan targets of production now rests squarely on the Ministry of Agriculture. Production of foodgrains is to be stepped up from 'the 1965-66 base level potential' of 90 million tonnes to 120 million tonnes, that of oilseeds from 7.5 to 10.7 million tonnes, raw cotton from 6.3 to 8.6 million bales, jute from 6.2 to 9 million bales, etc. This is a formidable challenge, involving acceleration in the annual rate of growth from an average of about 3.5 per cent during the past 15 years to 6 per cent during the next five years.

There is no doubt that agricultural production during the Third Plan period was severely affected by bad weather conditions. But judging even by the performance in 1964-65 which had excellent weather conditions, production was below the trend line of targeted production.

It should be noted that there was no stinting on expenditure for agricultural development even in the Third Plan. There was a step-up in public sector investment from Rs 210 crore in the Second Plan to Rs 600 crore in the Third Plan ; and a further assurance was given that "if for achieving the targets of production additional resources are found necessary, these will be provided as the Plan proceeds". In fact, the expenditure on agricultural development programme under the Third Plan is likely to be larger than the 'physical costs' of the programme estimated in the Plan.

And yet, achievements in selected programmes—which had nothing to do with weather conditions—fell woefully short of targets. The target for major irrigation was 12.8 million acres ; achievement is expected to be a meagre 5.5 million ; the actual up to 1964-65 was just 3.8 million. As a matter of fact, during the 14 years from the First Plan up to 1964-65, the actual increase in irrigation has been only 12.1 million acres (anticipated for 1965-66 being 13.8 million acres). This is the result of a total expenditure of Rs 1,250 crore over the three Plans. The shortfall in fertiliser production is equally glaring. As for the high-yielding varieties of seed, a beginning has just been made, and if knowledgeable critics are to be believed, we are still in the experimental stage (see *Yojana*, August 21, 1966 ; "A Critical Study of the New Food Strategy").

The point is, there is still an excessive preoccupation in the Planning Commission, Central Ministries and State Governments with financial outlays. The boldness of the Plan is judged primarily by the size of the Plan. At least equal concern ought to be shown for the results of the earlier Plan expenditure. Not that evaluations and appraisals are not made. In fact, there are plenty. But the main use made of their findings is to enable the Government and the Planning Commission to admit the shortcomings in advance, it would appear, to queer the critic's pitch. The major visible remedial action has been the step-up in Plan expenditure.

The Draft Outline mentions 'five important measures' for closing the gap between irrigation potential and its utilisation, all of them are almost the same as were mentioned in the Third Plan document and in the Mid-Term Appraisal. There is hardly a word about the physical and economic return on the investment of more than Rs 1,250 crore on major and medium irrigation already made in the three Plans.

The same story can be told about other developmental projects. Perhaps it would be uncharitable to the Ministries to suggest that liberal financial provision induces laxity in expenditure, leading mainly to Parkinsonian progress. Projects are launched with inadequate preparatoy work and later they are held up because of paucity of equipment and raw materials; thus gestation

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**It's in the nature of perishables to rot—
that's how one-third of our food goes waste.**

The consumer packaging industry can help prevent this waste.

Much of the food that goes waste consists of vegetables, fruits, fish, meat and milk products ...perishables that spoil before they can be consumed. The reasons for this are many.

They have to travel long distances, because markets are only rarely adjacent to the growing areas. On the way, they suffer different climates and wild fluctuations in temperature and humidity.

Yet when they arrive, there's no saying they will survive. Because storage facilities are usually inadequate.

This is where the consumer packaging industry could make a small, but significant, contribution towards saving the food that is now going waste. By making available scientific preservation facilities...wherever they are needed.

But the industry must be equipped for the task. With adequate supplies of raw materials at a reasonable price. With imports of certain essential starting materials and the necessary machinery. With access to international packaging know-how...facilities for research and development.

Most important, those units within the industry that are competent to serve on a national scale must be given the materials to function at full capacity.

Metal Box are making available to food packers, big and small, the kind of packaging and packaging service they require.

Through our 9 units spread over India, we also make available to packers facilities for research and development...as part of our complete packaging service. We realise that our contribution is small. What spurs us on is the belief that, at this time, every little bit counts.

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Research and development should be properly phased, aiming at commercial results. Theoretical scientists should be discouraged from undertaking applied research, which should be done only in industrial units with financial assistance from the Government.

SCIENTIFIC RESEARCH SHOULD AIM AT COMMERCIAL RESULTS

V. B. CHIPALKATTI

THE total outlay on Research in the Third Plan was Rs 145 crore and the estimated expenditure in the Fourth Plan is Rs 270 crore. The question to be asked is, did we spend our Third Plan outlay effectively and whether we are going to do better in the Fourth Plan.

Let it be admitted frankly that our expectations of Research and Development as a tool for self-reliance have not been fulfilled and in fact researchers and technologists and engineers engaged in helping to build local know-how suffer from the effects of over-statements and unfulfilled promises.

The Draft Outline of the Fourth Plan does well to point out (Chapter II), the possibilities and limitations of self-reliance and that it would be foolish to do away either with imports or imported know-how. However, there are still many in the country who feel that local know-how can replace imported know-how and imports in quantitative terms and that, given the right approach and support to research, India can attain technological *Swaraj*.

In this connection it is interesting to take note of the post-war experience of Japan.

At the end of the last War Japan did not have any advanced know-how available for export. She had to import know-how on a massive scale from the U.S. and other advanced countries.

From then on they followed a skilful policy of importing know-how wherever expedient and simultaneously gearing up indigenous research efforts to develop advanced know-how from that base. How well this policy has succeeded is apparent when we see that today Japan's know-how export is of the order of 100 million dollars a year. They still import, wherever expedient, know-how from other countries and their know-how import bill comes to about 50 million dollars a year. What really counts in this is that there is a net export surplus of 50 million dollars a year. The lesson to be drawn from this experience is that in this era characterised by a fantastic rate of growth of technological innovation, a concept of total self-reliance is very unrealistic. It is high time that this dogmatic concept gives way to a more practical and pragmatic policy as indicated by proven success of the Japanese example.

It is interesting to study the Indian policies and performance in this matter during the same period.

Seventeen years ago we said that the starting of a chain of national laboratories would do the job. Three reviewing committees of the Council of Scientific and Industrial Research advised scientists to eschew the 'high tower' attitude and undertake mundane, utility-biased work for 'know-how collection'. The scientists readily complied. But let us admit that the results have not enthused anybody. Why is this so?

Firstly, the national research effort has suffered from lack of clarity in objectives. Research and development have, as Messrs Hercules Power Company has put it, five phases, namely (1) idea search, (2) definitive research, (3) laboratory development, (4) design development, and (5) commercial development. What we understand by research and development in India pertains mainly to the first two of these phases, namely idea search and definitive research. Ninety per cent of our research effort in the last fifteen years is expended in these two phases only, and the remaining three phases have not received adequate attention. Under these circumstances, to expect research to yield commercial results is a folly.

INDUSTRIAL BASE

Secondly, the skills, training and time required for each stage of research and development mentioned above are different and varied, and until the industrial and engineering base is properly developed, the necessary confidence for making large-scale investments and taking risks cannot simply be created. Any amount of paper planning or appeals at ministerial or administrative levels are bound to fail, as indeed they have already failed.

If our total Plan outlay is Rs 23,750 crore and if our total research and development outlay is Rs 270 crore, the total results from research would bear more or less the same relation. This appears to be completely lost sight of. Let us, therefore, stop talking as if research and

development effort has any quantitative significance in making the nation self-reliant by helping import substitution or export promotion or avoiding payments for purchase of foreign know-how, etc. This does not mean that research and development effort is not important or that it is not required. But what is needed in India is self-confidence and not quantitative self-reliance, and research and development effort has to play a big role in creating the necessary atmosphere for the same.

Once our mind becomes free from the burden of the quantitative aspects of self-reliance, it becomes obvious that what is required to aim at is quality and excellence, rather than quantity. Quality and excellence further depend on selectivity, personnel, persistence and determination.

It is obvious that what is necessary is a determined bid to *bridge the gap* in knowledge between India and the advanced nations in fields which are vital to planned Indian development. It is easier to read and think and perform laboratory experiments on new ideas than to build factories based on old or new ideas. Experience in some fields has shown that this is possible.

Once the above principle is accepted, intensive thinking and planning can be done in the choice of these fields. The obvious choice would be those in which India has a large export potential, e.g. food, minerals and metals, cotton and synthetic textiles, light engineering and handicrafts, petroleum and chemicals, plastics, glass and ceramics, jute, rubber, tea and coffee, etc. These can be classified as fields which are immediately vital. Other fields will have to be added to these to take care of international trends in the future.

The centre of research and development activity for economic ends should be shifted from non-industrial Government institutions to industrial centres. Tax concessions and exhortations to industries—both in the public and private sectors—have not worked. One of the most important tasks in the Fourth Plan would be to see that production units with resources and experience take a major share of the responsibility for import substitution and export promotion. The present trend of doing re-research in institutions which have neither suitable locations nor experienced personnel must be reversed boldly and quickly.

Every attempt should be made to separate research and development activity aimed at commercial results from exploratory or definitive research. Planning for such an applied research must be about ten years in advance of the needs and the Centre should take full responsibility of financing worthwhile projects both in the public and private sectors. Even if there is an element of compulsion on industrial units, this would be worthwhile

Applied research by men having no industrial experience and working in laboratories without any formal link with production should be discouraged. An immediate decision can be taken to do away with all pilot plants or semi-commercial work in research laboratories. One must insist that this activity be taken up by industrial units even if the financing is done by the Centre.

The emoluments and incentives for applied research should be made attractive so that men with sufficient training and experience in industry are drawn to research.

Fine Instruments

The surgical instruments plant at Madras has completed one year of successful working. More than four lakh surgical instruments of 100 different types were produced by the plant in the first year. The plant has been built with Soviet aid.

Nearly 66 new items are being introduced this year. A few of them, particularly gynaecological equipment, are being redesigned in the Soviet Union to suit the requirements of Indian surgeons.

M.L. DANTWALA *(from Page 33)*

period is prolonged and capital remains barren ; *and* because achievements are short, larger financial allocations are claimed and sanctioned in subsequent Plans. *A new strategy is evolved, which is more often than not a change in the nomenclature—IADP grows into IAAP and then matures in Ayacut Development.*

I do not wish to belittle the New Strategy of agricultural development ; in fact, I am its enthusiastic supporter. Much has been done to ensure its success ; the fertiliser production, distribution and price policy has been radically altered and a frank appraisal is made of the current agricultural credit institutions. But I keep my fingers crossed. The past experience is too much with us, and apart from the Draft assurances in the Outline, there is nothing concrete which can convince one that hereafter the return on investment would be distinctly better.

Large expenditure naturally necessitates mobilistion of large resources. It is true that during the Third Plan period resource mobilisation was made on a heroic scale. The yield from additional taxation resorted to in the Third Plan amounted to Rs 2,880 crore against the target of Rs 1,710 crore with the result that the net contribution of revenue surplus to the financing of the Third Plan amounted to Rs 2,410 crore as against the anticipated Rs 2,260 crore. In spite of this, however, deficit financing of Rs 1,150 crore became necessary. In the Fourth Plan, the balance from current revenue is expected to provide Rs 5,740 crore, necessitating additional mobilistion of Rs 2,730 crore inclusive of Rs 930 crore from measures adopted in 1965-66 (in *Yojana* of September 12 the author mentioned in his article the figure of Rs 1,800 crore by oversight). Taken by itself, Rs 2,730 crore of additional resource mobilisation may not constitute too onerous a burden. But it would be certainly so, coming on the top of Rs 2,880 crore mobilised during the Third Plan period. The outlay of Rs 23,750 crore will generate money incomes which it will not be easy to be matched by the growth in production.

A FINE BLUEPRINT—*But*

Indicators Inadequate

The Plan Outline is a mine of useful information. But Plan after Plan one keeps on waiting for the breakthrough in planning methodology in our country only to be disappointed at the end. There is a repeat performance of the same framework, with only a few more riders like 'self-reliance'.

GAUTAM MATHUR

LET me first of all congratulate the Planning Commission for putting out a very fine Fourth Plan document which contains a mine of useful information, and shows the genuine desire of the framers of the Plan to develop the country. Whatever submissions I have to offer about the theoretical framework of planning should not be taken to detract from the magnitude of the achievement of the Planning Commission in getting out this Plan document.

During the debate on the Second and Third Five Year Plans, a certain section of Keynesian economists brought to the attention of the Planning Commission the elementary proposition that self-consistency of a Plan depended upon matching physical supplies with demands at the current standard of living per man employed, and not on financial expedients. A gap in such supply and demand would result in a depression of the standard of living which may be termed *real inflation.* It may be measured by the index of cost of living deflated by the index of money wages of employed workers, and is thus the reciprocal of proportional factor of decline in real wages. On this basis it was submitted that the degree of real inflation depended upon the allocation pattern of investments, the output-capital ratios of the investments and the production lags. For this determination, the way the financial resources are raised is quite irrelevant.

This implies that whether investments come out of taxation, or out of borrowings from the public, or are self-financed out of past savings, or come out of hoards of accounted (or unaccounted) money, or through borrowing from the banking system, or from the Central Bank, or by the printing of notes, *if the allocation pattern of investment is the same for all these cases,* it would not make one jot of difference to the total number of tons of wheat grown and the yards of cloth produced, on which depends the depression or otherwise of the standard of living or the degree of real inflation. For the purpose of finding causal origin of real inflation, the Planning Commission may as well be looking at the phases of the moon as on the degree of deficit financing.

Apart from theory, neither the depression of the workers' standard of living in the three Plans (denoting degree of real inflation) nor the actual money price level have actually borne any positive correlation with the degree of deficit financing (measured either as the absolute amount of deficit financing or its proportion to the national investment) during the last three Plans. In the first two Plans there was a high degree of deficit financing and low degree of price rises, and in the third Plan the deficit financing was of a low degree, inflation of a high degree. Neo-classical monetary analysis has been belied by the facts as prevalent in India, as much as its theoretical structure has been condemned in the Keynesian analysis.

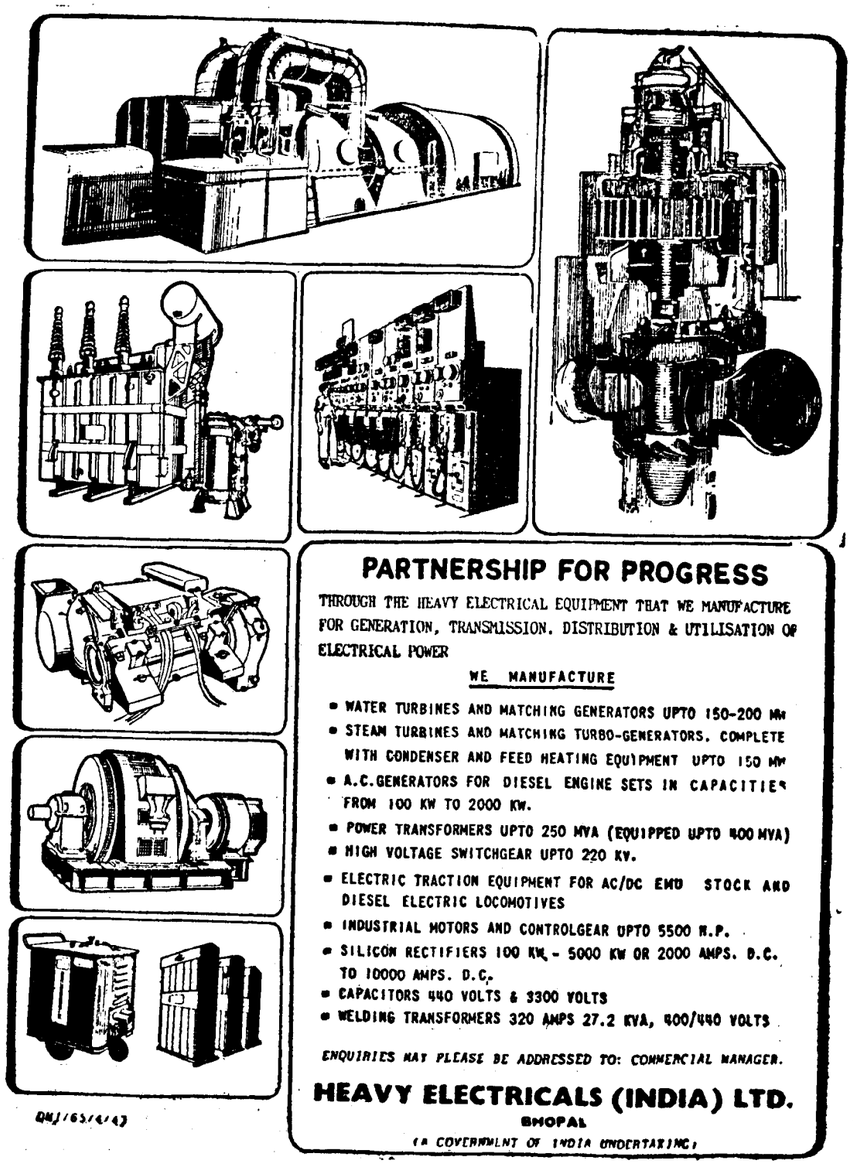
In spite of this and of the fact that brilliant Keynesian economists and experts of the 'Physical Planning School' individually hold senior positions in the Government's policy-making machinery, as an institution (comprising the three economic wings of the Finance Ministry, the Reserve Bank and the Planning Commission), the Government remains wedded to the policy based upon neo-classical monetary analysis.

'In view of the price increase and other strains which have developed in the economy, it is of the utmost importance to avoid all further deficit financing.' (Page 79).

Further the Plan still sports on its frontispiece, as one of the seven selected Economic Indicators, 'Money Supply with the Public'. The present monetary policy, it has been found, not only results in cutting out much investment of an inflation-dampening variety on the grounds of lack of funds, but on the other hand engenders a false sense of security and complacency through the view that all will be well if only deficit financing is kept low.

The term 'resource mobilisation' still means for the Planning Commission the transfer of private savings into Government hands to the utter exclusion of its natural meaning and its significance in theory of economic growth as getting of men, skills, materials and capital equipment together to produce the desired goods. One cannot even start thinking in terms of perspective planning, or of strategies of growth, allocation pattern, output-capital ratios, production lags, physical bottlenecks to growth, removal of these bottlenecks, impediments to their removal, self-reliance, choice of degree of mechanisation, and a score of other parameters really fundamental to the solution of problems of development, unless one completely divests oneself of the veil of money. Plan after Plan one keeps on waiting for the breakthrough in planning methodology in our country, to find disappointedly that there is a repeat performance of the same framework, with a few more riders like 'self-reliance' added.

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RESOURCE MOBILISATION TO POSE A BIG PROBLEM

A Plan outlay of Rs 23,750 crore under the present inflationary trends would be dangerous.

The framers of the Plan have not taken into account the rapidly rising costs of projects which would upset either the physical targets or the financial outlays.

The resource gap would actually be much bigger than has been visualised.

A smaller Plan with better management would have produced the same growth rate.

To contain inflationary pressures, a balance in the allocation of resources among inflationary and anti-inflationary investments should be achieved.

BRAHMANAND PRASAD

THE size of the Fourth Plan has finally been fixed at Rs 23,750 crore—Rs 16,000 crore for the public sector and Rs 7,750 crore for the private sector.

The financing of the public sector outlay will involve mobilisation of additional resources of Rs 2,713 crore through taxation and surpluses of State enterprises. Of this, Rs 1,745 crore will be raised by the Centre and Rs 985 crore by the States. The remaining four years of the Plan will involve raising of resources of Rs 1,800 crore.

The framers of the Plan and the National Development Council, while maintaining that the stipulated outlay of Rs 23,750 crore is essential for the growth of the economy, are also anxious to achieve a close tally between physical targets and the resource availability. And yet, strangely enough, the programmes of development have been drawn up on the basis of prices prevailing in June 1966, as if the impact of fluctuations in prices on the cost of different projects and its consequential effect on physical output is neutral. Or, do they not anticipate any fluctuations in the level of prices during the Fourth Plan period? To say the least, either of the two assumptions would be unwarranted. Wholesale commodity price index rose by 17 per cent between June 1965 and June 1966. The index number of all commodities, which was 124.9 (1952-53=100) in 1960-61, had risen to 185.9 in June 1966—showing a rise of more than 49 per cent, or an annual average increase of more than 9 per cent.

The Fourth Plan is being ushered in at a time when inflationary rise in prices has rocketed to unusual heights. This unusual situation has been created by a combination of a number of factors. Foodgrains production in 1965-66 recorded an unprecedented fall of 17 million tons to 72 million tons. This has resulted, according to unofficial estimate (*Economic Times*), in a sharp fall in the national income by 4.7 per cent. On the other hand, the year 1965-66 witnessed a record figure of deficit financing of more than Rs 400 crore, resulting in increase in the money supply with the public by more than 11 per cent i. e. from Rs 4,080 crore in 1964-65 to Rs 4,530 crore in 1965-66. Even if we leave out the velocity of circulation of the injected empty purchasing power, the initial distortion in the aggregate demand and supply, in itself, would generate a minimum price rise of 10 to 15 per cent. And with the additional thrust generated by devaluation through higher cost of imported raw materials, components and machinery, and psychological impact on trade, price increases up to 25 per cent within the course of the year is not a remote possibility.

LOWERING PRICES

It has been said that with the liberalisation of imports, unused industrial capacity will be fully used and there would be expansion in output. That should be able to absorb a part of the inflationary pressure. But it is forgotten that those industries which were languishing for want of raw material, spares and components, even if they expand production, would also raise their selling prices due to rise in the rupee cost of their imports because of devaluation. Therefore, import liberalisation will hardly be able to depress the prices.

Increased supply of foodgrains would have surely helped in bringing down the prices. But the prospects of the kharif crop are none too bright due to insufficient rain in most parts of the country. Even if, for argument's sake, it is supposed that the next rabi and 1967 kharif crops would be good, it would mean a time-lag of six months to a year. In the meantime much damage would have already been done because of the unhindered escalation of prices.

A Plan outlay of Rs 23,750 crore in this background would be, to say the least, dangerous. Along with increases in the Plan outlays and non-Plan expenditures by the Government, private investment would also continue to expand so that the total pressure of demand on the economy would add to the inflationary spiral, making it impossible to control it at a later stage.

Heavy developmental outlays would generate an upward thrust on the level of prices because newly earned money income would compete for buying essential articles of consumption, especially wage-goods, the supply of which would increase only after a timelag. Gestation lag would depend upon the nature of investment. Investment in capital-intensive projects like heavy machinery complex, machine tools, heavy chemicals for

example, take a long time for the output to come into the market. Construction workers are, in the meantime, paid in terms of money, adding to the aggregate demand without any improvement in the supply side.

Under the circumstances, the correct strategy to contain inflationary pressures would be to strike a balance in the allocation of resources among inflationary and anti-inflationary investments which would result in a non-inflationary situation. If allocation is made to achieve the correct balance, inflation would not pose a problem whatever may be the size of the Plan.

In the Draft Fourth Plan, out of a total public investment programme of Rs 13,600 crore, the following category of investment may be, broadly speaking, taken as inflationary in character :

Power	Rs	2,030	crore
Organised industry	Rs	3,936	crore
Transport and communications	Rs	3,010	crore
Social services	Rs	1,855	crore

To this we can add 50 per cent of the outlay earmarked for agriculture, i.e. Rs 787 crore, as this percentage of the allocation is bound to be wasted or misdirected, as has been the case in the Second and the Third Plans. That would be another source of inflationary rise in prices. So that, out of Rs 13,600 crore of public investment programme, as much as Rs 11,618 crore, or 85 per cent of the outlays, have inflationary potential.

INDIRECT TAXES

Where rapidly growing demands are pressing against inadequate improvement in production, even the traditionally non-inflationary modes of finance, such as taxation, tend to exert an upward pressure on the level of prices. Fiscal efforts aimed at mopping up of the extra purchasing power are offset by a corresponding rise in inflationary pressures arising from a very high level of government spending, a part of resources coming from deficit financing. Construction lag between investment and output leaves a large volume of unsatiated demand, seeking consumption even at higher prices. Under the circumstances, imposition of indirect taxes has the effect of raising prices of consumption goods at a rate higher than the actual levy because goods would still find a market.

REAL INVESTMENT

In an economy staggering under inflationary pressures, heavy Plan outlays, far from accelerating growth, would actually thwart economic development. For there is an intimate relationship between the level of prices and economic development. If prices keep on rising, the magnitude of real investment will be smaller if investment outlays in financial terms are maintained at the level of the target. And unless the rate of real investment is increased, there would not be much industrial progress. Suppose, for example, the cost of erecting a plant has been calculated in terms of current prices at the time a Plan is drawn up. In the meantime, assume that the general level of prices has risen. The result will be that the completion of the plant would involve more capital investment than was initially envisaged in the Plan. Either the particular project could not be completed, or, should the planners decide to complete the particular project without increasing the investment outlay of the Plan, some other project will have to be neglected. In other words, the increase in real national income will be less than the stipulated target. Growth of income in real terms at less than the planned target rate will make it difficult to realise ploughback of a high percentage of additional income of also taxes in the magnitude envisaged in the Plan. The Fourth Plan's postulations of reinvesting a high percentage of the additional income would become difficult to accomplish if the cost of living continues to rise. In an inflationary situation the volume of voluntary domestic saving is bound to fall because most part of the disposable income of an individual will be spent on purchase of essential articles of daily use. Shortfall in the volume of projected saving would make resources mobilisation much more difficult than is anticipated at present by the framers of the Plan. Under the circumstances, temptation for deficit financing would be strong and in all probability, it would be resorted to, with all the perilous repercussions on the level of prices and economic development.

It would not be unrealistic to expect an annual average increase of at least 8 per cent in the prices during the Fourth Plan period. If at all, prices may rise at a higher rate. On this basis, the total increase in the level of prices during the five-year period would be higher than the current prices by about 40 per cent. That would mean that for achieving physical targets of the Plan an outlay of Rs 33,250 (Rs 23,750+Rs 9,500) crore would be required—inflating the resources gap to Rs 11,300 (Rs 1,800+Rs 9,500) crore during the remaining four years of the Plan.

It may be argued that private investment outlay of Rs 7,750 crore will be mostly in consumer goods industries. Expansion of consumer goods output would be able to absorb a substantial part of the inflationary pressures created by public investments.

Capital market in India continues to be in a state of doldrums and it would be unrealistic to expect a substantial contribution from it. Borrowed funds played an important role in financing of new projects during the last two years of the Third Plan than in the earlier three years. Only 37.6 per cent of he project cost in 1965-66 and 35.6 per cent in the preceding year, was sought to be financed through the issue of equity capital. Deferred payments and foreign loans continued to play an important part in 1965-66 also, as in the previous year. On account of depressed conditions in the capital markets and the shortage of domestic resources, the entrepreneurs had necessarily to rely more on foreign capital in recent years. Under the circumstances, it is doubtful, if the private industrial sector would be able to raise resources of Rs 10,850 (Rs 7,750+Rs 3,100) crore. And the reason is not far to seek. According to the Reserve Bank estimate, household sector accounted for about 66 per cent of the total savings during first two years of the Third Plan. The Government and the Corporate sectors accounted for only 27 and 7 per cent, respectively, of the total saving.

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RESOURCES ESTIMATE DEBATABLE

There is a gap of Rs. 3,430 crore between the resources and the outlay in the public sector. The taxation proposed to bridge this gap may not be realised. Similarly, the assumptions about the levels of small savings, public loans and foreign aid requirements are placed rather too high.

K. M. PURKAYASTHA

THE planners have determined the size of the Fourth Plan from a basic standpoint. By and large, their one objective has been to switch over the Indian economy from its current stage of foreign dependence to one of a reasonable measure of self-reliance and domestic self-sufficiency in the course of a decade. As a goal of development policy, such an economic strategy, although not wholly unexceptionable, may yet be conceded. But the tactical issue cannot be overlooked whether the aggregate outlay proposed is matched by the aggregate resources in view. Such a resource-outlay equation is particularly relevant to the implementation of the Plan in the public sector. While the pattern of expenditure allocation segment-wise is always a matter of opinion, the overall balance between the outlay and resources is of paramount significance. For, if such a balance fails, the failure is not merely tactical but is also pronouncedly strategic.

The estimate of resources of the public sector Plan has been placed at Rs 12,570 crore based mainly on four heads: Rs 3,010 crore of revenue surplus at current level of taxation (excluding 1966-67 increase); Rs 1,500 crore from the market loan; Rs 1,000 crore from small savings ; and Rs. 4,340 crore of foreign assistance other than P.L. 480 assistance. The total outlay of the public sector being Rs 16,000 crore, there is thus an unbridged gap of Rs 3,430 crore. Out of this shortfall, Rs 700 crore is to be met by a 3 per cent cut in the non-development expenditure borne in the State and Central budgets; there still remains an uncovered deficiency of Rs 2,730 crore. This deficiency is proposed to be met by fresh taxation. The new taxes already levied by the States and the Centre are estimated to yield Rs 930 crore over the Plan period. The residual amount of Rs 1,800 crore represents the new taxation liability of the State and Central Governments as the financial *sine qua non* of the Fourth Plan.

ADDITIONAL TAXATION

In the first place, it is highly debatable if a revenue surplus of Rs 3,010 crore can be realised over the current Plan period at the pre-1966-67 level of taxation, the Central and State budgets being taken together. The corresponding amount of the Third Plan is estimated at a negative amount of Rs 470 crore. The assumption of such a six-fold increase in revenue surplus does not seem to be justified under a normal growth rate of revenue, unless the surplus has been worked out on a blanket rate of, say, 15 per cent of the total revenue collection of the Fourth Plan period (exclusive of course of the yield of the new tax levies).

According to the budget of 1965-66, the total revenue collection of the Centre and the States was Rs 3,567 crore and the total charge on the revenue was Rs 5,339 crore. The resulting revenue gap was Rs 1,772 crore which, however, is converted into a revenue surplus of Rs 453 crore, if the entire Plan expenditure of Rs 2,225 crore is excluded from the charge on the revenue (2225—1772=453). The corresponding figure for the year 1964-65 (actuals) was Rs 440 crore. These surpluses are, however, inclusive of the surpluses of the public undertakings, listed separately as a resource item of the Plan. The highest amount of revenue surplus, other than the surplus of the public undertakings, for which credit can be taken for the resources of the Fourth Plan, would thus seem to be an average annual figure of Rs 300 crore, or Rs 1,500 crore for the entire Plan period. All this is calculated on the basis of pre-1966 taxation; and it is pertinent to point out here that even the yield of new taxes in 1966, estimated at Rs 930 crore, is an over-estimate. For, a big sum of Rs 675 crore of this amount is attributed to the new export duty on jute manufactures and tea, and these duties may not be maintainable, at any rate, at the level imposed.

From market loan and small savings, the Plan expects to raise Rs 1,500 crore and Rs 1,000 crore respectively, against the corresponding Third Plan estimates of Rs 915 crore and Rs 585 crore. During the Fourth Plan period as many as eight Central loans would mature including the 3.5 per cent loan repaid in July last. The aggregate outstanding amount of these eight loans is Rs 671 crore. First, it is doubtful if, consistent with the conversion demand of such a large amount, the market would provide Rs 1,500 crore of new money. Secondly, the effect of price rise on money-holding demand of the public was demonstrated in 1965-66 when up till January 14, 1966, Rs 231 crore of additional money was held by the public. Prices have since risen; and the more the prices move up, the worse would be the prospect of Government loan in the market. Lastly, the inadequate

rate of return on investment in new enterprises works out to less than 1.5 per cent. In the present context of devaluation, it is highly doubtful whether the target of Rs 1,085 crore could be reached, notwithstanding all the proposed measures for increasing efficiency and revising pricing policies.

Thus even granting that the targets for railways and public borrowing are realised, the resources which have to be found by additional mobilisation of domestic resources is likely tc be of a much higher order than Rs 2,730 crore as envisaged in the Draft. Taxation will have to be the mainstay for filling this gap.

Is additional taxation of this order feasible? Perhaps, the unexpected buoyancy in the tax yield and the public's willing response to new taxes during the emergency, which resulted in realising Rs 1,100 crore in excess of the original estimates, have emboldened the planners to envisage a tax effort of this magnitude. But prudence demands that this spectacular success should counsel restraint, especially in view of the adverse effects it has already produced on the economy. Taxation has other effects than the raising of the revenue and the dominant note in modern public finance is to subordinate the revenue objective to others which are considered more important.

Indian economic planning has also paid lip service to these other objectives, such as price stability, social justice, rapid economic growth and improvement in the balance of payments. But it has given little attention to the examination of the economic effects of its fiscal policies. During the last 3 years heavy direct taxation has crippled the private sector and depressed the capital market. The inordinate increase in indirect taxation especially in excise duties contributed not a little to aggravate the inflationary pressures on the economy and create a wage-price spiral.

While total taxation as a proportion of national income had doubled itself from 7 to 14 per cent during the last two Plan periods, that does not tell the whole story. The marginal rate of taxation is more important. Tax and non-tax revenues and capital receipts, between them, appropriated as much as Rs 1600 crore or 34 per cent of the addition to the national income from 1962-1963 to 1964-65. Doubling the tax revenue in four years by introducing new taxes in three successive instalments was perhaps justified in a state of national emergency, but cannot be repeated to meet the normal needs of development.

DIRECT TAXES

The level of direct taxation in India today has reached such a high pitch that it acts as a disincentive on effort, initiative and enterprise. Progressive increases in the income tax together with the rising price level has resulted in an appreciable decrease in the real disposable incomes of individuals ranging from 19.4 to 29.2 per cent in different income tax brackets. Public response to capital issues has, therefore, been very discouraging in recent years. Corporate taxation too has been much above the level in other countries. According to the London Economist's survey (1965), while the burden ranges between 42.0 to 61.0 per cent for an income level of £ 3,500 in European countries, it is as much as 77.5 per cent in India. It is clear that the capital market which has been thrown into doldrums during the last few years cannot be activated without an appreciable reduction of direct taxes.

Indirect taxes have accounted for an increase of revenue of 246 per cent during the last ten years. They account for 50 per cent or more of the prices of several commodities like petrol, kerosene, matches, tobacco and artificial silk and within 25 to 30 per cent of cotton clothes, sugar, vanaspati, etc. Taxes are generally considered an anti-inflationary measure, but these taxes have actually helped to raise prices by more than the taxes. Therefore, further increases in indirect taxation have to be undertaken with great care. The Draft Plan realising the dangers from further indirect taxation has suggested a selective use of this weapon on new commodities as well as non-essential goods, especially durable goods. But their revenue potentialities are limited.

The real scope for increased revenue during the coming Plan period is in the field of agriculture which has accounted for a good measure of investment and is at present comparatively lightly taxed. It should be possible to derive a sizeable revenue from the enhancement of land taxes and irrigation charges, and exploitation of betterment levies and the agricultural income tax. But these come within the province of the State Governments which will be called upon to play a leading role in the mobilisation of resources for the Fourth Plan. Urban land is another fertile field for raising more revenues. A great responsibility lies on local governments also to develop this source in order to reduce their dependence on State Governments for grants. But neither State nor local governments have been noted for their enthusiasm to impose additional taxation.

The implications of the above analysis for the Fourth Plan may now be spelled out :—

(1) The estimates of revenue from several sources are seen to be somewhat unrealistic and the gap to be filled by additional mobilisation measures is likely to be appreciably higher than the figure of Rs 2,730 crore contemplated in the Draft.

(2) The scope for additional taxation is severely limited and a tax effort of the magnitude envisaged in the Plan seems to be neither feasible nor desirable.

(3) If taxation is stretched to meet the demands of a Plan of this size, it may wreck the economy which is already out of gear. If it is not stretched to the full extent, it will inevitably lead to deficit financing of a magnitude much greater than that of the Third Plan with equally disastrous consequences on the economy.

The conclusion is irresistible that Indian economy today cannot sustain a Plan of the size envisaged in the Fourth Plan Draft.

The hydro-electric power station at Mettur in Madras State has been commissioned. Built with the technical assistance of the Soviet Union, the power station has a total capacity of 200 MW with four generating units. It has been connected with the general power system of Madras State.

A FEW KEY PROBLEMS —PRICES, EXPORTS, ADMINISTRATION

C. N. VAKIL

The possibility of prices rising further is inherent in the Plan, and the Draft Outline does not give an effective answer to this question. The Planning Commission does not seem to have reviewed the export policy in the light of devaluation nor has it t ried to recast the entire production policy of the country to suit the export markets, old and new. And the Plan should have emphasised the various steps for removing the deficiency in administration and for assuring the people about the proper use of the large public resources.

IT is proposed to consider a few key problems which may determine the course of economic events in the country in the immediate future and help or hinder the implementation of the Fourth Plan. Among these may be mentioned (i) the price policy, (ii) the export policy, and (iii) the machinery for implementation of the Plan.

The Commission has decided to avoid deficit financing in carrying out the Fourth Plan. In doing so, it seems to believe that the rise in prices would be avoided. At least it has created that impression in the public mind.

It appears that the Commission has yet to develop in greater detail the price policy which should be adopted during the Fourth Plan. The Commission is, of course, aware that among the major causes of rising prices in recent years are the following :

(1) The long gestation period required for several big projects, which result in large quantities of money flowing into circulation, without goods being produced for several years. The launching of such projects in quick succession gives a continuity as well as a multiplicity to this process.

(2) The existence of a substantial amount of expenditure either for the Plan or for non-Plan activities of the Government which from the point of view of prices of consumer goods may be classed as *unproductive expenditure* in as much as it does not add to the consumer goods in the market.

(3) The assumption in the first two cases is that the expenditure is incurred in an efficient and economical manner. Even on this assumption the tendency towards rising prices under the above conditions would continue. But in case some of the expenditure is of a wasteful nature because of inefficiency or corruption or such other causes, then the mischief to the economy involved would be of a serious nature.

(4) Deficit financing, if practised, adds to the operation of the above causes.

Assuming that deficit financing will not be practised, we have yet to admit that the above factors will operate on the price level in a greater degree than before, because the dimensions of public expenditure under the Fourth Plan are much larger than in the previous Plans. However, because of unforeseen circumstances such as a war with one or more of our neighbours or natural calamities like widespread famines or floods, a situation may arise in which the Government may be compelled to resort to deficit financing.

The points urged in the Draft Outline in the first chapter where the question has been discussed, do not give an effective answer to the possibilities of rising prices inherent in the Plan as pointed out above. The question is whether the ordinary citizen, who wishes to make both ends meet or to maintain his normal standard of life or hopes to improve upon it but finds himself in increasing difficulties owing to continuously rising prices, will be in a position to face a further rise in prices which is likely because of the Plan. The various suggestions to control prices of consumer goods, some of which are in operation and others which may be tried, may not be adequate to offset the continuing difficulties from which the ordinary citizen is made to suffer in order to enable the country to develop or the Government to have the resources for this development.

Those in authority do not seem to have realised fully the rapid deterioration of public confidence in the Government's capacity to maintain the value of the rupee. If prices continue to rise further on top of the present position, which is bad enough, the want of confidence in the rupee may increase. *Measures such as Department Stores or Consumers' Cooperative Societies are palliatives which do not attack the root of the problem.* The timidity with which the different Chief Ministers agreed to cut expenditure during the current year by small percentages was significant; it shows the complete lack of seriousness of purpose in

credit contraction of 1945 slack season (May-October) should be a clear eye-opener to the fact that so long as the credit demand from the public remains unsatisfied by a large margin, bank investments would not be diverted adequately to Government loan at 3 to 5 per cent lower rates of interest. Either, therefore, deficit financing should be covertly resorted to *via* Reserve Bank's large support to Government loans or the resources to be made available from market loan for the Fourth Plan should be scaled down to Rs 750 crore.

The planners' assumption of mopping up Rs 1,000 crore from small savings is equally unrealistic. Here also the effect of rising prices must be taken into account. The enhanced interest rates for small savings, sanctioned in February 1965, have not shown any noteworthy effect on the small savings in 1965-66. Currently the small savings are yielding Rs 135 crore a year; and the total yield over the Fourth Plan period is not likely to reach above Rs 750 crore even at a most optimistic calculation. The Unit Trust of India, which offers a far more favourable investment opportunity than all types of small savings, could hardly collect more than Rs 2.13 crore in 1965-66. It is true that the Trust's operational coverage has been much more restricted than that of the small savings. Yet the barometre of investment by small savers can nevertheless be read in the demand for its units.

FOREIGN AID

The external aid, estimated at Rs 4,700 crore, will come from two sources: (1) Rs 360 crore from P.L. 480 aid; the corresponding amount in the Third Plan was Rs 880 crore; (2) Rs 4,340 crore from the Aid India Consortium. The sum has been arrived at in this manner: For the Fourth Plan period the total maintenance import, excluding the debt service and repayment charges, has been estimated at Rs 5,200 crore and the Plan projects import at Rs 2,450 crore, both at pre-devaluation cost. At the post-devaluation rate of the rupee, this amount of Rs 7,650 crore is equivalent to Rs 12,340 crore. And the export has been assumed at Rs 5,010 crore (pre-devaluation), or Rs 8,000 crore (post-devaluation). Thus there remains a gap of Rs 4,340 crore (12340—8000=4340), of which the dollar equivalent at the new rupee rate is 5.8 billion. This aid requirement is based on the assumption that there will be an additional direct flow of private foreign funds of 900 million dollars, equivalent to Rs 675 crore at the new rupee rate.

All these assumptions underlying the external aid requirements of the Plan may be upset in varying degrees. In the first place, the export drive may not be doubled in value terms and, as such, the foreign exchange earning target of Rs 8,000 crore may not be realised by 1970-71. As regards the value of project imports at Rs 2,450 crore, the estimate appears to be a fair one, considering that in the fourth year of the Third Plan the import of machinery and locomotives on Government account was not more than Rs 278 crore. But the same thing cannot be said about the planners' assumption of direct flow of foreign private capital estimated at Rs 675 crore. In 1964-65 the net invisible account for private transfer was Rs 35 crore in favour of India and the net receipts on capital account in the same year on account of private non-banking remittance to India was only Rs 11 crore (net). On the whole, for the implementation of the Plan, the foreign exchange requirements should be placed at at least Rs 500 crore higher than Rs 4,340 crore, and this amount would partly offset a probable shortfall in export earnings amounting to Rs 2,000 crore.

All in all, the resource deficiency envisaged here is of Rs 2,500 crore—Rs 1,500 crore under revenue surplus, Rs 750 crore under market loan and Rs 250 crore under small saving —and all these beside a foreign exchange deficiency of Rs 2,000 crore under external aid. The surplus of public undertakings placed at Rs 1,083 crore is, however, perfectly realisable.

Precision Instruments

A contract for the supply of technological documentation for the production of high precision instruments at the public sector factory at Kota in Rajasthan has been signed.

The Kota plant will start trial production by the end of this year. The value of production in the first year will be Rs 30 lakh, to reach Rs 11 crore a year in about 5 or 6 years when the plant will attain full capacity. The plant will manufacture electronic and electromagnetic instruments.

The Kota is the first of the two high precision instrument factories that are being set up with financial and technical assistance from the U.S.S.R. at a cost of Rs 15 crore.

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WHAT ABOUT FINANCIAL RESOURCES ?

Indian economy today cannot sustain a Plan of the size envisaged in the Fourth Plan Draft.

V. R. PILLAI

We seem to have been caught in the vortex of planning and it would need great courage to stem the tide. The Draft of the Fourth Plan gives the appearance of swimming with the current of public expenditure rather than trying to control it. We have a proposed outlay of Rs 23,750 crore of which Rs 16,000 crore is to be in the public sector; more than double that of the Third Plan. Neither the abnormal rise in the price level nor our widening gap in the adverse balance of payments, which has led to devaluation with all its dire consequences, can deter us from going forward with our Plans.

But what about financial resources? Having badly burnt our fingers, or rather ourselves, by deficit financing during the Second and Third Plans, we have taken a vow not to resort to this device any more. External credits have proved to be enigmatic and increasingly attached to strings which might strangle us in the long run and therefore we are determined to minimise our dependence on external aid during this Plan period and eliminate it altogether thereafter. Nevertheless, the Plan takes credit for Rs 4700 crore of external assistance which leaves us with the problem of raising Rs 11,300 crore from domestic resources.

The broad analysis of the financing pattern is : Rs 7,420 crore from revenue surpluses, including public enterprises, Rs 3,215 crore from loans, small savings and compulsory/annuity deposits, and the balance of Rs 665 crore from miscellaneous capital receipts. The revenue surplus consists of Rs 3,010 crore from current revenues at pre-Plan rates of taxation, Rs 335 crore from economies in non-Plan expenditure, Rs 260 crore from the railway budget, Rs 1,085 crore from other public enterprises and Rs 2,730 crore from additional mobilisation measures. These estimates need careful scrutiny.

The provision of a surplus of Rs 3,010 crore from current resources appears to be on the high side. But it is hedged round by several spacious assumptions such as the realisation of anticipated increases in production and national income and effective steps for reducing tax evasion and recovering arrears. The first assumption is in its very nature conjectural and the experience of the last two Plans is discouraging, as the national product had failed to reach the Plan targets. The uncertainties of the monsoon, which determines in a large measure the level of our agricultural production, make any prediction problematic.

WEATHERED MACHINERY

As for the reduction of tax evasion, there is no magic by which our weather-beaten machinery of tax collection can be suddenly tuned to a high pitch of efficiency during the next four years. On the other hand, the incentive to evade taxation which is directly proportional to the marginal rate of taxation is becoming increasingly powerful with increases in tax rates. Not much store can therefore be laid on this item as a source of revenue.

As the revenue surplus is a function of both revenue and expenditure, the expenditure pattern during the Fourth Plan has a direct bearing on it. With the continuing threat to our borders, a reduction in defence expenditure is well-nigh impossible, while the rising cost of living is bound to push up expenditures in all sectors.

Economy in non-Plan expenditure, that is, on tax collection, civil administration and developmental services, is expected to bring a saving of Rs 335 crore, for which the Draft Plan has taken credit under resources. This is based on the vain hope that it may be possible to reduce the annual rate of increase under these heads from the accounting rate of 5 per cent to 3½ per cent. In this connection, it is important to note that the Perspective Planning Division has adopted for its estimates a minimum annual rate of increase of 5 per cent in civil administration, 8 per cent for stationary and about 10 per cent for non-Plan development expenditure. The actual average annual rates of increase in these items during the Second and Third Plan periods were 15.3 per cent and 11.5 per cent respectively. As it would need stringent economies to limit the rate of increase to 5 per cent, especially with rising prices, there is hardly any justification for taking credit for Rs 335 crore by way of a further reduction in this expenditure.

An estimated surplus of Rs 1,085 crore from public enterprises, as against Rs 395 crore realised during the Third Plan, is, to say the least, a pious wish. *The inefficient conduct of our new public sector enterprises has been the Achilles' heel of planning in India.* If only they had yielded a normal return of 10 per cent and Railways and Posts and Telegraphs had yielded a return of 7 per cent, as the Perspective Planning Division had estimated, their contribution to resources during the Fourth Plan would have been of the order of Rs 7,520 crore. As it is, many of them are running at a loss and the average



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dealing with a problem whose importance from the point of view of the internal health of the country does not seem to have been realised fully by the Central and State Governments.

While appreciating the Planning Commission's desire to have a large Plan for rapid development towards a self-generating economy, one has to face the realities of the situation in the country, which should not be allowed to go out of control. The prevailing discontent and unrest have been closely linked to the phenomenon of rising prices, and if the same is intensified, the Government may have a serious political problem of controlling such unrest, which leads to growing indiscipline and loss of production which are not consistent with economic progress.

EXPORT POLICY

So far as the second problem, namely the export policy, is concerned, the Commission does not seem to have reviewed the policy in the light of the devaluation of the rupee, except to adjust the projected figure of Rs 5,100 crore, which was estimated before devaluation to Rs 8,030 crore. It appears that a detailed study of the problem is still being made by the Planning Commission and the Commerce Ministry.

What could have been done even at this stage was to announce a policy decision in clear and emphatic terms that the country's production, both in agriculture and industry, has to be reoriented and adjusted with reference to existing and possible new export markets, and that all parties concerned have to fall in line with such a policy by adopting disciplined hard work in order to be able to achieve self-reliance in the economy.

If this is not realised by the country in practice, self-reliance will remain a distant dream. If this was adopted as a policy at the Draft Outline stage, one would have expected that details would be worked out from that point of view. One misses the correct perspective, when one sees the effort to bolster up even existing exports by subsidies and incentives in addition to the general incentive of devaluation, instead of an effort to recast the entire productive policy of the country.

The solution of this problem is likely to affect the entire economy so fundamentally that more serious thought ought to have been given to it. If the Government are serious in following the policy necessary to make devaluation a success, they cannot but reorganise the productive arrangements of the country to suit the export markets, old and new. The concept of self-reliance has often been repeated, but the only means of achieving it have not received due attention.

Besides dealing with the problem of immediate exports, a long-range economic policy is required in this connection, which one misses. As the adoption of such a policy would involve important changes in the investment pattern of the Plan, and also the need for taking into confidence different classes of producers for the necessary changes, one wonders why this fundamental change was not thought of in evolving the basic ideas for the Plan in the Draft Outline.

The country cannot afford to continue to pamper producers and exporters, who have been used to large undeserved gains in the past; they have to be made to realise their responsibility to fall in line with the needs of the country instead of trying to exploit it. The recent decision to give export subsidies for several commodities and the attempt to render assistance to other exporters is not consistent with such a long-range policy.

ADMINISTRATION

In the various publications issued by the Planning Commission as well as in the reports of Government and public sector undertakings or in the reports of different Parliamentary committees, there is ample evidence regarding the comparative failure of the Third Plan, one of the major causes being deficiency of the administrative machinery in implementing the Plan. There is considerable room for improvement at all levels in the implementation of Plan projects from the decision-making stage at the Ministerial level to the stage of detailed implementation. The situation is so well known that no proof is necessary but to mention the fact. In view of this, it would have been appropriate for the Planning Commission to have devoted a separate chapter in emphasising the various steps to be taken to remove the evils which have crept into the administration and management of the Plan. The chapter dealing with the implementation of the Fourth Plan deals with some general aspects which are useful but ignores essential points that have been mentioned here.

The public must be assured that the large resources which the Government wants to raise from the public for carrying out the Plan will be put into the hands of people who are known for their capacity and integrity, from Ministers to the lowest officials. In this case also, the authorities are perhaps not fully aware of the fact that the public or the ordinary citizens have been losing confidence in the capacity and integrity of the Government machinery to handle such large resources efficiently and economically in the interests of the country.

The time has therefore come, or perhaps is overdue, when the Government should go out of its way to give tangible proof—proof which can go home to the ordinary citizen easily—regarding the proper use of public resources. So long as this is not done and so long as the known weaknesses of the Government machinery continue, it will not be easy to prevent the growing belief among the ordinary citizen regarding the possibility of the increasing misuse of public resources by those in charge. So long as this atmosphere continues, it is futile to expect public enthusiasm and co-operation for the Plan, which is essential for its success.

Atomic Leakage Detector

The Atomic Energy Establishment at Trombay has developed a device to locate leakage points in co-axial trunk telephone cables laid more than a metre deep underground. The device, which uses isotope of radio-bromine, was recently tested on the co-axial trunk line between Bangalore and Poona.

The device has a great potentiality of use for detecting leaks in different type of underground pipelines.

FOURTH PLAN

Questions And Answers

AGRICULTURE

Question : What is the 'new strategy' through which increases in the production of foodgrains contemplated during the Fourth Plan will be achieved ?

Answer : The 'new strategy' centres on intensive cultivation of 32.5 million acres of land in areas which have assured rainfall or abundant irrigation, enjoy immunity from natural hazards such as floods, and have well-developed institutional facilities for credit, storage and marketing. The key inputs in the lands selected for intensive cultivation will be high-yielding varieties of seeds for paddy and wheat, and hybrid maize, *jowar* and *bajra* ; fertilisers, pesticides and credit. This strategy seeks to obtain the maximum return from land, water and other inputs through selecting the most promising areas all over the country and concentrating the application of the inputs in these areas.

The strategy is really an extension of the Intensive Agricultural District Programme (IADP) initiated in 1960 and extended into the Intensive Agricultural Areas Programme (IAAP). These programmes were based on the principle that a 'package' of practices applied in concentrated doses would yield higher outputs than when the inputs are more thinly applied.

As the results of these programmes have been encouraging, the new strategy expects to obtain an additional output of 25 million tonnes of foodgrains from 32.5 million acres by 1970-71.

Question : What increases will be achieved by 1970-71 in the production of foodgrains, sugarcone, oilseeds, jute, cotton, wool, milk, fish and eggs ?

Answer :

	Base level of production 1965-66*	Target of production	Increase per cent
Foodgrains (m. tonnes)	90.0	120.0	33.3
Sugarcane (Gur) (m. tonnes)	11.0	13.5	23.0
Oilseeds (m. bales)	7.5	10.7	43.0
Jute (m. bales)	6.2	9.0	45.0
Cotton (m. bales)	6.3	8.6	37.0
Wool (m. lbs)	83.2	94.0	13.2
Milk (m. tonnes)	24.6	32.3	31.1
Fish (lakh tonnes)	11.5	15.3	33.0
Eggs (million)	4675	11000	135.3

*Base level of production means the production potential during 1965-66. It does not represent actual production. The production of foodgrains, for example, was 72.30 million tonnes.

Question : What are the targets for the consumption of chemical fertilisers by 1970-71 ?

Answer : At present the average rate of fertiliser consumption per acre in India is about 1/7th of the world average. The aggregate consumption at the end of the Third Plan was about 6 lakh tonnes of nitrogen, 1.5 lakh tonnes of phosphate and 90,000 tonnes of potash. By 1970-71, this will increase to 20 lakh tonnes of nitrogen, 10 lakh tonnes of phosphate and 3.5 lakh tonnes of potash.

Question : To what extent will improved seeds be used in increasing the production of foodgrains ?

Answer : The area under improved seeds in 1965-66 was 120 million acres. This will increase to 274 million acres by 1970-71.

An important development in agricultural technology in recent years has been the evolution by scientists of high-yielding varieties of seeds of wheat, paddy, maize, *jowar* and *bajra* which give output per acre more than three times the present levels of output. These seeds require higher doses of fertilisers and irrigation, and call for greater skills in agricultural operations. In the Fourth Plan selected high-yielding varieties of seeds will cover 32.5 million acres of which 12.5 million acres will be under paddy, 8 million acres under wheat and 12 million acres under hybrid *bajra*, *jowar* and maize.

The remaining area of 241.5 million acres will be covered by locally-bred varieties of improved seeds.

Question : What increases will be achieved in the irrigation potential of major and medium, and minor irrigation works ?

Answer : *Minor irrigation*—The area under minor irrigation is planned to be increased by 17 million acres from 50 million acres at the end of the Third Plan to 67 million acres at the end of the Fourth Plan. The long term potential for the development of minor irrigation is estimated at 75 million acres. In minor irrigation, utilisation is generally equal to the potential.

Major and medium irrigation—Irrigation potential to be created during the Fourth Plan will increase by 13 million acres (gross) from 42 million acres* at the end of the Third Plan to 55 million acres at the end of the Fourth. Of the additional potential of 13 million acres, utilisation is expected to reach 9 million acres.

*Of this, potential of 18 million acres was created during the first three Plans.

The total gross area which can be covered ultimately by major and medium irrigation schemes is about 112 million acres.

Question : What programmes are envisaged for the development of agricultural implements during the Fourth Plan ?

Answer : A workshop is proposed to be set up in each community development block to provide repair and maintenance services for agricultural implements and popularise the use of improved implements. Two of the 17 research, testing and training centres set up during the Third Plan will be developed into regional design and research centres to further improve the standards of implements consistent with the needs of different regions. These centres, the tractor testing and training centres and the block workshops will also train village mechanics. Service co-operatives will hold stocks of improved implements for supply to cultivators.

Question : What will be the increase in the number of electric tubewells and water pumping sets by 1970-71 ?

Answer : Seven lakh pumpsets and tubewells will be energised during the Fourth Plan under the rural electrification programme. This will increase their number from 4.8 lakh at the end of the Third Plan to 11.8 lakh in 1970-71.

Question : What is the programme of plant protection during the Fourth Plan ?

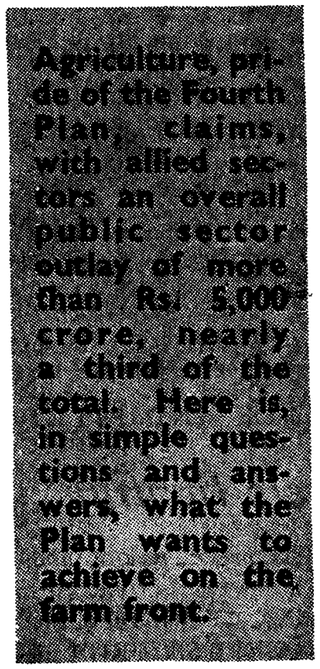
Answer : Plant protection measures consist of treatment of seed against infection and of plants against plant diseases, control of field rats and insects, protection of crops against locusts, control of weeds, and other measures.

Against about 41 million acres covered by plant protection measures in 1965-66, 137 million acres are proposed to be covered by 1970-71. This is an increase of 234 per cent.

Question : What is meant by land reclamation and soil conservation ? What area will be covered by these measures during the Fourth Plan ? How much additional production is expected to be obtained ?

Answer : Land reclamation means treatment and development of land lying waste so as to make it fit for productive use. Soil conservation means the use and management of soil and water in such manner as will maintain and enhance the productivity of the soil and correct and prevent its deterioration while in use.

An area of 2.5 million acres would be covered by land reclamation measures for agricultural use during the Fourth Plan. In the Third Plan, against a target of 3.6 million acres, the area covered by land reclamation was about 4 million acres. Soil



conservation measures would be undertaken over an area of 20 million acres. The Third Plan target for the programme was 11 million acres against which the area covered by soil conservation measures was about 10 million acres.

The two programmes taken together are expected to bring about an additional production of foodgrains of about 1.3 million tonnes. Of this, the contribution of soil conservation is expected to be about 0.8 million tonnes and that of land reclamation about 0.5 million tonnes.

Question : How much agricultural finance was provided at the end of the Third Plan by co-operative societies? What will be the increase in co-operative credit for agriculture by 1970-71 ?

Answer : The volume of short-term and medium-term agricultural credit provided by co-operative societies increased from Rs 203 crore in 1960-61 to about Rs 400 crore in 1965-66. It is estimated to increase to Rs 650 crore in 1970-71.

Co-operative long-term credit outstanding at the end of 1965-66 was Rs 150 crore against Rs 38 crore in 1960-61. During the Fourth Plan, fresh loans to be advanced by co-operative land mortgage banks are estimated to amount to Rs 300 crore.

Question : What improvements in marketing and storage facilities for agricultural produce will be provided during the Fourth Plan?

Answer : For further developing agricultural marketing in the Fourth Plan and safeguarding the interests of agricultural producers, it is proposed to extend the area and expand the scope of legislation under the Agricultural Produce Markets Acts, under which regulated markets are established. More agricultural commodities and livestock products will be subject to regulatory measures. Grading will cover a larger number of commodities including several entering the export trade. About 450 new marketing societies will be organised, so that, by the end of the Fourth Plan, each wholesale *mandi* centre will have a marketing co-operative to cater to the needs of the producers. These societies are expected to handle Rs 850 crore worth of agricultural produce by 1970-71 as against Rs 300 crore of produce estimated to have been handled in 1964-65.

The marketing societies are expected to set up about 20,000 rural godowns and 1500 mandi-level godowns. With this, the storage capacity available with the co-operatives will increase from two million tonnes to four million tonnes during the Fourth Plan. The Central and State Warehousing Corporations will also set up a number of warehouses in the country to provide scientific storage and help the growers, their co-operatives and the traders to secure advances from scheduled banks against warehouse receipts.

Question : What is agro-economic research? How is it intended to help the development of the rural economy?

Answer : Agro-economic research means a system of organised study of the economic problems of the rural economy. Experience of agricultural planning in recent years has highlighted the value of adequate information on, and analysis of, the needs and problems of the rural economy. Agro-economic research provides this information and analyses, and assists in the formulation of policies and plans of rural development. It is equally essential to carry out continuing studies of the changes occurring in the structure and functioning of the rural economy in the course of development.

To these ends, the Ministry of Food and Agriculture has set up agro-economic research centres in collaboration with Universities at Delhi, Visva Bharati, Madras, Poona, Gwalior, Jorhat, Vallabh Vidyanagar and Allahabad.

Question : What is crop insurance? To what extent would crop insurance be introduced in the Fourth Plan?

Answer : Crop insurance is a system of protection of farmers against risks of complete or partial failure of crops caused by drought, floods, disease, pests and other natural calamities. Against payment of stipulated premia the system will offer an assurance of compensation for losses suffered by farmers through such calamities.

A scheme for crop insurance has been included in the Fourth Plan. It will be implemented in Punjab initially and extended to other States in the light of the experience gained and willingness of the States to introduce crop insurance.

Question : What are the functions of the Agricultural Prices Commission? What is the importance of price policies in agricultural development?

Answer : The Agricultural Prices Commission was set up in January, 1965, to advise the Government on the price policy for agricultural commodities, evolve a balanced and integrated price structure with due regard to the interests of producers and consumers and the overall needs of the economy, suggest non-price measures required for agricultural development, examine the methods and costs of marketing, watch the changes in the price situation and perform other tasks ancillary to its objectives.

It is recognised that prices obtained by producers influence their decisions on what they will produce. In the interests of increasing the production of foodgrains, it is essential that producers get prices which offer them an incentive and do not act as a disincentive to the production of foodgrains. The Agricultural Prices Commission will assist Government in evolving a rational price policy.

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INDIA'S GRAIN SUPPLY

How much grain do we produce and where? On how much land and what is the per acre yield of the various grains: Dr Jain who works with the Directorate of Economics and Statistics, Bhopal, gives a grain map of India in words

S. C. JAIN

OF India's harvested acreage, 80.9 per cent (about 115 million hectares) is used to grow grain which is more than one fourth of an hectare and one-fifth of a tonne for each person in the country.

Four States—Uttar Pradesh, Madhya Pradesh, Bihar and Punjab—are the giants in grain production. Together they account for about 46 per cent, or more than two-fifths, of all the grain grown in India.

Uttar Pradesh produces about 13.5 million tonnes of grain each year—almost one-fifth of a tonne for each inhabitant. This falls short of domestic needs; consequently, a large share, about one tonne in every five produced elsewhere, is imported. Madhya Pradesh and Punjab meet their own grain needs and in most years export fairly large quantities, but Bihar has now turned more or less self-sufficient with some exports in a record production year.

Rice, wheat and *jowar* rank as India's chief grains, measured in terms of production. Rice has the largest acreage, but its yields are relatively low. There are hundreds of varieties grown throughout the country but they all fall into two or three classifications—superior, medium, and inferior or coarse. Although the acreage of rice (35 million hectares) is more than two-and-a-half times that of wheat (14 million hectares), rice output (35 million tonnes) in the past years has been nearly thrice the wheat output (12 million metric tonnes). Together they account for almost 58 per cent of India's grain production. *Jowar* ranks third in production, with 11 per cent, and maize, *bajra*, barley, *ragi*, small millets, gram, *tur* and other pulses make up the remainder of India's total.

Through more extensive use of irrigation, fertiliser, better farm equipment and improved farming methods, many States (specially in IADP and IAAP areas) have expanded their grain production. During the five-year period 1949-53, India's grain production averaged approximately 54 million tonnes; in the recent five-year period 1962-66, it has increased to more than 81 million tonnes.

The greatest increases are in rice, wheat and maize. *Jowar* and gram are of lesser importance, but their production has also increased rapidly. Barley, small millets and *tur* are declining—barley because of reduction in acreage, small millets because of the low gross value per hectare in comparison to substitute crops, and *tur* because of reduction in yield per acre on account of the little importance attached to this crop.

BIGGEST RICE GROWER

India's rice output in 1965-66 was 10 per cent below the record crop of 38.73 million tonnes in 1964-65. Rice is grown in almost all States, but only in five does the average production exceed 4 million metric tonnes a year: West Bengal, Bihar, Andhra Pradesh, Orissa and Madras.

West Bengal is the leading producer. It has averaged about 5.5 million tonnes in recent years, even with the setback in 1962-63 and 1965-66. The area under rice is exceptionally high (4.7 million hectares in 1964-65) since the average yield of 10 quintals per hectare is lower than any of the four southern States.

Total rice production in Bihar, Andhra Pradesh, Orissa and Madras has averaged at about 4.6, 4.2, 4.1 and 3.9 million tonnes respectively a year since 1962-63—an increase varying between 30 and 50 per cent over the three-year average of 1950-53. In comparison to the increase in acreage, the yield in these States has made a significant increase; it has now reached a peak of 8.2, 12.0, 8.2 and 15.2 quintals per hectare respectively compared with 5.9, 8.2, 6.1 and 10.9 quintals per hectare in the early 1950's.

HIGH YIELDS

The highest rice yields in India are obtained in the southern States. In Madras, average high yield reached was 15 quintals an hectare during the 1961-65 period, and it was about 14.0, 13.5 and 12.5 quintals an hectare in Kerala, Mysore and Andhra Pradesh. Bihar and Orissa, now the second and the fifth rice producer, reported in 1961-65 an average yield of 8.2 quintals an hectare, though in some other States, the output was as high as 10.5 quintals (Jammu & Kashmir—11 quintals, Punjab—10.5 quintals and Assam—9.5 quintals).

Of the major rice exporters to the deficit States, Madhya Pradesh ranks first with about 40 per cent of the State's rice trade. Bihar-Orissa is second, with a little over 20 per cent, and is followed by Mysore and Andhra Pradesh. For 1965-66, rice exports from these States were substantially below (or nil) the previous year's level because of the drought and scanty rainfall.

Uttar Pradesh, Punjab and Madhya Pradesh are the leading wheat producers, and grow more than 75 per cent of India's total. The Ministry of Food and Agriculture has estimated that Uttar Pradesh produces about 3.9 million tonnes of wheat a year. Production in Punjab reached 3.4 million tonnes and in Madhya Pradesh 2.0 million tonnes in the agricultural year 1964-65. Other leading producers that year were Rajasthan (1.1 million

POPULATION REVIEW

Edited by

Professor S. CHANDRASEKHAR, M.P.

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tonnes), Maharashtra-Gujarat (0.83 million tonnes) and Bihar (0.53 million tonnes).

Since most of the wheat is consumed in the producing States, exports to other States total only one--fifth of the annual production. Punjab and Madhya Pradesh are the leading exporters. Uttar Pradesh, whose wheat production is the highest in India and which was a regular exporter a few years ago, has now become a net importer. Other regular importers are Maharashtra, Gujarat, Rajasthan, Mysore, Orissa, West Bengal and some Union Territories.

COARSE GRAIN

India's production of coarse grain (*jowar*, *bajra*, maize, *ragi* and small millets) reached an all-time high in 1964-65—22.73 million tonnes. Of this, Maharashtra produced 4.09 million tonnes, and had an average yield of 5.0 quintals per hectare. Madhya Pradesh ranks second (2.75 million tonnes), Uttar Pradesh third (2.61 million tonnes), Mysore and Rajasthan fourth (2.49 million tonnes) and Andhra Pradesh fifth (2.37 million tonnes). The output of coarse grains did not show any substantial increase in these States in the last 15 years except that of maize in which production has doubled. Most of the coarse grain that is produced in these States is generally consumed locally. A small surplus is exported to the deficit States. Maharashtra, Madhya Pradesh, Mysore and Rajasthan are regular exporters of coarse grains.

BARLEY

Barley is second in importance, after *jowar*, among the coarse grains. Uttar Pradesh, which harvested 1.43 million tonnes in 1964-65, leads in production. Rajasthan comes second; it had a 0.5-million tonne harvest in that year. Then come Punjab, Bihar and Madhya Pradesh.

Barely is the only major grain showing a continuous decline in production. The highest production in 1961-62 was 3.15 million tonnes. However, in later years it speedily declined: 1962-63—2.47 million tonnes; 1963-64—2.04 million tonnes; 1964-65—2.48 tonnes; and 1965-66—2.08 million tonnes. India's acreage in 1961-62 was 3.31 million hectares, but in 1965-66 it stood at 2.49 million hectares. However, yields per hectare remained fairly constant over these years.

Tur acreage has remained almost constant at 2.4 million hectares since 1951-52. Production has, however, declined from 1.8 million tonnes in 1951-55 to 1.6 million in 1961-65. The decrease in yield per hectare, from 7.5 quintals to 6.5 quintals, is attributed as the single factor for less production. Uttar Pradesh turns out about half the crop (0.81 million tonnes) with Maharashtra growing one-fifth, around 0.35 million tonnes a year. In Madhya Pradesh the output is about 0.28 million tonnes and in Bihar 0.13 million. Over half of the country's requirements come from Uttar Pradesh and Maharashtra while about one-third from Madhya Pradesh and Bihar.

Gram has assumed a relatively important status only in the last 10 years. Punjab and Uttar Pradesh are the largest producers since the early 1950's and are now averaging about 1.62 and 1.54 million tonnes a year. Other major producers are Madhya Pradesh (0.87 million tonnes), Rajasthan (0.67 million tonnes), Bihar (0.25 million tonnes) and Maharashtra (0.14 million tonnes). The Major exporting States are Uttar Pradesh, Punjab and Madhya Pradesh, which contribute more than half of the total prouction of any single year.

Production of minor pulses which include *urd*, *mung*, *masur*, *moth* etc. has been gradually increasing from 3.15 million metric tonnes in 1951-52 to 4.72 million tonnes in 1964-65. Uttar Pradesh is the leading producer with an annual output of about 1 million tonnes, followed by Bihar (0.83 million tonnes), Madhya Pradesh (0.56 million tonnes), Maharashtra (0.38 million tonnes), Rajasthan (0.37 million tonnes), Orissa (0.36 million tonnes) and West Bengal (0.26 million tonnes). The yield per hectare showed a slight increase from 3.5 quintals in 1951-52 to 3.8 quintals in 1964-65. The acreage too has gone up by over 2 million hectares.

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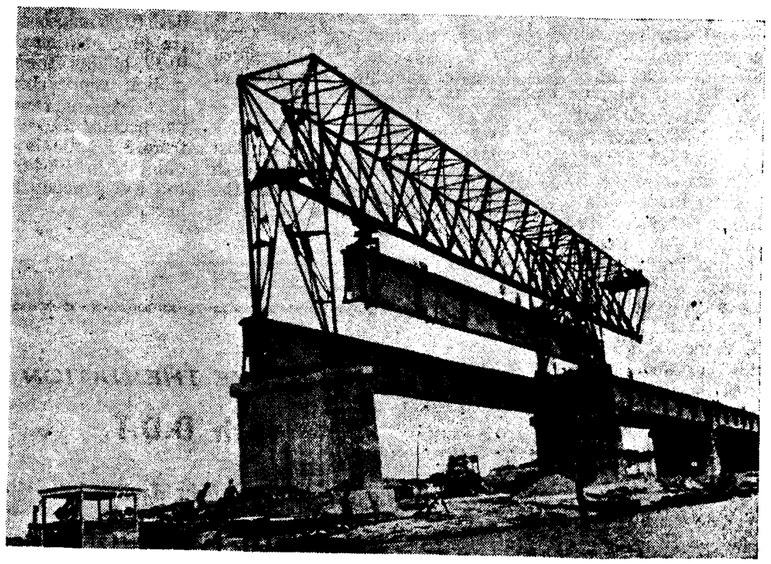
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THE VILLAGE BOY IN A CITY COLLEGE

J. S. YADAVA

Why do students who come from villages to city colleges so often drop out, or fail to do well in studies? Why do they find it difficult to make friends with boys and girls from the cities ? How are they to be helped to get over their complexes ?

A STUDY of economic returns of financial investment into education is being undertaken by the Man Power Research Centre and its returns will be illuminating. In general there is no denying the fact that the returns of economic investment in education are large both qualitatively and quantitatively. Mrs Tara Ali Baig has rightly stressed in a recent article that to catch up with the technologically advanced countries, "a twenty-year period of planned preparation of children and youth based upon future needs, and not upon past values, may be the only solution." In order to make this planned preparation successfully, the Planning Commission should take into consideration the various problems of students before plans for preparation of children and youths are finalised.

Here an attempt has been made to assess the academic as well as financial problems that have generally confronted students from rural societies. Since they have special socio-economic and cultural background, they have special problems.

As typical of anthropological approach, attention is focussed on a particular area and generalisations are made on the basis of that study. Here attention is focussed upon seven college-attending boys belonging to a village community near Delhi, having a population of about 2,000 people. As a part of field work in this community, biographies and family backgrounds of these students were traced, and many projective questions were put to them to ask their views about life, their academic and financial problems and their aspirations. It was found out that all belong to 'middle class' families of higher castes—Ahir (5) and Brahmins (2). Five of them have failed once in their graduate courses. None has high aspirations. Out of the seven, six aspire to be either a school teacher or Assistant Sub-Inspector of Police. Only one intends to compete for the I.A.S. None has good academic achievement to his credit. All reported that their five best college friends were coming from a rural background.

This micro-study raises a few questions :

Why are only seven students (all boys) attending college from a population of about 2,000 persons ?

Why did they fail in their academic pursuit and drop out after a year or so in college ?

Why do they have no high aspirations ?

The answer to the first question is to be sought mainly in economic conditions of the villagers. Many parents cannot afford their children's higher education. The Planning Commission should look into this problem and devise some means to extend financial aid to such students in order to stop this continuous loss of potentially useful citizens. Another reason is that comparatively few students reach the high school level and most of them drop out in between. Even if some qualify for the high school examination the percentage of marks they obtain does not qualify them for college admission, nor enable them to get suitable jobs. As a result, they do not harbour the idea of higher education. The reasons for this low academic achievement are many—lack of qualified teachers in schools, involvement in daily agricultural activities and domestic labour, and uncongenial social and family atmosphere.

The main reason, to my mind, of their failure in academic pursuit in colleges is their school education and cultural background The standard of academic achievement is much lower in rural schools than in urban ones. The Planning Commission should undertake steps to minimise this difference. Further, as he comes from a rural setting to study in colleges and universities situated in urban centres, the student is a victim of social and cultural transition at a personal level. He is hypnotised by the fast and sophisticated urban life but still pulled by his rural values. He likes and wants to achieve some of the things and the behaviour typical of urban life. But he is denied these just because at that particular moment he has not fully adapted himself to urban culture.

To give one simple example. Suppose he wants to be friendly with some boys and girls with an urban background. He is denied in-group

Mr Yadava is a Research Scholar in the Department of Anthropology, Delhi University

membership by urban students (particularly girls) who regard him as 'rustic' because he cannot talk with an urban accent and city politeness. Above all, his own up-bringing has made him shy and he himself cannot dare go and talk to girl students frankly. So he falls back and makes friendship with students with a background similar to his own. Most of his energies are wasted in making a balance between urban values and rural values; he is a sort of divided personality. The result is that he starts thinking that the urban setting is hostile and develops a complex.

Another factor is rapid acculturation. In this case, as it is usual in culture contact situations, he takes up the bad things of urban culture and forgets the good points of his own. He is so much engrossed in enjoyments of college life that he completely forgets about his studies. He fails to develop healthy social relation with urban students, and fails, to develop high aspirations. The result is that he also drops out in between his courses. This has a very bad reaction on parents who spend their hard earned money on college education of their children with no advantage to themselves or to their boys. This has a discouraging effect on younger students also. The result is a general dislike among villagers for higher education.

To avoid this waste of potentially useful citizens coming from rural societies where 82 per cent of India's population lives, and to stop this drain on national resources, the Planning Commission, in collaboration with the university authorities who share the main responsibility for 'planned preparation' of children, should take concrete steps in the Fourth Plan.

The following suggestions are offered: (I) there should be more funds to advance financial assistance to poor students coming from villages; (ii) the gaps between the standard of education in urban and rural schools should be narrowed down; (iii) there should be a student guidance bureau in each university; and (iv) agriculture should be made a subject for the graduate course.

Agriculture and related subjects have to be oriented to cope with the present-day requirements of our rural societies. After completion of graduate studies, students should be encouraged to go back to their villages and practise agriculture with improved techniques. They will thus be able to act as cultural innovators and disseminators of new ideas.

Cotton Industry

An official review of the cotton textile industry reveals that it is one of the largest in the world, with an annual production of five thousand million yards. The production of yarn and consequently that of cloth in the powerloom and handloom sector is continuously increasing. Production in the decentralised sector last year was 3300 million yards.

A cooperative spinning mill has been set up at Amraoti in Maharashtra. It has 13,000 spindles and a share capital of Rs 1.8 crore.

Maharashtra has set up a Corporation for textile industry. The Corporation will take up the mills that have closed down and will set up new ones.

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Books

A Close Look at Education

Elementary Education, The Unfinished Business by J. P. Naik. Asia Publishing House. Page 165. Rs 16

Dr. G. S. Khair

A common problem faced by all countries that have attained freedom after the second World War is the enforcement of universal primary education. It has been a part of their social ideology. India, one of the largest countries in this category, has been trying to tackle this problem and to shape her educational system to suit the demands of the modern age. Her example, achievements, experiences and experiments are likely to inspire or discourage other nations which are reorganising their educational systems.

Mr J.P. Naik, author of the book, has devoted several years to the study of education in general, and primary education, in particular. He has now collected in book form the three lectures he delivered when he was awarded the Dadabhai Naoroji Memorial Prize for 1963. There are three appendices which contain valuable data on which Mr Naik's proposals and observations are based.

The author rapidly reviews the development of the idea of universal education in India since 1882 when Dadabhai Naoroji pleaded before the Indian Education Commission for the introduction of universal education, which had been accepted as a national policy in England by 1870. The Commission, however, thought that what was good for England was not so for India. After independence, the Constitution provided for the education of all children up to the age of 14 within ten years.

Unfortunately the nation is far from realising this goal. The present growth of primary education in India is extremely uneven. There are States like Kerala and Madras which have practically achieved the goal of universal education at least for the 6 to 11 age group. At the other end are six States where the percentage of school-going children is extremely small—even as low as 10 per cent.

More painful is the fact that there is no anxiety to reach the target immediately nor is there a specific plan to do so within any time limit. Some even push the date as far as 1995 or 2000 ! Mr. Naik finds this situation agonising. He feels that the new leadership that has emerged out of the masses has given up their ideals of service and has become self-centred and exploitative.

If a proper perspective plan is made, it is possible, may necessary, to achieve the target of complete universal primary education at the end of the Sixth Plan. For this purpose, the traditional approach should be discarded and a new approach made. Instead of implementing the programme of universal education in progressive stages of, first, lower primary, and, then higher primary, and thus waiting for an adult literate population in the distant future, the author suggests that the problem should be attacked simultaneously at three points. At the lower primary stage, all children should be provided at an early date with schooling, of good quality, if possible. At the higher primary stage we should start impoving the quality of education so that the same may percolate to lower primary schools through association with the higher schools. For children of the age group 11 to 14 who are unable to get full-time education, part-time schools for six hours a week should be provided to make them literate. This will stop the growing addition of illiterate persons to the existing ranks of illiterate adults.

The third point of attack should be that of adult education. Mr Naik suggests that a nationwide movement of adult education of a comprehensive nature should be launched. Making the parents literate and education-minded would help immensely in increasing the attendance of children and their retention in school. The programme of adult education should include family planning, literacy, economic improvement and the development of a modern outlook on life.

Basic education is discussed at some length and its merits as well as drawbacks are evaluated. In a modified form, the wholesome aspects of *basic* education are incorporated in the general system of Indian education. Craft can be better taught in the higher primary schools, but the underlying principle of work-experience can be incorporated at all stages of education--lower primary, secondary and collegiate.

We have to achieve both quantitative and qualitative improvement in education. For improving the quality, the author wants the programme of teacher-training to be streamlined and the remuneration of teachers improved. Their salaries should be doubled as early as possible. Graduates should be appointed as headmasters of primary schools. Secondary schools should be associated with primary schools in order to break their isolation. The control of teachers should be vested in the State Education Departments and local authorities should be in charge of all non-teacher matters in education.

A larger percentage of the national income should be devoted to education. All advanced countries devote 5 to 6 per cent of their national income to education but India spends only 3.1 per cent. The average per-pupil-cost, which is Rs 33 at present, needs to be raised to Rs 100 or at least Rs 70.

Mr Naik has placed the whole problem of universal primary education in proper perspective. One is struck by the author's sincerity as well as his command of the essential facts. One might add a few more to the very valuable suggestions made by him. The movement for adult education should provide some incentives for the illiterate adults to

learn. Secondly, we cannot have quantity first and quality afterwards. Inefficiency tends to perpetuate itself; once quality disappears, it seldom returns. We should aim at a modest programme in terms of courses and subjects, but it should be implemented at any cost.

COTTON AND GROUNDNUT

Marketing Efficiency in Indian Agriculture by Dr. Z. Y. Jasdanwalla; Published by Allied Publishers, Bombay. Pages 132. Price Rs 12.

IN these days, when one is flooded with studies couched mostly in terms of aggregative concepts and full of deductive and intuitive reasoning, it is refreshing to read a book dealing with micro-economic entities and behaviour of the individuals in a narrowly defined area.

Dr. (Miss) Jasdanwalla's book is a study of cotton and groundnut marketing in a few talukas of Rajkot district (Gujarat). She has studied the behaviour of the prices of the two commodities from the farm to the terminal market centre. Her findings confirm some of the widely-held beliefs and throw doubt on certain others. In the latter category come the following: (a) Size of the holding does not affect the crop pattern; (b) Cultivators with small marketable surplus are not discriminated against in the market; (c) Price differences between pre-harvest and at-harvest sales are negligible; (d) High foodgrain cultivation in the larger holding groups is not concurrent with larger percentage of foodgrain surplus to yields, and so on.

There are few immutable economic laws. The economist generally answers a query by saying, "it all depends". The author's study while substantiating this truism brings out the relevant factors and their interrelationships. It is wrong to generalise on the behaviour of cultivators all over the country without specifying the economic environment and social climate within which they function.

One minor blemish: in the first chapter, the author quotes with apparent approval the statement of an eminent economist that "Good and honest marketing may actually cost more than a slipshod and corrupt one." A reference to the original shows that the writer has said this in order to provoke a discussion. In fact, the argumentative character of the remark is evident in the next sentence (not quoted) wherein the writer hedges his remark by saying that this may be true at least in the short run, whatever the long-term consequences may be to the community. A truncated quotation does injustice to the original writer.

The book will be useful to the economists and planners engaged in agricultural development.

R. K.

HIRE PURCHASE

India: Instalment Credit, Extent, Stability and Growth by Kersi D. Doodha. Published by the University of Bombay. Pages 304; Price Rs. 17.50.

Narindar Singh

The book is based on the author's doctoral dissertation that was submitted to the Bombay University six years ago. The author's basic contention is that a large-scale adoption of the instalment credit system in India would facilitate the process of economic growth. This is hardly tenable. That the hire-purchase system helps raise the level of employment in a developed capitalist economy is no reason why it should promote development in an underdeveloped economy. In a developed economy, the short-term problem is fuller utilisation of productive capacity that is already available. The widespread adoption of instalment credit system in such an economy will shift the consumption and hence the aggregate demand function upwards.

The essential problem in an underdeveloped economy, however, is not one of fuller utilisation of capacity but of creating it. How the institution of hire-purchase in consumer durables will help is not clear. On the other hand, it can lead to positive difficulties. The resulting stimulation of demand for consumer durables, which are definitely luxury and low-priority items from an underdeveloped country's point of view, will only divert scarce resources from the more urgent tasks of capital construction.

It is inexcusable that a book like this should have howlers. The author regards a house to be a consumer-durable (Page 29). Anyone with knowledge of social accounting will agree that house-building is an act of investment. Further (on Page 81), there is a diagram indicating the positions of equilibrium of an oligopolistic firm before and after the institution of hire-purchase. The AR curve that is drawn, however, pertains to a monopoly firm. Not only that. The introduction of hire-purchase enables the author to rotate the AR curve in an anti-clockwise direction. The MR curve also moves in the same way and the firm's profit is maximised at a higher level of output and a lower price. But while the AR and MR curves are rotated after adopting hire-purchase, the cost curves are left undisturbed. Is it logical? After adopting hire-purchase, the firm must also bear additional implicit or explicit interest charges. This must also shift its ATC and MC curves upwards. There is no reason, therefore, to conclude that the new equilibrium *must* necessarily be established at a higher level of output and lower price.

BOOKS RECEIVED

Education in India by K. S. Vakil & S. Natarajan. Allied Publishers, Bombay. 216 pages. Rs 14.

Taxation of Agricultural Land in Andhra Pradesh. Asia Publishing House. 171 pages. Rs 25.

Agro-Economics Atlas of Madhya Pradesh Vol. I. Directorate of Land Records, Government of Madhya Pradesh, Gwalior. 198 pages.

Loyera (Distt. Udaipur, Rajasthan): A Socio-Economic Survey by R. N. Tewari and R.A.P. Singh. Research Departments Vidya Bhawan Rural Institute, Udaipur. 149 pages.

Economic Trends and Indications. Vol. VIII. Indian Economy 1949-66 by Bhikhalal Kapasi, New Delhi. 269 pages. Rs 10.

Cropping Pattern in Punjab. National Council of Applied Economic Research, New Delhi. 98 pages. Rs 15.

Occasional Papers-16. Savings in India During Plan Period. 30 pages. Rs 7.50.

COCHIN REFINERY GOES ON STREAM

THE Cochin refinery has gone on stream. It has a capacity to refine 2.5 million tonnes of crude oil annually; the capacity will be expanded to 3.5 million tonnes in the second stage.

The refinery has been built in 30 months at a cost of Rs 30 crore. A two-way pipeline, 30 inches in diameter, connects the refinery with Ernakulam port. It will feed the refinery with crude oil which will come from the Persian Gulf, and will also send out refined products to the port for shipment. Metre gauge railway lines have also been laid from the refinery to Tripunitura and to Ernakulam for the transport of the refinery's products.

The refinery has been built with the collaboration of the U.S.A

A nucleus of petro-chemical industries is expected to cluster up around the refinery. One of the industries is a fertiliser factory on which preliminary work has already started.

It is proposed to manufacture petro-chemical products from gas available in Gauhati Refinery and Naharkatia in Upper Assam. The Japan Consulting Institute has submitted a report on the project.

Oil production in the country is expected to reach 20 million tonnes by 1970-71, making the country self-sufficient except in kerosene and fuel oil.

OVER AMBITIOUS

(from Page 19)

The industrial complex of the Plan says very little on the development of essential oils which are articles of commerce both from medicinal and perfumery point of view. Because of the size of the country, varieties of climate and soil conditions obtaining in different parts, we are endowed with right flora. A few significant contribution in the field of essential oils particularly on their chemical composition have been made during the recent years. But these cover hardly a fraction of the plants available in the country. Some of the products isolated from essential oils show promising results as medicine while others possess potent structural features which could impart medicinal properties to them on further research. Development of essential oils will make it possible to develop a foreign market for these products and the Fourth Plan should, therefore, carefully examine the scope for development in the field of essential oils.

Finally, the draft outline does not carry full conviction about revising the pre-devaluation export target of Rs 5,100 crore to Rs 8,030 crore in the post-devaluation terms. Realising that trade is a two-way traffic and devaluation alone cannot do the trick of stimulating exports in an arithmetical progression, the revised targets appear to be somewhat unrealistic.

FINE BLUEPRINT

(from Page 37)

As a result, one finds not even a rudimentary analysis in the Fourth Plan documents of the essential parameters of growth.

There are no select indicators showing the proportion of investments going for quick-yielding processes for production of necessities of consumption in relation to the other inflation-creating investments (including defence which being left out makes the Plan document a meaningless one as a piece of macro-economic literature).

There is also no indicator showing the rate of ploughback of heavy investment in itself as the real measure of the priority to heavy industries, nor is there any analysis of the degree to which we have adopted substitution of heavy-investment using consumption-goods industries by those not using products of basic investments.

There is, further, no study which shows the feasibility of the Plan in terms of inputs and outputs of equipment and skills, whether in physical terms the size of the Plan or even half its size could be implemented in the economy without hitting against ceilings of the insuperable bottlenecks of a physical nature.

For a layman, as well as for theoreticians these are the economic indicators which matter. The Planning Commission does not inform us about the magnitude of any of these parameters, but continues to display the traditional ones which have shown the whole operations, in the Third Plan, based upon them, as having been an utter failure.

RESOURCE MOBILISATION

(from Page 40)

It is apparent from it that the private sector has been relying rather heavily on the household sector for raising their capital needs. But the position has since changed due to phenomenal growth in the level of prices and intensive fiscal efforts by the Government. Private voluntary savings have since been sagging. During the First and the Second Plans, the share of household saving to the total veered around 77 per cent. The ratio has since come down to 66 per cent, and in the last year of the Third Plan, it must have been further reduced. Therefore, it would not be wrong to conclude that the resources needed by the private industrial sector for the implementation of the projects assigned to it, would be difficult to accomplish.

Under the circumstances, it would be hazardous to embark upon a Plan of the magnitude of Rs 23,750 crore and land the country into a whirlpool of hyper-inflation. In order to maintain a balance between Plan outlays and resource mobilisation, it is essential that a more pragmatic approach is made in the assessment of the availability of resources. A smaller Plan with better management, as advocated by the Reserve Bank Governor, would be able to produce the same growth rate, if not more, than a bigger Plan with all its inflationary potentials.

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Letters

LENDING BOOKS BY POST

IT is well known that the USIS Libraries in various places in India lend books free. They have only a minimum of rules. They also mail books to members who can keep them for a month. The libraries bear the postal charges for sending the books which the borrower has to return at his cost.

I am eager to know if our Central Government runs such libraries in different parts of India. And is it possible to borrow Central Government publications by post ?

Has the National Book Trust in Delhi branches in other cities of India? It will be good if it can start lending books on the U.S.I.S. pattern.

I am anxious to borrow "Flowering Trees" by Dr M. S. Randhava, a National Book Trust publication, as also its four new titles which are shortly to be released.

Shakarnagar (A.P.) IHSAN HUSAIN

CALL FOR TEXT BOOKS

YOJANA of June 26 has highlighted in its Quotation Box an instance of falling educational standards. Candidates for teachers' posts at a Delhi school answered: "Mr Meharchand Khanna is the Defence Minister of Punjab. Kalidas wrote the Gita. The Buddha renounced the world because he was disgusted with the conflict between Hindus and Sikhs." The educational standards at all levels have gone down so much that we wouldn't raise our eyebrows at such howlers.

Recently I made a study of the deterioration in educational standards. I contacted 100 boys and girls studying in standards IX and X in Bombay high schools. I asked them a few questions to which none could give a single correct answer. They did not know the number of districts in Maharashtra. They said that Bihar and Kashmir lie to the east of Maharashtra, that the Ganga and the Brahmaputra are the major rivers of Maharashtra, that the State had no saints, that Kolhapur is in Mysore, that Pandharpur is in Nagpur. To my great surprise, I found that many teachers are also ignorant to a very large extent.

What is the root cause of this? The main reason is the defective educational system. Students are taught merely the basic R's. A good number of cheap guides prepare them for their examinations. Our educational system is only a machine that produces assistants and clerks.

The first step in reforming our educational system is to prepare text books of informative and educative value. Guides should be strictly banned from schools. In this connection the Education Commission's recommendation for preparation of text books on a national level is to be highly welcomed and implemented as one of the first priorities.

Bombay V. B. KULKARNI

Yojana Bhavan Diary

The Planning Commission met on September 19, 20 and 22 to discuss jute industry, policy issues raised by the Khadi Commission and the Fourth Plan and Annual Plan for 1967-68 for Union Territories.

Mr Asoka Mehta received a Japanese Diet Mission on September 9.

Dr S.R. Sen, Additional Secretary, Planning Commission, left on September 22 for Geneva. He will attend a meeting of the Advisory Committee to the Trade and Development Board of the U.N. Conference on Trade and Development to be held from September 26 to 30. From there he will go to Rome for discussions with the F.A.O. Dr Sen is expected to return by October 4.

Members of the Planning Commission and the staff bade farewell to Dr Nagaraja Rao, Adviser (Industries & Minerals), on September 20. Dr Rao has proceeded on leave preparatory to retirement.

Mr B.N. Baliga, formerly Deputy Chief Engineer, U.P. Electricity Board, has joined as Chief (Power) on September 23.

Dr A.B. Bose, Joint Director, Planning Commission, has gone to Moscow to make a study of the nomadic populations of the Soviet Republics of Kazakstan and Kirghizia. After about a month's tour, Dr Bose will also visit I.L.O. in Geneva.

Mr P.N. Dhar, Assistant Secretary, Rural Industries Planning Committee, Planning Commission, left for Prague to attend the I.L.O. Seminar on "programmes and policies for small scale industry within the framework of overall economic development planning".

Salary Savings UP

The scheme for collection of insurance premium through post offices in rural areas where banking facilities do not exist is being extended to all the States. The scheme has been successfully experimented in six states.

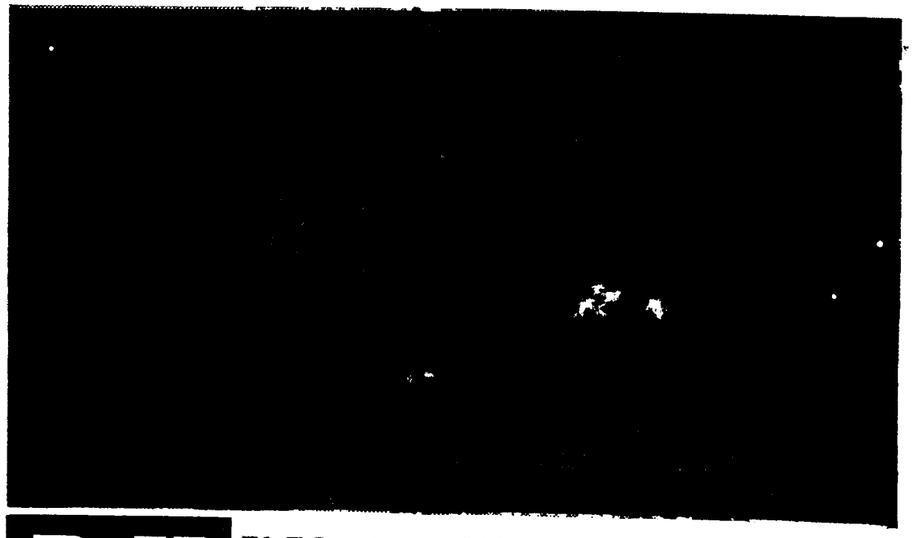
The collection under the scheme of salary savings has gone up to Rs 18.49 crore in 1965-66 from Rs 98 lakh in 1958 in the northern region comprising Delhi, Punjab, Rajasthan and Himachal Pradesh.

Looking Back

From Yojana, October 6, 1957

But devaluation can very easily misfire and when it does, it can blow up the entire economy of a China or Germany. The essential skill required for using it is that Government must have the power to maintain a strict control on prices within the country. Otherwise, as the prices of imported goods rise as a result of devaluation, the prices of all goods begin to rise, the value of money declines, the poor man is the hardest hit, and ultimately imports also suffer. The deficit in trade accumulates once again, it again becomes necessary to devalue the currency and again the same process is repeated, until, caught in a vicious circle, a currency becomes totally valueless.

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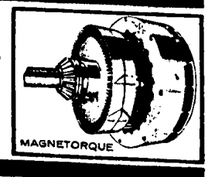


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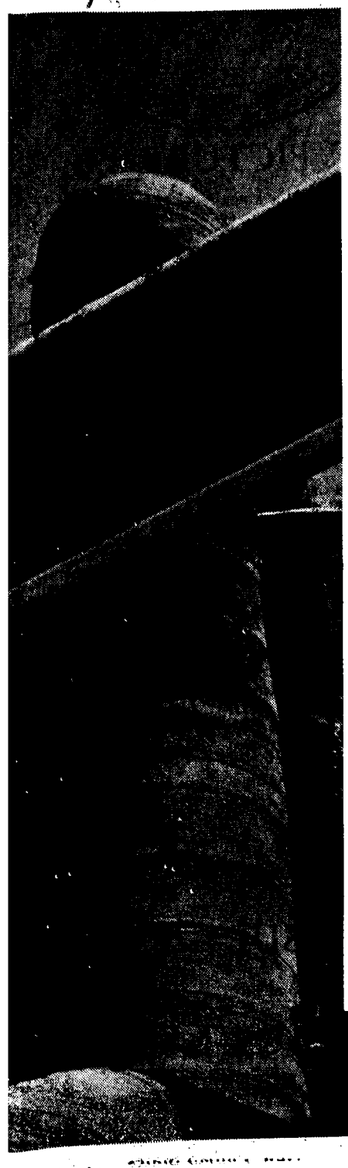
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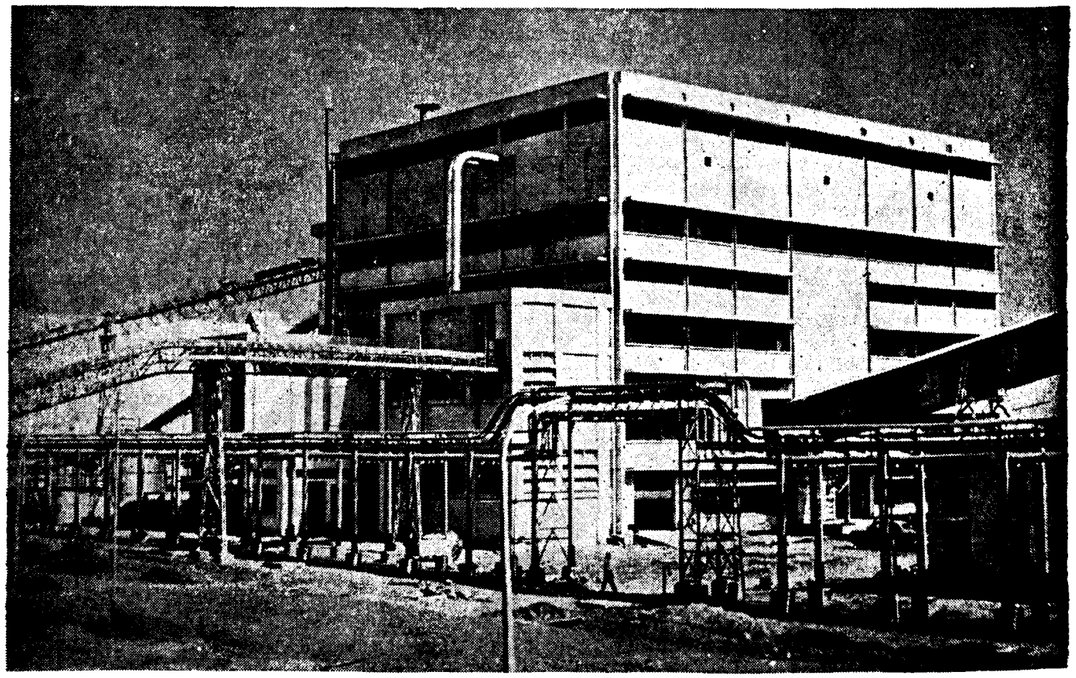
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Spotlight on Projects Built, being Built, to be Built

YOJANA Spotlight

FERTILISER :



Nitrophosphate plant at Trombay, the world's largest single unit of its kind

REALITY AND TARGETS

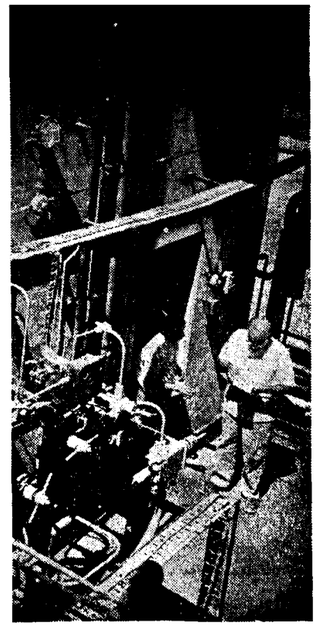
Farmers want more fertiliser. We have begun to build plants on our own. Major portion of production remains in public sector

THE story of Indian fertiliser is at once frustrating and inspiring. Frustrating, because during the 15 years of economic development, with a food crisis haunting us almost without a break, we have done so little to produce fertiliser without which, we should have known long ago, there can be no breakthrough in agricultural production. We are still far below the world average in the use of chemical fertilisers. In 1963-64 our consumption came to 3.68 kilograms per hectare of arable land, as against 95.98 kilograms in the UAR, 279.68 kilograms in Japan and 51.59 kilograms in the United States.

This rather depressing picture has several silver linings. An ambitious fertiliser programme is one of the highlights of the Fourth Plan. This programme is born of two very positive factors. First, the phenomenal growth of our petro-chemical industries within a short span of time has given us, for the first time, the basic rale materials with which we can undertake the manufacture of fertiliser on a large scale. Secondly, we have today in our country an army of engineers, designers and technical people who are capable of undertaking the construction of complete fertiliser plants without more than the minimum external assistance. *We are, in fact, building several plants of our own.* The main reason why we cannot undertake the manufacture of fertiliser plants on a larger scale on our own resources is that the immediate demand for fertiliser makes it necessary for us to invite foreign participation in production. A fertiliser plant takes several years to build. If we are going in for foreign collaboration to increase production within the next few years, we are doing so with the confident hope that, at the end of this period, we shall be able to undertake the construction of future plants entirely on our own.

It is interesting that the fertiliser revolution which has taken place in our country has occurred at the grassroots. It is the peasants who are now impatient to get more and more fertiliser: there are long queues for every bag. It is because supply is far short of demand that prices are high and there is a black-market. The Indian peasant has not only broken out of the age-old resistance to scientific inputs in agriculture, one is surprised to see how he has mastered the alien names for the various chemical fertilisers. It is the readiness of the Indian peasants to make use of fertiliser on a large scale which has, to a large extent, contributed to the decision of the Government to go in for an ambitious programme of fertiliser production during the Fourth Plan and thereafter. Both the Planning Commission and the Government have now accepted fertiliser as the kingpin of the new agricultural strategy of intensive cultivation.

This is another compulsion of our agricultural system. The gross area under cultivation in India today is 157 million hectares — roughly 52% of our total land area. There can be no more than a marginal increase in the area under cultivation. Higher production must, therefore, come from this area and the problem is essentially one of intensive rather than extensive cultivation. The new strategy of intensive cultivation is now being applied to areas where irrigation is assured.



FROM THE PLANT FOR THE PLANT



In 1965-66, the last year of the Third Plan, we could have consumed more than a million tonnes of the three varieties of chemical fertiliser known in tenchical terms as NPK (Nitrogen, P_2O_5 and K_2O); but our indigenous production was only 360.000 tonnes. Our production capacity at the end of the Third Plan was about 586,000 tonnes of N.

A fairly large programme of fertiliser production has now been taken up in great earnest. The Fourth Plan has fixed the target of installed capacity at 2.4 million tonnes and a production target of 2 million tonnes a year. This is not ambitious in terms of our requirements and the readiness of the peasant to make use of fertiliser. This is quite ambitious, however, in terms of finding foreign exchange.

Why is it so difficult to find foreign exchange to build fertiliser plants? The answer is simple. The vast growing petro-chemical industry in India is very largely in the public sector and it is normally the policy of Government to set up the fertiliser complex also in the public sector. But there we come across a paradox. It is difficult, if not almost impossible, to get Government-to-Government credit to put up fertiliser plants in the public sector. The advanced socialist countries, who have helped us a great deal in the establishment of our oil industry, cannot do much in the fertiliser field. In the free enterprise countries of the West, fertiliser is not only predominantly a private sector industry; it is also tied up with the world oil monopolies, with their cut-throat competitions.

National interest has made it obligatory for us to invite foreign private investment in the fertiliser industry to fill the tremendous gap in production within the shortest possible time. For this purpose, certain reasonable concessions have been given and some of the foreign fertiliser companies have entered into agreements with us to put up a number of fertiliser factories.

Yojana seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion on problems of social and economic development.

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YOJANA

This Issue

FERTILISER PICTURE

Yojana spotlight today is on fertiliser, the kingpin of our agriculture leap forward programme. What is being done to achieve the production target of two million tonnes of N by 1970-71 ? In a 7-page survey, you will find the latest position about all the major new units being built or under planning. Apart from a number of photographs, the spotlight includes a fertiliser map of India on Page 4.

The Critique Continues

In continuation of the Critique of the Fourth Plan, this issue contains three valuable articles by Dr Bhabatosh Datta (Page 16), Dr Mohd. Shabbir Khan (Page 17) and Dr J. N. Sinha (Page 9).

The Decade Decays ?

The world is in the seventh year of the Development Decade but it seems to have become more of a ritual than an inspiring reality. See Editorial for an analysis of the aid and collaboration the developing nations are getting from the developed ones.

Adavance Studies

The Editor examines on Page 15 the work being done at the Indian Institute of Advance Studies at Simla.

COVER : A section of the Converter Gas Plant of the Ennore Fertiliser Project. See Pages 2 to 8. Photograph is by K. Narayanaswamy.

NEXT ISSUE

SPOTLIGHT ON ANDAMANS : A Pictorial Survey

BIRTH OF TWINS : A Special Report on the New Punjab States

LOOKING FOR BOOKS : A Critical Assessment of the Indian Book World

YOJANA

October 30, 1966 Fortnightly Journal Published on behalf of the Planning Commission Kartika 8, 1888

Vol. X No. 21

THE DECADE DECAYS?

AN analysis prepared for the UN Economic and Social Council brings out many of the paradoxes and contradictions in the flow of capital from the developed to the developing countries. This brief report covers the five year period from 1961 to 1965, and spans three fields; the outflow from the developed market economies, that is, the capitalist countries; economic assistance from countries with centrally planned or socialist economies; and the flow of resources into the developing countries. The major findings are:

The developing countries received a total of about $ 8,090 million in 1964 from the free enterprise economies compared with $ 7,617 million in 1963, the previous peak. They also got aid commitments from the socialist countries to the tune of $ 1,200 million (compared with about $ 1,000 in 1961, the former record year).

This, however, is still short of the UN General Assembly's hope that the developed countries will make available, in aid and investment, at least one per cent of their combined national income for the advancement of the developing ones. In fact, the contribution has been steadily declining, especially in the case of free enterprise countries. The flow of funds to the developing countries and multilateral agencies was 0.84 per cent in 1961, declined to 0.65 per cent in 1964, and "probably receded further in 1965".

This decline comes at a time when the developing economies are capable of utilising *more* funds than they receive. According to a well-known estimate by the World Bank, the developing countries could effectively use between $ 3,000 and $ 4,000 million more external capital each year, over the next five years than they have been getting in the recent past.

"The lag in volume is not the only concern. No less relevant are the terms on which the capital is made available." The increasing flow of loan capital, the UN survey says, has saddled many developing countries with a heavy burden of debt.

Contributions from free enterprise countries to multilateral aid institutions steadily declined—from $ 874 million in 1961 to $ 427 million in 1964.

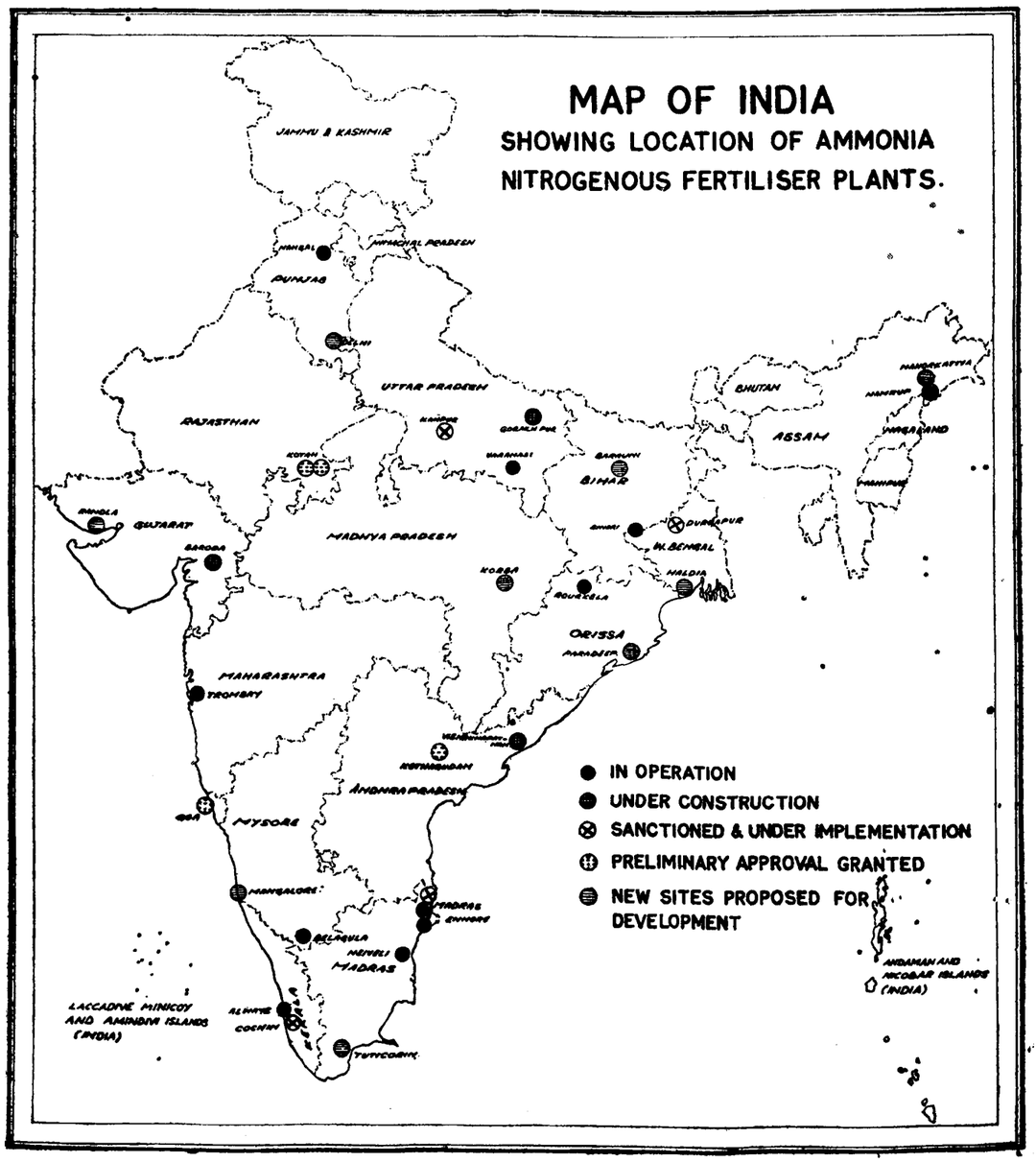
Receipts of *private* capital from the free enterprise countries have shown "sharp and erratic year-to-year variations". In 1964 the total was lower than in 1961, although higher than for 1963.

There is a high degree of concentration in the flow of capital from the free enterprise countries. In the 1961-64 period, almost half of the total movement into Latin America went to only three countries—Brazil, Chile and Colombia. In Africa, nearly half of the total was received by four countries—Algeria, Congo, Morocco and UAR. In South and South-East Asia, four countries—Pakistan, India, South Korea and South Viet Nam—got two-thirds of the total. Pakistan got almost as much as India although our population is more than three times that of Pakistan.

This is a wilted picture of a world community which is going through a self-chosen Development Decade. There is a tinge of irony in U Thant's recent call for "a massive new impetus" in efforts to speed up economic and social advancement towards targets set up for the Decade of which six years are already gone.

"It lies within the power of governments of both developed and developing countries to provide such an impetus", said U Thant in an interim report on the Decade. And he immediately came to the crucial point: "But to do so, they must be willing to follow up declarations of intent by the actual implementation of specific programmes and policies..."

BUILT, BEING BUILT, TO BE BUILT

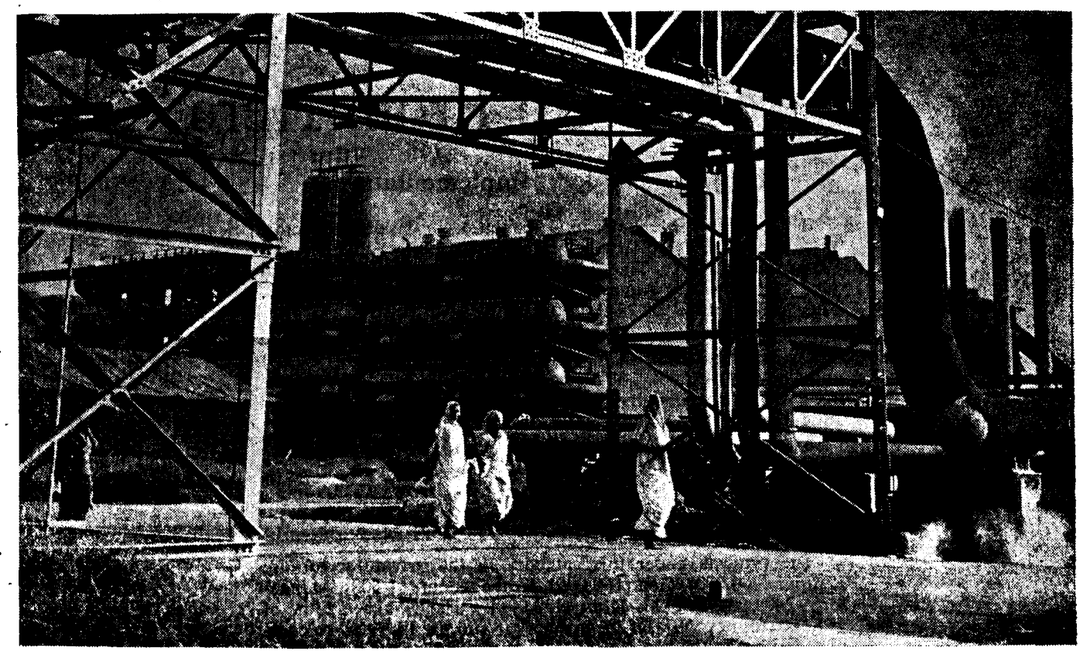


Indian private capital, which has so far been depressingly shy of fertiliser production, is also being encouraged to enter into partnership with foreign investors. The commanding heights of the fertiliser industry, which is going to grow up in this country in the next ten years, will, however, remain with the public sector. At the end of the Fourth Plan, for example, 70% of the total production will be in the public sector.

The public do not always appreciate the difficulties involved in negotiating a deal with foreign private concerns. In most cases those who agree to put up a fertiliser plant in India wish to come in with a "turn-key project". They want to sell their plants and machinery and they want their own engineers and designers to work. They want to bring in their own raw material, ammonia of which they have a plenty.

We, on our own part, strive to make the maximum use of raw material available as a by-product of our own petroleum industry, naphtha, in this case. We want our engineers and designers to have the maximum possible participation in the designing and construction of plants. So in the negotiations for each and every plant a tug-of war goes on. We try as best as we can to bring down the cost quoted by a foreign firm.

Let us now have a look at our present fertiliser picture so that we can appreciate better what we are trying to do in the next five years and more. There are now nine fertiliser plants already in operation in India—the plants at Sindri, Nangal, Trombay, Rourkela, Alwaye (FACT), Neyveli, Belagula, Ennore and Varanasi. The total capacity of these nine plants, plus the by-products from coke oven plants, come to 586,500 tonnes of Nitrogen.



SINDRI—where we began making fertiliser in a big way. We have travelled some distance since 1951, and have a long way to go.

We have five plants under construction: Namrup, Gorakhpur, Visakhapatnam, Baroda and Ennore (expansion), with a total capacity of 309,000 tonnes of Nitrogen. The first four are scheduled to be completed next year.

There are four other plants the implementation of which has already started. They are located at Kanpur, Madras, Durgapur and Cochin. In terms of Nitrogen their total capacity will be of the order of 680,000 tonnes. All of them will be completed by the middle of 1969.

The three categories of plants mentioned above will give a total firm capacity of 1,575,000 tonnes. *This is what we are sure of at present.*

In addition, there are four other projects: two at Kota in Rajasthan, and one each at Goa and Kothagudem. These are to be implemented in collaboration with foreign parties. Their total capacity in terms of Nitrogen is 451,500 tonnes. With the expansion of FACT at Alwaye, they will establish an additional capacity of 461,500 tonnes.

All this, however, gives us a total of only 2,036,500 tonnes of capacity in Nitrogen. The actual production will not be over 80%, i.e., 1.6 million tonnes, whereas our consumption target in 1970-71 is 2.4 million tonnes. There is a gap of one million tonnes in capacity, or 800,000 in production, which is to be filled up by new projects some of which have already been sanctioned and some are still under negotiation.



A Fertiliser Co-operative in Mandya, Mysore

Where We Go From Here

Projects Under Implementation

Three projects are under implementation in the private sector, Visakhapatnam (80,000), Gujarat (96,000 tonnes) and Ennore Expansion (8,000). The first will be commissioned by April 1967, the second by August 1967 and the third by October 1968. They make a total of 284,000 tonnes N.

There are four projects under implementation in the public sector. Namrup (45,000), Gorakhpur (80,000), Durgapur (145,000) and Cochin (145,000). The first will be implemented by November 1967, the second by December 1967 and the other two by June 1969. They make a total of 315,000 tonnes N.

The total of the two categories of projects under implementation comes to 599,000 tonnes.

Projects Sanctioned But Not Yet Started

The projects under this category in the private sector are Kanpur (200,000), Goa (160,000), Kothagudem (61,500), Mangalore (240,000), D.C.M. Kota (130,000). They make a total of 791,500 tonnes N. Of them, the first four are likely to be completed either in the last year of the Fourth Plan or the first year of the Fifth Plan. The fifth project, namely, D.C.M., Kota, is likely to be commissioned by June 1969.

The total capacity of these projects both in the private and public sectors, comes to 981,500 tonnes N.

The expansion of Gujarat Fertiliser Plant to double its present capacity has been sanctioned. It is, however, not likely to be completed until the beginning of the Fifth Plan.

The new projects that can be taken up in the public sector are: (i) Trombay (Expansion) 113,000 tonnes N; (ii) Haldia 200,000 tonnes N; (iii) Assam Project 145,000 tonnes N and (iv) Barauni 145,000 tonnes N.

For establishing effective capacity of 2.4 million tonnes of N by the last year of the Fourth Plan, that is 1970-71, it is essential that all these four projects are taken up in the public sector.

PROJECTS: PROGRESS REPORT

R. N. CHATTERJI

Here is in brief an uptodate report on progress made in the installation of new fertiliser plants or in negotiations with foreign concerns.

NAMRUP

CONSTRUCTION is in progress. About 96% of the equipment has arrived at site. Erection of the main equipment started early this year, but was delayed by a couple of months because some defects were found in the civil works of the foundations of the ammonia compressors. Construction is now expected to be completed by August 1967, and the plant commissioned by the last quarter of 1967.

GORAKHPUR

Construction work is making satisfactory progress. About 98% of the equipment has arrived at site. Erection is expected to be completed by about October next year, and the plant commissioned before the end of the year.

VISAKHAPATNAM

There has been some delay in construction because of labour trouble, but it is now progressing well. About 70% of the equipment to be imported from the U.S. has arrived. Construction is scheduled to be completed by March, 1967, and the plant is expected to be commissioned a couple of months later.

GUJARAT

Construction work on all the main plants, utility plants and ancillaries are progressing well. More than 50% of the equipment and machinery imported from Japan has been received and the rest is on its way. The project is scheduled to go into production by September 1967, but the progress in construction so far gives the hope that it will be commissioned a couple of months ahead of schedule.

ENNORE (Expansion)

Orders for the supply of plant and machinery for the expansion scheme have been placed. Equipment has started arriving. Construction work will start when a substantial portion of the equipment is received. The plant is expected to be commissioned by October 1968.

WE are now going in for bigger fertiliser plants which have a bigger capacity than some of those now existing.

THIS IS BECAUSE :

- Bigger plants are more economic.
- We want to make full use of raw materials available in India.
- We want to produce more.
- We want to be ready to build big plants ourselves in the Fifth Plan period.

IN negotiating deals with foreign private firms

WE TRY TO

Keep costs down

Make maximum use of our own raw materials

Develop our own designing, consultancy and engineering.

COCHIN & DURGAPUR

The design and engineering of the two plants are being done by the Fertiliser Corporation of India and F.A.C.T. Construction and erection of the projects is expected to be completed by June 1969. Contracts for the supply of the ammonia and urea plants with Montecatinia and Ansaldo were signed on August 31, 1966. The process, design and engineering of the urea plants have been substantially completed. Good progress has been made in the process design of the ammonia plants. It is expected that he entire design and engineering of both the plants will be completed and arrangements for procurement of the plants and machinery made by April 1967.

Equipment will arrive at site by the end of 1967, and the erection should be completed by the end of 1968. Some difficulties have arisen in respect of the procurement of stainless steel required for equipment to be fabricated in India. Stainless steel cannot be imported from Italy under suppliers' credit and unless credits from Sweden or Britain or West Germany or free foreign exchange are made available for the import, procurement is likely to be delayed and the schedule may be disturbed. Besides, free foreign exchange allocation to meet the foreign exchange costs outside the Italian suppliers' credit will also have to be made available soon.

MADRAS

An agreement was signed by the Government of India and Amoco (India) Incorporated, of the United States, on April 14, 1966, for the establishment of a fertiliser plant at Madras. Preliminary work has been taken up. Under the terms of the agreement, a Founders' Committee has been set up and a Technical Advisory Group formed for its implementation. The conditions for dollar loans were to be finalised by October 15, 1966; the latest position is not known yet. If the agreement goes through, the project should go into production in the third quarter of 1968.

KANPUR

Indian Explosives Limited are negotiating with the International Finance Corporation about arrangements to be made for the latter's share of the equity capital and for the foreign currency loans. I.E.L. are also making arrangements to obtain deferred credit from Japanese suppliers. The International Finance Corporation's decision in respect of the grant of loan has been postponed by four months. The project authorities, in the meantime, are revising their estimate of capital cost which are considered to be on the high side. The suppliers' credit from Japan has been agreed to in principle by the Japanese Government, but the actual release has not yet been made. I.E.L., however, are proceeding with the arrangements for implementation of the project in anticipation of the clearance of the two foreign loans. If no unforeseen difficulties arise, the project is expected to go into production by the middle of 1970.

IV Stage Expansion Scheme of F.A.C.T.

The Finance Ministry has cleared the project for the fourth stage expansion of F.A.C.T. which envisages installation of additional equipment, modification of certain plants and a change in the composition of ammonium phosphate, already being produced in the factory, from 16:20 to 20:20. It is proposed to meet the foreign exchange requirements of the scheme from the Yen credit. F.A.C.T., in the meantime have taken up design and engineering of the project and are finalising the details with the suppliers.

GOA

Birla-Gwalior Private Limited have entered into a collaboration agreement with the Anglo-U.S. concern, Armour & Co., to set up a fertiliser plant with a capacity of 160,000 tonnes of nitrogen at Goa. Birla-Gwalior are negotiating with the International Finance Corporation for the foreign exchange requirements of the project and with U.S. AID for providing the rupee component as a loan. The decision of Armour & Co. in regard to their participation in the scheme and the foreign exchange and rupee loan arrangements with K.F.C. & A.I.D. has been finalised and the project is likely to go into production by June 1970.

KOTA (DCM)

D.C.M. propose to establish a P.V.C.-cum-fertiliser plant for the production of 130,000 tonnes of nitrogen at Kota. The total foreign exchange cost of the project has been estimated at $ 31 million. Out of this, approximately $ 22 million are required in Japanese currency, about $ 6 million in U. S. currency and about $ 3 million in French currency.

D.C.M. have entered into contracts with two Japanese firms for the supply of ammonia and urea plants on deferred payment. They are negotiating with two French firms for the supply of phosphoric acid and diammonium phosphate plants. The suppliers' credit from Japan for the purpose has been agreed to in principle by the Government of Japan. The negotiations for the required U.S. and French credits are in progress.

On confirmation of the availability of the required credits by the respective Governments, agreements for the supply of equipment and technical know-how between D.C.M. and the foreign firms will be executed and orders for the supply of plant and equipment placed. On the present reckoning, the plant is expected to go into production by June, 1969.

KOTHAGUDEM

Hindustan Allied Chemicals Ltd., have entered into an agreement with Allied Chemicals Corporation of the U.S. for the establishment of a fertiliser plant with a capacity of 62,000 tonnes of N a year at Kothagudem. Hindustan Allied are negotiating with the World Bank/IFC for financing the project. Recently, a technical team of the I.F.C. came to India to assess the viability of the project. The financing arrangements are expected to be completed in the near future. On this assumption, it is anticipated that the project will be commissioned by June 1970. This project cannot, however, be regarded as a certainty at this stage.

MANGALORE

A letter of intent for the establishment of a fertiliser plant at Mangalore has been issued jointly to International Development and Investment Co. Ltd., Bahamas, and Dugal Enterprises Private Limited, New Delhi. It is proposed to manufacture in this factory urea, complex fertiliser (nitrophosphate) and calcium ammonium nitrate. The production of nitrophosphate eliminates the use of sulphur. The product pattern has been approved in consultation with the Department of Agriculture and detailed financing proposals including arrangements for meeting the foreign exchange requirement of the project are awaited from the licensees. The project is expected to be commissioned by June 1970.

GUJARAT (Expansion)

A letter of intent has been issued to Gujarat State Fertiliser Co. for the expansion of their licensed capacity of nitrogen from 96,000 tonnes of 188,000 tonnes on condition that they will make the financing and technical collaboration arrangements to the satisfaction of Government. Detailed proposals are awaited from the company. In the meantime, the scheme has been posed for foreign exchange assistance under the suppliers' credit from Japan and, failing that, under the yen credit. The project is not likely to be completed before the beginning of the Fifth Plan period.

TROMBAY (Expansion)

The F.C.I. have submitted a proposal for expansion of the Trombay plant. The capacity to be added will be about 130,000 tonnes of nitrogen. The proposal is under consideration of Government. Provision for this project has been made in the draft Fourth Five Year Plan. Assuming that approval is given by the end of this year and foreign exchange requirements are tied up, the expansion programme could be completed before the end of 1970.

HALDIA

Proposals received from Phillips Petroleum Co. for the establishment of a fertiliser plant at Haldia were examined and it was found that the capital investment was high for the low capacity envisaged. Phillips Petroleum have been advised to furnish a revised proposal for Government's consideration.

turn to PAGE 27

IN THE FOURTH PLAN

EMPLOYMENT POTENTIAL NOT SO GLOOMY

It is likely that the employment potential of the Plans was underestimated. On a closer view, the picture of employment does not appear to be as gloomy as indicated by the estimates given in the Draft Outline of the Fourth Plan.

J. N. SINHA

LIKE earlier Plans, the Fourth Plan reiterates simultaneously the need "to absorb at least the net addition to labour force into productive and gainful employment" and the inability to fulfil it. Against a net increase of 23 million in the labour force between 1966-71, employment opportunities outside agriculture are expected to increase by about 14 million and those in agriculture, by 4.5 to 5 million. The Fourth Plan is thus expected to add 4 million or more to the pile-up of 9 to 10 million unemployed carried over from the preceding Plans.

According to the estimates of the Planning Commission, the magnitude of unemployment seems to be steadily growing. It was 5.3 million at the beginning of the Second Plan (2.5 million in urban areas and 2.3 million in rural areas) and 7 million at the end of it (on revised estimates). The Third Plan leaves a further gap of 2.5 million between the additional employment generated (10.5 million in the non-agricultural sector and 4 million in agriculture) and the increase in labour force (17 million). The Fourth Plan thus begins with a backlog of 9 to 10 million unemployed "of whom about three-fourths are in the rural areas". In addition, the number of underemployed persons both in urban and rural areas is reckoned at about 16 million.

On a closer view, the picture of employment does not appear as gloomy as revealed by the Plan estimates. The volume of urban unemployment in 1965-66 is roughly 2.5 million (one-fourth of 9 to 10 million); it remains at the same level as in 1955-56. Considering the continuous increase in the urban labour force, the rate of urban unemployment must have obviously declined. This may be pleasantly surprising and even incredible to many who consider 'unemployment' as mainly an urban category. However, improvements in the quality of urban employment revealed by the census data provide some reassuring evidence in this regard. The share of wage employees in urban working force increased from about 42 per cent in 1951 to 52 per cent in 1961. At the same time, retail trade, domestic services and unspecified services which are the areas *par excellence* for accommodating the underemployed, particularly the migrants pushed from the rural areas, show a significant relative decline. In fact, the last two show a fall in absolute numbers.

If the full implications of these changes are realised, one would find it hard to accept any significant deterioration even in the rural employment situation. The mounting figures of rural unemployment are perhaps conceptual, many underemployed being reported as unemployed. It is also likely that the employment potential of the Plans was underestimated. During the Third Plan period, however, there have been significant shortfalls in production and one may not be surprised if the performance on the employment score fails to correspond to the original targets.

Employment potential of a Plan is related to investment magnitudes. During the first two Plans we added 12 million jobs in the non-agricultural sector for an investment of less than Rs 10,000 crore (at 1952-53 prices). On the same reckoning, the employment target of 14 million jobs outside agriculture in the Fourth Plan would call for an investment of less than Rs 12,000 crore. The total investment envisaged in the Plan is Rs 21,350 crore (at 1966 prices); it is reduced to Rs 19,393 crore, if the foreign exchange components is deflated for the fall in external value of the rupee. Even if we allow for a 60 per cent rise in the prices of investment components (actual rise may be less), investment and employment target in the Plan would appear naturally consistent.

What is, however, more relevant for employment is the production performance, and not merely the investment magnitudes. It has been rightly pointed out in the Draft Outline that apart from the creation of new and expansion of existing capacities, the more efficient use of existing capacities will have increasing importance for employment policy in the future. If this is kept in view, the growth of unused capacity in the Third Plan may bear a promising outlook for employment in the Fourth Plan.

Backward Regions

While there may be nothing alarming in the employment situation on a global view, the problem of the backward regions and the vulnerable groups merits serious attention. The Fourth Plan outlines two direct measures to tackle this problem: (i) promotion of village and small industries, and (ii) rural works programme. Development programmes for the village and small industries involving a total investment of Rs 689 crore are estimated to provide fuller employment for about 11 million persons and whole time employment for about 1.6 million. The Rural works programme will provide work to about 1.5 million persons for 100 days in the year.

turn to COVER III

1965 DUNLOP ACHIEVEMENTS



Addressing the 40th Annual General Meeting of Dunlop, India, in April 1966, Mr. Cecil Stack, Managing Director, referred to record sales in 1965 despite raw material difficulties.



Additional equipment for truck tyre manufacture, the most modern in the country, was installed at the Dunlop factory in Ambattur, Madras.



During the year Dunlop pioneered the manufacture of fire resistant PVC conveyor belting for use in underground coal mines.



The plant for making industrial vee belts was also modernised and expanded to meet the increasing demand for "Maxrate" Vee Belts.



Extra large Off-the-Road Tyres were made by Dunlop—another 'first' in India—replacing imported tyres used on heavy earthmoving machines. Each tyre stands over six feet high and weighs nearly half a tonne.



Direct and indirect exports of Dunlop totalled Rs. 1.2 crores — 60% higher than the previous year's figure.



With the modernisation of the aero tyre plant Dunlop are now able to equip all types of aircraft operating in India.



Much greater use was made of local raw material and imports accounted for only 11% of total raw material purchases compared with 17% in 1964.



Amenities for employees were improved : a new playing field and sports pavilion were opened at the Dunlop Sahaganj factory in West Bengal.

DUNLOP

LEADS THE WAY

Sweet Janaki, better known to me as Sona, was my pupil in class eight in our village school. She was brilliant and always used to come first in the examinations. I loved her much.

I was shocked one day when she told me that she were to stop schooling. I asked her why. She said that a teenager '*hindusthani*' girl like her was committing an act, most offensive to their orthodox family by attending school.

Next morning I met her mother who stood behind a *purdah*. I pleaded for my beloved pupil's continuance in the school. "It's against our custom", she replied firmly. Then I asked her calmly, "*Mayee* haven't you heard of our Prime Minister, Mrs. Indira Gandhi"?

"So what?" — the determined voice came from behind the curtain. "She is also a *hindusthani* lady as you are. Don't you want your child also to be educated and attain such a position. Without education how can she?" I asked. There was no reply. Our conversation ended abruptly and I came back home most disappointed. Next day I found Sona in the class!

Calcutta *Prabir Kumar Mukherjee*

A young contractor, who had earned a lot of money, was very uneasy when this neighbour informed one fine morning that the Indian rupee was devalued. He at once ran to the secret place in his house and brought out bundles of hundred-rupee notes. He told his neighbour that he would not mind if the latter obliged him by paying even fifty rupees or every hundred rupee note.

The neighbour was taken aback for a while, but soon realised how the young contractor had understood devaluation. Instead of explaining the confusion, the neighbour took the hundred rupee notes, got a savings bank account opened in the nearby Post Office in the name of the young contractor. He handed over the Pass Book to his young friend saying, "Well, your money is safe. The devaluation does not reduce the value of money within the country."

There were tears of gratitude in the eyes of the young contractor.

Ranchi *K. K. Prasad*

THIS INDIA

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

We were going on a small-savings campaign to one of the remotest villages in the Madurai district. The whirring sound of our car attracted the villagers on both the sides of the road and we felt as if we were some dignitaries.

A woman plucking seedlings in the wayside paddy field came running and placed a bunch of seedlings before the car. The driver stopped the car to avert an accident. The woman approached us and stretched her hand on which the elderly one among us placed a 10-paisa-coin. She removed the bunch of seedlings, grumbling, "They give generally one rupee for this". The car moved on.

I was wondering how the woman could be so nonchalant while begging. I was told, it was the custom that a car should not cross over the paddy seedlings.

Vadamadurai *K.P.K. Unni*

It was a full moon day. I was going back home after a late night film show, on a bicycle. The cycle dynamo did not work and so I had no light. Soon I came across policemen rounding up those who had no lights.

"Stop", shouted a policeman to me. I didn't want to be caught and began to pedal fast. I gathered enough speed and then turned back to see if I had crossed the danger zone...No. A policeman was after me, on a bicycle. He was about to overtake me. Suddenly I noticed that the policeman's cycle also had no light.

"Police without light", I cried out loudly, while pedalling in all strength. When I looked back with fear, I was all alone on the road.

Palghat *V.P.M. Koya*

After screening a few films on civic education I took my seat near the screen and asked a 12-year old boy, with turban on his head, whether he was a Harijan. "No. sir" quick came the reply. "I am a Gounder doing farming." I jocularly asked him whether he would like to marry a beautiful and wealthy Harijan girl, offering him 5 acres of paddy field. He shook his head and said "We are high-castes, and our elders will ostracise me if I do that."

I didn't feel bored with his answer. "Will you accept a Brahmin Girl"? I asked, patting him, The chap, with dust-strewn face, said "Yes, sir. But Brahmins won't give me a girl in marriage, because they think we are low castes doing farming".

Coimbatore *V. Paranjothi*

by R. RAMANUJAM

KHETRI, once a princely State, now in Rajasthan, 225 kilometres south-west of New Delhi, will soon be a byword for copper production, though it is presently connected neither by air nor by rail.

In 17 square kilometres of hilly area about 500 men and women work around a hillock. Steel helmeted men stand near red flags to warn any unwary villagers. Supervisors guard the entrance of all six passages around the hillock while technicians stand by countering all bursts within the hill. "All have burst", testifies a supervisor. Red flags are removed and men enter the hill to remove the broken rocks. Wheels begin to rotate and steel buckets come up with copper-bearing rocks. They are unloaded in open space nearby and are sent back 330 metres below the hill. Such monotonous work goes on every day.

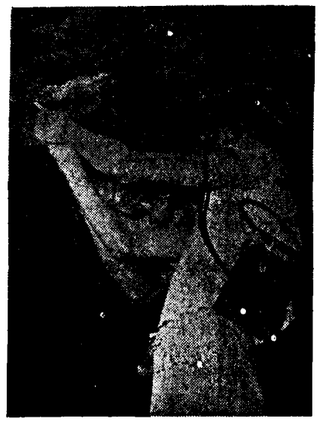
OPERATION HARDROCK

Not far away from this scene, in brick-walled rooms sit geologists studying copper contents while administrators try to eliminate red tape. The stocky, bespectacled General Manager of the Khetri Copper Project, Mr D.R. Bharadwaj, himself a geologist, signs papers and discusses "What next? How soon?" with his colleagues. The optimistic Bharadwaj, with an air of confidence, does not hesitate to say, "I am now sitting in a geologically rich area. I am conscious of the hard job ahead of me. But I am optimistic. Give me the equipment; I will show you immediate results."

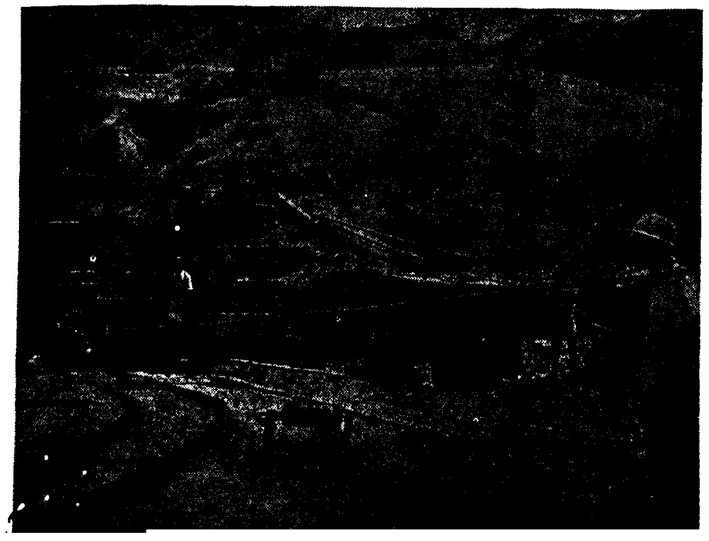
India's present copper production lags behind its requirements by thirty times. The anticipated need in 1970 will be 250,000 tonnes while even optimistic geologists hope to produce less than 25,000 tonnes by then provided they get the mining equipment soon. Now India produces 9,600 tonnes of copper. At present India's per capita consumption of copper is only about 0.4 lbs as against America's 17 lbs and Britain's 5 lbs.

If the efforts that are made now at the Governmental level are any indication, India can hope to meet most of her needs in the near future.

An agreement for a U.S. loan of 3.5 million dollars (Rs 2.62 crore) to meet foreign exchange costs of intensive search for non-ferrous metals was signed recently. Two planes from a private American firm to detect metals with the help of geophysical instruments on board the aircraft, are expected to arrive in India soon. Government has already chosen areas in Rajasthan, Bihar and Andhra Pradesh.



A worker cutting the rock underground. *Below:* A view of the Khetri copper field.



With Messrs Outokumpu Oy, a firm in Finland, India has signed an agreement to get designs and equipment. It will give their patent rights for the flash smelting process to enable substantial recovery of sulphur content from copper ore. Now the design is being fabricated in France.

A team of French experts visited Khetri last year and their Government has agreed to extend credit equivalent of Rs 9 crore.

The Soviet and East German Governments have offered help during the Fourth Plan period.

Two Americans are already working on shaft sinking at the Khetri project, under an agreement with the Western Knapp Engineering of San Francisco.

While seeking foreign help, Indian geologists have spared no pains to locate copper-rich areas in Bihar. The Planning Commission has set apart Rs 45 crore for prospecting non-ferrous metals and another Rs. 5 crore to explore more areas with the help of Russian experts.

India is still negotiating with an American firm to undertake a copper project in Andhra Pradesh.

SOCIAL DIMENSIONS OF BIRTH CONTROL

V. K. MATHUR

Can the drive be a success without scientific sex education for our boys and girls ?

Are our traditional ethical views conducive to population control ?

What will be the effects of a National Birth Control Movement on our social behaviour and ethics ?

BIRTH control has many dimensions. The simple mechanics of avoiding child birth is, from my point of view, one of the insignificant aspects of the total complex. While the Planning Commission's Study Group on legalising abortion as an additional tool for arresting population explosion is still busy debating *in camera* the pros and cons of what is likely to be a consequential governmental decision on this rather delicate and personal question, we find contradictory press opinions and views of internationally recognised demographers. No doubt, given financial resources and a giant governmental machinery, it may not be too difficult to bring down gradually the national birth-rate.

Those who perceive the Indian birth-control movement merely as a problem of equipping the masses with the know-how of preventing a child birth, or as a problem of commandeering an army of doctors, and social workers for door-to-door propagation and service, are, I am afraid, tackling only an infinitesimal part of the total problem.

Knowledge, use and effects of birth-control practices are related to the social environment one lives in. Talking to a number of youth counsellors, social scientists and young men and women in Europe last year, I was surprised, and slightly hurt, to find that sterilisation of men and women as a method of birth control appeared to them as inhuman and derogatory to the society as a whole. Some of them went to the extent of asking me why the Indian Government wished to permanently deprive humans of their natural power of reproduction which, some psychologists thought, is the very essence of manhood and womanliness. Even after I had briefed them on the imminent national dangers of the population rise in India and that sterilisation was only one of the many birth control practices we were propagating, most of them failed to understand my point of view and repeatedly condemned our sterilisation programmes as "anti-human". I tried to extend the argument further and talked about legalised and clandestine abortions all over the world but failed to convince them that induced abortion was parallel to sterilisation. Later, on retrospection and on coming back to India at a time when we had started facing the recent acuteness of food shortages, I realised that we lived in two different worlds; and for a people who have taken food-affluence and a sufficiently high standard of living for granted, birth control is purely an individual problem little to do with the nation as a whole.

A detailed analysis of western societies, some of which have sharp peculiarities of their own, reveals many more interesting details about marriage, sex, youth behaviour and their repercussions on social attitudes in general and on family limitation in particular. Prof. S. Chandrasekhar in a recent pro-legalised-abortion article in *The Statesman* cites examples of Denmark which has the highest incidence of induced abortions, and Japan and Hungary where abortion is legalised. I was in Denmark for almost a year last year and had occasion to study Danish life and culture. I was more than surprised to find how the Danes, and for that matter Scandinavians, look at pre-marital pregnancies and child-births. It is socially sanctioned. Social surveys have revealed in Denmark that a very large (more than 70%) of brides in their teens are pregnant on their wedding day and this is common knowledge — not a matter of shame or social stigma. In many cases where girls do not get married after conception, they either bring up the child themselves or in case of economic difficulties or occupation of the girl which prevents her from taking care of the child, the State provides well-appointed care-homes for such children and even for the unmarried mother. The latter lives in these institutions, is fully employed in a profession and uses the home's nursery for taking care of her infant while she is away. These girls and homes are not treated as leper asylums or reformatories and parents of such girls do not make a secret of the fact that their daughter is living there. As a prelude to this situation, it is common to find young couples living together prior to getting married and this appears to be socially sanctioned. Such social attitudes, I believe, are counter to those which prevail in the U.S.A. and the non-Scandinavian countries. Not that promiscuity is not known in these countries, but it rarely goes without social disapproval.

What I want to emphasise is that practising birth control methods by us may not for long remain an isolated measure sought only to arrest the population growth. A wide-

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spread knowledge and facility of use of these methods is likely to impinge on our present-day social sanctions.

The point is how our ethics will look at these transformations? Will birth control practices remain within the bonds of marriage? Or, will they be allowed to be used in all their naked reality for what we are fond of labelling as "immoral" purposes? Shall the governmental educational policy help our youths' attitudes to be fashioned in tune with the growing national anxiety towards birth control or allow them to drift in the wild winds of commercial propaganda and persuasion till they suddenly land in the unknown realms of marriage and after?

From my point of view these are bewildering questions and cannot be answered either by social legislation or ethical codes.

It is extremely difficult to predict as to what extent and with what effect sex education can be imparted to our youth in schools and colleges, which will have to be not only in the normal area of the physiology of human reproduction but also of a psycho--social--ethical--dimension touching the sensitive area of individual responsibility and possible indulgence. In this context, parental response and attitude along with teachers' competence to deal with this new avenue of education will have to be carefully studied. Home-education on matters of sex, is, from my point of view, only a distant reality and it would be too much to expect frank parent-child discussions in a joint family or even in a nuclear Indian family. In the absence of such pre-requisites of knowledge on sex matters and the Indian ethical codes which separate the two sexes and give high prestige to abstinents from pre-marital sex, the chances are that the youth will get exposed to birth-control propaganda and facilities rather suddenly. This would keep them almost at the same place on the attitudinal scale towards birth control as their fathers and forefathers—meaning thereby that they will continue to have a negative attitude.

Positive attitudes towards birth-control leading to the effective use of these practices are directly proportional to the degree to which the social codes allow freedom of discussion on sex in the society and within the family. In the contemporary Indian social context, it is common to find that even matters relating to marital sex are a hush-hush affair. Men and women who wish to consult doctors on this, what one believes "a most private affair" do so in great secrecy. Whereas the world's best gynaecologists are males and even the top ones in India are males, it would be disastrous to expect that our women (even the educated ones) will agree to consult male gynaecologists. This peculiar attitude is related to the segregation of the two sexes and adds doubly to the problem of medical personnel who can be deployed through the length and breadth of India. Whereas one doctor in a small primary health centre could have been able to attend to all types of cases, we feel that adequate arrangement for women patients are lacking if there is no female doctor posted at that centre.

OLD THEORIES

Old theories gave a lot of dictions regarding higher fertility among women of tropical and warm climates. In spite of continuous research on the subject no clear-cut climatic differentials are available. Fecundity means the inherent biological power of a woman to produce children, while fertility denotes the actual number of children born. If no birth control measures are used, then fecundity is equal to fertility, provided the woman functions otherwise normally. If birth control measures are used, then fecundity is always greater than fertility. Modern research is harping on the fact that culture (defined anthropologically and sociologically) ultimately decides the extent of fertility, and also, a part of fecundity. Theories relate fertility and fecundity to the way a woman lives, eats and dresses. Some scientists even go to the extent of saying that the way we think, also determines human reproduction. Human behaviour and psychology, therefore, determines population changes.

The fact that our government is trying to make available science and technology for birthcontrol to the common man may not, in itself, solve the problem. There is bound to develop a series of psychological barriers in the form of cultural lag: a new practice is available round the corner, but people are still socially incompetent to use it.

Opinions do not differ on the point that propaganda and mass education is likely to quicken the pace of creating the necessary social climate. The question now arises—what is the content, quality and quantum of this education ? I consider it to be unlikely that birth control education in the present form , will do the trick. Unless society's initial shyness to discuss and accept brith-control information is removed, the prospects, from my point of view, are not bright.

Governmental programmes for birth control have found partial success in China, Japan and Hungary, but in each case, social conditions and political sanctions differed considerably from that of India. Chinese birth control programmes have been sudden and dictatorial and her mass education machinery displayed birth control measures in a naked form which the Indian ethical codes may never permit. Japan's legalised abortion came at a time when the country had faced a serious social disorganisation due to a large number of illegitimate children being born as a result of American occupation. In Hungary, the political revolution and large-scale social suffering was responsible for the government's legalised abortion schemes. In each of these three cases the individuals and society had become victims of grave social or political unrest, and arresting the population growth became imperative. In this context, it has to be judged whether people in India have either understood, or whether there are indications that the nation's poverty will force them to understand the imminent need for birth control.

Although it is beyond the scope of the present article to compare the merits of different birth control practices propagated by the Government, there is little doubt that until an effective and cheap oral contraceptive is available to the people, the existing practices (even the Loop) are somewhat cumbersome—socially, economically and psychologically.

A UNIQUE INSTITUTE IN SIMLA

SOME weeks ago, I had an opportunity to visit the Indian Institute of Advance Studies rather loftily situated at Rashtrapati Niwas, Simla. On top of the Summer Hills, this 'palace', which looks like a vintage mansion one sees all over the English countryside, was built between 1884 and 1888 during the viceroyalty of Dufferin. I must say that it has been very well maintained since independence although Dr. Rajendra Prasad had not much use for it, nor has Dr Radhakrishan had much of an occasion to use it for State purpose. That is why, I presume, he has, the great educationist and humanist that he is, turned it over to the Institute of Higher Studies of which Dr Nihar Ranjan Ray is Director.

This is a unique institute in many ways. Dr Ray has got together nearly 20 scholars of repute—only one is from abroad—and each one of them is working on a specific project of research and study. All of them belong to universities; many are on loan to the Institute to do their specific project. Their work will lead to what the Institute expects to be a number of high standard and eminently useful publications.

ONE could ask why should this Institute of Advance Studies in the cultural sciences be there at all? Would it not compete with the existing universities and add another straw on their backs?

The answer, I found, was quite clear. This Institute has been designed to serve purposes which are at present not being served by other institutes or are being served only indifferently. First, to encourage research of urgent importance to the national interest and yet discouraged by the existing structure of the universities. One of these consist of neglected areas of knowledge, such as our border and neighbour peoples. Another is in inter-disciplinary fields, such as language politics or mathematical study of international relations or meeting points between anthropology and archaeology.

Research is organised in Indian universities in terms of anciently established and cleanly separated categories, at least some of which are being called into question by recent research, and at least some of which can hardly qualify as research of national interest.

THE second of the purposes meant to be served by the IIAS is that of a marketplace of methodologies. Unlike bare facts, methods of organising and evaluating research along diverse routine and non-routine lines cannot be learnt from books and journals alone. They can only be passed from one scholar to another through prolonged and informal contacts.



Indian Institute of Advance Studies, Simla



IGNORAMAN

Wants to Know

If, to the list of mealless,
drinkless days in a week,
we should not add
a sexless day
for better family planning.

The third purpose is national integration. In a country like India it is difficult for people not to become isolated in their ideals of scholarship. Prolonged and informal contacts with people of different regions and strata may counteract this isolation of Indian intellect.

A fourth purpose the IIAS should serve is to channel co-operation and communication between foreign and Indian scholars. For all but a few of the Indian universities, it is practically impossible to obtain foreign scholars on loan for periods long enough to be worthwhile. But the IIAS, can prove more attractive to those mature scholars from abroad who can at all be persuaded to take their sabbaticals in company of Indian scholars.

I have, therefore, little doubt in my mind that the IIAS has much good work to do. One great difficulty, however, is shortage of books. Dr Ray has been doing his best to collect a library; but we all know how difficult a task it is. The foreign exchange shortage not merely cripples one's buying power; there is an exasperating delay in the arrival of books. This is one strong factor against keeping the Institute in Simla, unless the Government takes special care to meet its demands.

BHABANI SEN GUPTA

The Draft Outline should be taken as nothing more than a draft. We should be prepared for substantial changes at a later stage. All the components of total growth must be worked out in detail after considering whether they are durable, feasible and consistent.

ESTIMATES OF RESOURCES NOT TOO HIGH

BHABATOSH DATTA

THE Fourth Plan, unlike its predecessors, had to be drafted in the midst of very serious difficulties. The military operations of 1965, the growing problem of providing essential food supplies to the deficit areas, rising prices and the gloomy prospects in the balance-of-payments position all combined to inject a large element of fluidity and uncertainty in the perspectives and short period targets.

The Draft Outline naturally bears traces of the gestation troubles through which it has passed. The extensive preliminary work that was done in regard to commodity balances and other allied questions lost a large part of its operational significance with the changes in the composition of the major premise of the Plan and there was obviously no time available to rework all the estimates. Devaluation came into the picture at practically the last moment and it would have been impossible even for the most highly qualified body of technical experts to incorporate its potential effects into the detailed components of the Plan.

Draft therefore should be taken as nothing more than a draft and one should be prepared for substantial changes at a later stage. The internal consistency of the various production estimates, period by period, will have to be examined thoroughly. It will be uncharitable now to point out inconsistencies, when adequate data are not available either for proving or disproving any contention.

One can, however, point out a few special features of the resources estimates. These estimates do not appear to be very high when placed alongside the estimated growth in the national income for the entire five-year period, but unless the time-path of the mobilisation of resources and the time-path of the growth of the output are both realised over the five-year period, the aggregates will not have much meaning. It is well-known that the shortfalls in first year or in the second year cannot be made good later; the probability is that the shortfalls themselves become cumulative and prevent the realisation of the Plan-period aggregates. It has also to be remembered that the first year of the Fourth Plan is, for operational purposes, practically over.

The domestic saving rate in 1965-66 should have been 11.5 per cent of the national income according to the Third Plan estimates; the realised rate in that year is now estimated at 10.5 per cent. It has not been possible for the Planning Commission to make estimates for the Fourth Plan period, in view of the shortfall in the Third Plan outputs and the change in the value of the rupee. It is clear, however, that the domestic saving rate will have to go beyond 15 to 16 per cent at the end of the Fourth Plan period.

The realisation of such rates will entail as a minimum condition that the relevant output targets should be realised in each year of the five-year period. This emphasises the importance of the machinery of Plan implementation functioning in such a way that it is effective not only in regard to the public sector output targets, but also in regard to the large private sector output, especially food and other agricultural products. The success of the public sector Plan will depend largely on the successful achievement of the private sector output targets according to the time-path implicit in the aggregate estimates.

The financial resources required for the public sector are estimated according to a pattern that has now been standardised. This pattern is based on a convention adopted regarding the distinction between non-Plan and Plan expenditure and also between the resources for financing these two categories of expenditure.

THE CRITIQUE Continued

More articles by eminent economists on the Fourth Plan will be published in the coming issues of Yojana .

The non-Plan surplus which is brought over to the Plan budget can of course be calculated under different assumptions regarding the growth rates in expenditure and revenues. The Fourth Finance Commission estimated that all the States together would have a non-Plan surplus of Rs 374 crore in the five year period 1966-1971, while the Planning Commission's estimate now is that this surplus will be Rs 920 crore and that there will be, in addition, another surplus of Rs 250 crore from further economies in expenditure. One notes that the corresponding figure for the Third Plan period was only Rs 180 crore.

For the Centre and the States taken together, the total non-Plan surplus for the Fourth Plan period is put at Rs 3,010 crore *plus* another Rs 335 crore from further economies in expenditure. This, again, can be contrasted with the original Third Plan estimate of a surplus of Rs 550 crore and the actual realisation of a deficit of Rs 470 crore.

One has also to note that non-Plan expenditure includes a large element of Plan-induced committed expenditure in addition to the essential governmental expenditure for administrative and other inescapable duties. It is undoubtedly desirable to put a brake on the expansion of non-Plan expenditure, to the extent that such expansion does not result from the needs for "maintaining" the first three Plans. The major factor causing a large increase in non-Plan expenditure is the increase in wages and it is only the success of the Plan projects and Plan policies as a whole that can create the conditions that can check a wage-induced expansion of government expenditure.

It is noteworthy that the estimate of resources from "additional mobilisation" is particularly modest and not quite consistent with the first year figures. There may have been reasons for keeping this estimate at a low level, but it does not help in convincing the observer about the soundness of the estimate if he comes to feel that, after providing for a relatively low additional tax estimate and after eschewing deficit financing, the estimate for the non-Plan surplus is derived more or less as a residual.

The other set of questions that arises relate to the external resources. It is well known that exercises and debates have been going on for a long time regarding our export and import prospects. The estimates resulting from these exercises must have required a thorough revision after the devaluation of the rupee. It is obvious that the new estimates of external payments and receipts are not based on that measure of commodity-by-commodity or industry-by-industry scrutiny as was made at the earlier stages. There has not been enough time for such scrutiny and there is also the fact that the net effective rate of devaluation (taking into account the changes in the tariff duties and in incentive schemes) is not only different for different commodities, but is not yet stabilised. The effect of devaluation can never be indicated by an arithmetical adjustment of pre-devaluation estimates.

Devaluation is meant to affect prices and through them the physical quantities of exports and imports. The actual impact on export earnings will, for example, depend in each case on the price-effect of the net change in the relevant effective rate on the demand abroad and/or the profit-effect on the domestic supplies going to the export markets. The latter may in some cases require a re-planning of export industries and consequently of all related industries. All this analysis can be made, but it requires time.

One other point may be noted before concluding. The total foreign exchange gap to be covered by external credit is estimated at Rs 6,300 crore (at the new exchange rates). Of this, a sum of Rs 4,700 crore is included in the Government sector, leaving an amount of Rs 1,600 crore to be attracted by the private sector. The Third Plan figure for direct foreign investment in the private sector was Rs 150 crore only and presumably it included a substantial amount of ploughed-back profits of firms already operating in India. It will not be surprising if the entire balance of payments estimate has to be recast later in the light of new information and further scrutiny.

What has been said above does not mean that in the given conditions anything better than what the Draft Outline contains could have been presented. As has been stated at the beginning, the whole process of framing the Fourth Plan had to be undertaken in the midst of very difficult conditions. It will, therefore, be unreasonable to regard this Outline as anything other than a broad framework the details of which will have to be filled in and, where necessary, adjusted later. The most important thing is that the tempo of growth must not be allowed to slow down and that all the components of total growth must be worked out in detail in the light of their desirability, feasibility and consistency.

STRATEGY RESTS ON

INDUSTRIAL BASE

The strategy of the Fourth Plan is based on the theory of bringing about a rapid development of industries producing investment goods by increasing the investment in the basic heavy industries. Short-term scarcity of consumer goods and inflation are a logical outcome of the theory. It is necessary to emphasise the development of agriculture and infra-structure to remove the imbalances in the economy.

MOHD. SHABBIR KHAN

THE Draft Outline says that the Fourth Five Year Plan reaffirms the objectives enunciated in the earlier Plans and it is so designed as to help in the attainment of self-reliance by the end of the Fifth Plan. We are all aware that although the objective of self-reliance was specifically mentioned as the basis of strategy in the Third Plan, yet it was the Second Plan which initiated the strategy of bringing about structural changes in the economy that were considered necessary to achieve the long-term objective of self-reliance.

It was Prof. P.C. Mahalanobis who could be considered the architect of laying down such a strategy in his essay on 'The Approach of Operational Research to Planning in India'. By now that essay has become well-known especially among professional economists and planners. Even if we were to assume that the basic approach of this essay were correct (which is debatable), there were certain cautions implied in it which were overlooked by the planners ever since we accepted his blueprint and more so when we decided to carry on our development combined with our defence effort at a high pitch.

According to the Mahalanobis theory, a proper strategy lay in bringing about a rapid development of in-

dustries producing investment goods by increasing appreciably the proportion of investment in the basic heavy industries so that our country would become more and more independent of imports of foreign machinery and capital goods. Yet it was added that there was "a physical and/or socially acceptable limit beyond which it is not possible to push up investment in the capital goods industries (because of the shortage of capital goods and technical personnel or because it would involve too great a sacrifice of immediate benefits)". It is obvious that the socially acceptable limit of pushing up the investment in capital goods sector is well within our sight, if it has not yet actually reached. The general discontent in the country, the organisation of 'bandhs' in several States and the big demonstrations against the Central Government are all pointers in this direction.

Limiting Factors

In his essay, Prof Mahalanobis pointed out some limiting factors to the policy of pushing up expenditure in the capital goods sector. Among others, the non-availability of consumer goods to face the increasing demand as a result of rising income due to increased public expenditure, lack of technical personnel and the inadequacy of administrative machinery were considered to be the most important limiting factors. A review of the achievements of the Third Plan shows that all these factors are proving a bottleneck.

As regards the availability of consumer goods, there has been an acute shortage of foodgrains and other basic consumer goods. Except for one year, 1964-65, the agricultural production did not show any increase, and the large imports of foodgrains continued. Industrial production was also lower than expected. The result was a sharp rise in prices. During the Third Plan the prices of foodgrains increased by 48.4 per cent, those of industrial raw materials by 32.6 per cent and of all commodities by 36.4 per cent.

In India, since the bulk of consumer goods are derived from agriculture, the large increase in agricultural prices led to an increase in the cost of living necessitating the increase in the wage rate, dearness allowances etc., resulting in the cost-push inflation. The lack of technical personnel combined with the non-availability of raw materials due to stringent conditions led to a shortfall in industrial production. And, finally, as the Draft Outline admits, one of the main reasons contributing to the shortfall of production in the Third Plan was that "the administrative rules and procedures lacked the flexibility to meet the changing needs and the necessary changes in them had not come about" (Page 5).

Even after these shortfalls and the decision to devalue the rupee (which was a clear admission of the fact that we were living beyond our means), the public sector outlay during the Fourth Plan has been increased to Rs 16,000 crore from that of Rs 8,631 crore in the Third Plan. The reason given is that the shortfalls in the Third Plan necessitate a stepping up of the efforts so that we are able to achieve self-reliance by the end of the Fifth Plan, as originally suggested in the Third Plan document.

In considering the extent to which the perspective set out in the Third Plan document is to be revised, the Draft says "it must be mentioned that it is generally undesirable to lower one's sights, especially when one is thinking of a period as distant as ten years from now rather than of the immediate future" (Page 27). It goes on to say that "we cannot slacken our efforts during the Fifth Plan period. Indeed it may have to increase in both magnitude and intensity" (Page 28), which requires that, if we have to start at the beginning of the Fifth Plan from the position that was suggested in the Third Plan document, we have to step up our efforts in the Fourth Plan so that in addition to its own desired objectives and targets as a part of the long-term perspective plan the deficiencies of the Third Plan are also made up. It is not that the Planning Commission does not recognise the significance of the present difficult economic situation. The deficiencies are duly recognised but the conviction is that the "constraints which loom large in the immediate present tend to diminish or even disappear given timely decision and prompt action in the present" (Page 27).

Scarcity Innate.

Let us examine what timely decisions and prompt actions are proposed in the Draft Outline to remove the bottlenecks and do away with the distortion of the economy.

In spite of the fact that agriculture is said to have been given the highest priority in the Fourth Plan, the distribution of public outlay in the Draft between various items of expenditure remains almost the same as that of the Third Plan. Whereas in the Third Plan the expenditure on agriculture, community development and co-operation was about 13 per cent of the total expenditure, in the Fourth Plan it increased to 15 per cent. On the other hand the expenditure on organised industries and minerals increased from 20 per cent in the Third Plan to 25 per cent in the Fourth Plan. This shows that there has not been any substantial change in the proportion of expenditure on agriculture over that of organised industries and minerals. The percentage of expenditure on irrigation decreased from 7.6 in the Third Plan to 6 in the Fourth Plan.

It is suggested that the tightening of administration in the field of agriculture will lead to the desired increase in the agricultural production. It is hoped that the administration will be geared up to the basic economic and social tasks which will help the country to tide over the present difficulties. In regard to technical personnel it is suggested to link education more purposively with the requirements of the country's development although in the Draft no plan seems to have been worked out to accomplish it.

In spite of its claims the Draft Plan does not anticipate any great increase in consumer goods, particularly agricultural commodities. In formulating the price policy for the Fourth Plan the Draft says that the prices of basic consumer goods are to be held through expansion of State participation and control in regard to both wholesale and retail trade. Perhaps such a scarcity of consumer goods is an inherent part of the long term strategy of Planning as enunciated by Prof Mahalanobis.

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Books

A SOCIO-ECONOMIC SURVEY OF A VILLAGE

Ashok V. Desai

Loyera: A Socio-Economic Survey. R.N. Tewari and R.A.P. Singh. Published by Vidya Bhavan Rural Institute Udaipur, 149 Pages.

LOYERA is a small village of about 700 people in the Aravalli range in South Rajasthan. It is almost a satellite of Udaipur.

Tewari and Singh have collected information on the common socio-economic characteristics of the village population: its composition by sex, age, caste, type of family and occupation, birth and death rates, literacy standards, land use, size of holdings, crop output, income, expenditure, assets and liabilities. Thus one gets a comprehensive statistical picture of the village.

Loyera is on the fringe of the Bhil region, and almost half of its population consists of Bhils. It also has a dominant farmer caste, the Dangis, who make up about a quarter of the population and own nearly a half of the land. The village's demands cannot, however, support most of them in their traditional occupations, and all, apart from traders, have taken to cultivation or general labour.

Births in the village in 1960-61 were four times as many as deaths. But two-thirds of the deaths were of children under fourteen. This risk of early death was even greater for girls: there were only 129 girls under 15 as against 141 boys. And presumably the risk persists later in life, for there were 29 women over 45 against 39 men. True, there were 159 men and 164 women between 15 and 45, but a large proportion of these women was probably brought into the village by marriage. It is a pity, the report gives no information on this point.

Compare this with the livestock situation: there were 189 oxen against 145 cows, and 62 female buffaloes against 20 male ones. The sex composition of calves is not given, but I am sure it would show the same sex biases.

These figures, apparently unrelated (they appear almost at the opposite ends of the study), illustrate the same basic characteristic of a poor community, *viz.*, that when it is short of resources, the community favours its work force and sacrifices the segments of the population which consume more in relation to their work. It sacrifices children, especially girls since they will not grow up into able-bodied men; it discriminates against women, and for the same reason it sacrifices its cows. We find the same picture all over India: that the proportion of men increases with poverty, the proportion of oxen increases with draught requirements and is lower in areas with high availability of fodder. Buffaloes, which are wetland animals by origin, are much more numerous in the drier regions of India where more fodder is available. (However, buffaloes are kept in Loyera probably because their milk finds a lucrative market in Udaipur).

Similarity would be found even in the way in which the less productive members of the rural community are eliminated: the mechanism probably involves the deprivation of basic consumer goods. May be the process is more drastic with the male buffalo calf, which is straightway deprived of its mother's milk; perhaps the elimination of human beings is managed more gently, more institutionalised. One would like to know.

I wish the study had thrown more light on this problem of the relation between population and resources. Let me not suggest that this is the only problem of importance. But one wants to consider what a village survey can usefully do. That most of the Indian villagers are illiterate, or that most of them engage in agriculture and work on small, fragmented holdings, are long known facts. We even have nationwide statistics showing these things; to make village surveys to demonstrate them for the n'th time is wasteful. Surveys should investigate questions that cannot be tackled by censuses and governments: they should study people in greater detail, and find out how poverty affects their day-to-day life, what they can do to improve their circumstances, and what prevents them from doing it.

Coming back to the survey, it deals with three matters in greater detail the occupational pattern, agriculture, and income and expenditure.

The major influences on the occupational pattern are poverty and urbanisation: poverty led to a decline in the demand for minor services and a reversion of specialised workers to agriculture, and the growth of Udaipur relieved the pressure on land by diverting small farmers and labourers to the town.

The investigators made their own estimates of the crop area and livestock population, and found that they differed substantially from the village *patwari's* records. They say that the *patwari's* figures of area were more correct than theirs since his records were "an official document with legal recognition", while his livestock figures were less reliable since they were not in an official document. This seems a curious way of resolving the issue.

It is also likely that the estimates of income and expenditure are wrong.

To conclude, the study contains much interesting material; and the fact that it could contain more reliable or much more material does not detract altogether from its value.

Scholarships—A Correction

The All India Education Conference in a resolution passed recently is understood to have asked the Government of India to raise the number of *merit scholarships* (not of *public schools*, as reported in the last issue of Yojana) in public schools to 2,000.

IMPEDIMENTS TO RURAL DEVELOPMENT

T. M. C. Menon

Impediments to Development in Developing Countries. Edited by Nageshwar Prasad and B.N. Jayal. Published by the Gandhian Institute of Studies, Rajghat, Varanasi. 165 pages. Rs 8.

THIS book would have been more aptly titled as "Sociological Impediments to Rural Development in India". It is concerned largely with the non-economic factors inhibiting village community development in India.

The Gandhian Institute of Studies and the Indian Committee of the Congress for Cultural Freedom jointly sponsored a seminar on "The impediments to development in developing countries" in January 1965. This book is the outcome of the seminar presenting its discussions, papers and conclusion. Participating in the seminar were political and social leaders like Messrs Asoka Mehta, Kamlapati Tripathi, Jayaprakash Narayan, Achyut Patwardhan and Nabakrushna Chaudhuri in addition to leading administrators, social workers, academic sociologists and economists.

The book is divided into three parts. Part I, titled "The Dialogue", contains the introductory speeches by Prof. S. Dasgupta, Joint Director of the Gandhian Institute, and Messrs Achyut Patwardhan, Asoka Mehta and Nabakrushna Chaudhuri. The issues to be considered by the seminar are spelled out here in vague terms and the speeches offer a rather uninspiring introduction to the deliberations to follow. Mr Patwardhan asks the seminar to enquire why the rural sector has lagged behind the urban sector in development. Mr Mehta discusses the broad features of the Plans and the main areas where shortcomings in implementation were noticed. In particular, he thinks there has not been an adequate appreciation of the needs of the situation and the determination to reach set goals. Mr Chaudhuri, while agreeing with Mr Mehta's views, poses the question somewhat differently and asks as to why the people have lacked faith in the development programmes drawn up by the Government.

The speeches are followed by a useful summary of the discussion that took place on the papers presented at the two sessions of the seminar. Altogether twelve papers were read and these are reproduced in full at the end in Part III. It is a little astonishing if not disheartening, to find that the experts differ so much both in their diagnosis of the maladies affecting the Indian rural society and their prescriptions to cure these. Hindu religious philosophy, mutual mistrust, caste, escapism, lack of self-confidence, unsympathetic and uninspiring administration, have, among others, been listed as the causes for rural retardation.

From this analysis it would have been difficult for one to understand clearly the complex problems facing the rural society of this country. Happily, however, a chapter on conclusions and recommendations is added where the seminar's discussions are put in a cogent manner. The seminar came to five main conclusions. First, the rural community often showed resistance to change due to its socio-cultural complex of which the most formidable were caste and religion. Second, there was a lack of effective leadership and initiative caused partly by the failure of a new leadership emerging to fill the vacuum created by the removal of tradition leaders. Third, technical advice was not available at the level of implementation. Fourth, the true motivational factors were not recognised and suitable incentives not offered to encourage them. Last, there was too much of a gap between the ideal and the practical.

Though some of the recommendations of the seminar are merely familiar platitudes, they contain some useful suggestions. Some helpful advice is given to encourage and activate village panchayats. Similarly, the recommendations regarding agricultural education, suitable governmental and educational agencies, communications media and the use of extension agencies offer useful tips for gearing up development.

The book perhaps does not offer much in the way of new light on the Indian village communities and clear recommendations on improving the pace of rural development. Nevertheless, as a restatement of the case it has a purpose to serve.

Livelihood in an M. P. Village

Earning One's Livelihood In Mahuva by D.P. Pandit. Published by Asia Publishing House, New Delhi. 100 pages. Rs 12.

Dev Prakash Gupta

THIS book is the outcome of the social survey work done by the author herself in the seaport of Mahuva in Gujarat. Mrs Pandit deserves appreciation for taking up a door-to-door study, unlike those attempting on bulky treatises in a closed room, and herein lies the merit of this book brought out by the Department of Sociology of the M.S. University of Baroda.

A thorough study and minute observation of the inter-actions prevailing in a simple society, turning from agriculture to industrialisation in the process of economic development, it is a scientific approach to the changing economy of a community either pushed or pulled into different activities of production. To bring out the conflict as well as relationship between the caste, creed and tradition on the one hand and status-approach, prospects and education on the other, in an awakened Indian community seems to be the object of Mrs Pandit even though Mahuva is not typical of the urban scene of our country.

The rendering of these observations is of equal interest to the men of sociology, commerce and economics. There is hardly any aspect of Mahuva's social and mercantile life and its individuals, families and the occupations left untouched. Mrs Pandit holds the manual labour, skill and d sire for an independent living to be the factors responsible for the changing pattern of occupation. Wherever possible, the observations have been illustrated and are supported by facts and figures, and the data are classified in tables—some of them mere reproductions but the majority collected by the author herself.

IMPACT OF DEVALUATION

On Foreign Trade, Domestic Production and Prices

M. V. PRADHAN

A country is forced to devalue the external value of its currency when its foreign trade is in persistent imbalance. Exports are stagnant and can be sold only at low price and imports are inelastic and are in too much demand.

In the case of a backward economy like India, characterised by a subsistence agrarian economy, exports, mainly agriculture-based, and a national effort to get out of this situation through a programme of development having a heavy import content, a persistent and widening gap between imports and exports is inevitable.

In such a situation, if economic development is not to founder, either the foreign reserves have to be continuously depleted or the country must go on incurring foreign loans. There are, of course, limits to both alternatives. For one thing, borrowing creates its own problem of servicing the interest and amortisation payments. If the loans are short-term and with high interest rates, payment of interest and capital borrowed in earlier periods reduces the net quantum of aid in later periods and, if the take-off of self-sustained growth is not reached in the meantime, a serious situation is created, as is confronting this country today. Also, no further depletion of foreign exchange reserves is possible, because the country has already run them down severely. Caught in this unenviable situation of heavy international indebtedness and low exchange reserves, the Government of India even explored the possibilities of mobilising domestic gold hoardings by introducing the Gold Bond Scheme. But the response has been poor, and the policy has created a new class of embittered persons.

A Forceful Factual Reply to Critics

The disequilibrium in the foreign trade has, however, persisted with exports amounting to just three and a half per cent of the national income in 1965, whereas imports were as large as six per cent, leading to a gap of Rs 600 crore. In such a situation, one solution is that we should cut down imports and bring them down to the level of exports. This would be an ideal solution, if the country's imports were of a substitutable nature, so that we could manufacture within the country whatever we are importing. But this is not always possible. Food imports are necessary just to prevent starvation. Industry requires several mineral-based raw materials which are not indigenously available. In several cases India's present industrial capacity, technology and technical know-how are inadequately developed to have hundred per cent success in reaching the goal of import substitution. If we cut down on essential imports of machinery, industrial raw materials, components and spares, the result would be under-utilisation and idle capacity, falling production and reduced employment with consequential deterioration in living standards. The sufferings of the people would increase further. This, of course, does not mean that we should abandon the policy of import substitution as a long-term measure of tackling our foreign trade disequilibrium. *In fact, one of the main objectives of devaluation of the rupee is to promote this policy of import-substitution industries.* In the immediate short run, there are limits to import substitution, and the adverse balance of trade must be corrected by operating mainly on exports.

Balance of Payments

Most economists agree that even in a mature economy, equilibrium in balance of payments should not be secured at the cost of full employment. Prof. R. F. Kahn defines disequilibrium in the balance of payments of a country as being expressed by the degree of deviation on its part from the position in which she would be in a balance of payments equilibrium, while admitting imports freely under free trade conditions and while enjoying reasonably full employment.

Another writer on the subject, Macdougall, is also of the view that the balance must be achieved without the aid of discriminating restrictions on dollar expenditure, or all-round restrictions on trade that would be removed if the foreign exchange situation permitted; and it must not be achieved at a high cost to employment or economic growth.

The relevance of these theoretical definitions to the Indian case is self-evident. *We should not try to achieve a balance of imports and exports at too low a level, which would mean abandoning a desired rate of growth.* If the rate of growth of population requires a growth rate in the national income of five per cent per annum, then the level of exports should be so fixed as to achieve a balance with imports consistent with a five per cent rate of growth in the national income. In a mature economy the desiderata for balance of payments equilibrium are full employment and

the absence of restrictions on trade. In a situation like ours, where a long process of capital creation would be necessary before the goal of full employment is reached, the minimum desired rate of growth in the national income must determine the desired level of imports. The case of free trade is also impracticable in the context of a backward country which is trying to force the pace of development through a rate of investment exceeding the available savings. In such a context, both the level of investment and its structure would require control over the content of imports, and free market forces cannot be allowed to determine the commodities to be imported.

All these considerations seem to have influenced the decision to devalue the rupee. The inelasticity of imports in the context of developmental planning implies that policy has to be directed to maximise the foreign exchange earnings from exports.

The moot point is whether devaluation of the rupee can do this? Was there no alternative?

More Export Earnings

Regarding the impact of devaluation on the foreign exchange earnings from traditional export commodities in which India holds an oligopolistic position, there is serious misunderstanding among the critics of devaluation. The extremist opponents of the policy of devaluation have gone to the length of suggesting that there will be a fall in the prices of traditional exports by the full extent of devaluation, so that to earn the same amount of foreign exchange, the country will have to export 37.5 per cent more in terms of physical quantity. The argument that export prices and, therefore, foreign exchange earnings will decline to the full extent of devaluation *is not valid*. For goods like tea, jute and black pepper, prices are determined in foreign exchange, and are not likely to decline on account of the devaluation. If the prices remain at the pre-devaluation level, in foreign exchange, the exporters will get windfall profits, because they will convert their exchange earnings at the new rate, getting 57.5 per cent more in rupees. This may induce the Indian exporter to reduce the price in terms of foreign exchange, just to share the windfall with the foreign buyer. But the Government has rightly imposed export duties on traditional export commodities to forestall any tendency of a break in the foreign exchange price of exports as well as to mop up the windfall rupee profits of the exporters. The critics of devaluation, then, are baffled as to how preventing a fall in the foreign exchange price of exports would help our exports. Is not the Government taking away by one hand what it has given by the other? *But this is not so.* The rates of export duties are not pitched to the point as to cancel the entire advantage on account of devaluation. These duties would, therefore, allow some lowering of price with a view to increasing the foreign exchange earnings in the long run.

In regard to those goods where India is only a marginal exporter, the elasticity of demand is likely to be very high, and the more potent factor determining the level of export earnings would be elasticity of supply of Indian exports. This would depend on conditions of plant capacity as well as on the import content in their production. To the extent that the decision to devalue is linked to the prospects of securing larger non-project aid from the international financial institutions and the Consortium countries, the supply elasticities may turn out favourably, even in the short run. In this case, we should stress the imperative need to link the policy of import liberalisation to the efforts at export promotion. In the case of those commodities where excess capacity may not be present, the degree of availability of supplies in response to the conditions created by devaluation would depend on their diversion from the domestic market to the foreign. In the immediate short run, this may have adverse repercussions on domestic availability. But this is the essence of a policy of raising exports. In fact, to some extent, such a diversion of supplies from the domestic to the foreign market will have to be consciously brought about through appropriate policy measures.

If domestic consumption is restrained, exports of several commodities like coffee, leather, tobacco, raw cotton and raw wool can be easily stepped up. For agricultural commodities, the prospects of diverting output to foreign markets would depend on the success of the agricultural programmes. In general, the strain on the economy caused by disabsorption would be softened if production of export commodities itself expands, so that there is no absolute reduction in domestic availability, but only a restraint on the rate of growth of consumption.

Traditional Exports

In the case of even traditional exports like tea, jute manufactures, cotton textiles, manganese ore, and so on, devaluation is likely to provide some measure of relief. In the case of tea exports, devaluation is expected to prevent a further fall in our relative share of world trade which has been declining since 1951, on account of the growing competition from East Africa and other exporters of low-grade tea. In regard to exports of jute manufactures, the advantage conferred on our exports would discourage Pakistan from increasing her production capacity and thereby making further inroads on India's share of the world trade. Devaluation would, thus, neutralise the advantage of Export Bonus Scheme to Pakistan. In cotton textiles, India has not been able to stabilise its share of world exports even at its 1948-50 level, due mainly to the faster rise in costs and prices. Japan's share, however, has steadily gone up during the last decade. The benefit provided by devaluation to textile exports will probably neutralise the cost disadvantage and help us to recover our competitive position. In the case of manganese ore exports, the peculiar advantage possessed by Brazilian manganese ore in the U.S. market on account of the tie-up of the ownership of Brazilian mining companies with the U.S. steel companies is unlikely to be offset by Indian devaluation. But even in this case, in the long run, devaluation would probably help the exports of both manganese ore and ferro-manganese.

By far the most favourable impact of devaluation would be on the exports of those commodities of which India is only a marginal exporter in the world market. In this case, there is no danger of retaliation through competitive devaluation. The elasticity of demand in the relevant price range would also

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India's Trade With East European Nations Can Be Further Expanded

ECONOMIC PARTNERS IN EASTERN EUROPE

S. K. SURI

INDIA's economic co-operation with the East European countries is based on sound and well-founded principles of bilateral trade and recognition of the rupee as a unit of account. The partnership has been built steadily and surely over the years. The Government has constantly explored the avenues of trade expansion and with the encouragment of the Governments of Poland, Czechoslovakia, German Democratic Republic and Hungary, the trade turnover has increased substantially. Not only has trade expanded appreciably, also the assistance from these regions has affected our economic life in significant measure. Therefore it is discomforting to observe the possibility of a diminution of trade with these countries following the devaluation of the rupee. This possibility has been trumpeted in certain quarters. However, one can only concede at this stage that following the change in the value of the rupee, important calculations will have to be revised. Such revisions do not give cause for a pessimistic attitude as will become evident soon.

For instance, Indo-Polish economic co-operation dates back to India's Independence year and thereafter trade between the two countries has been guided by special agreements; this type of agreement has by and large governed trade with the bulk of the East European countries. Owing partly to a heavy adverse trade imbalance with Poland during 1954 to 1957 and the paucity of hard currency assets, the rupee-payment proposals were put forward and accepted in 1958. Thereafter mutually acceptable trade and payments agreements have been entered into. Similarly Czechoslovakia has, under special agreements, supplied various machines tools and industrial products. It was in 1958 that Czechoslovak assistance was made available for the Foundry Forge Plant at Ranchi; thereafter both the countries have entered into long-term planned economic collaboration. Under the agreement of 1964 the Heavy Power Equipment Plant at Hyderabad is to be expanded capacitywise. Further the trade turnover between the two countries surpassed the Rs. 40 crore mark in 1965 and in 1966 this figure is expected to exceed the Rs. 50 crore level predevaluation estimates. Equally illustrative is the case of the German Democratic Republic. India remains her third largest trade partner outside the socialist camp and West Germany and West Berlin. It was in 1954 that the first trade agreement was signed between India and the GDR followed by several supplementary agreements wherein it was stipulated that all additional trade transactions and payments for non-commercial purposes were to be effected in Indian rupees only. In the decade 1955-65 the trade turnover between the two countries rose from a mere Rs 22 million to Rs 263 million; imports and exports to the GDR have been increasing steadily.

If the relations with the countries reviewed so far are marked by steady expansion, economic relations with Hungary record a spurt in trade from 1960. The first long-term agreement was for a period of three and a half years followed by a five year period; so that in 1965 Hungary exported goods valued at Rs 94 million in 1964 and imported goods to the tune of Rs. 90 million from us. These facts go to prove beyond a shadow of doubt that a healthy and commendable trend has gripped relations with these regions; it is equally definite that this trend will consolidate over the years as will become apparent from an analysis of the goods exported and imported and their likely augmentation.

Consider first the case of the GDR which has a developed industry but is in short supply of nearly all raw materials such as iron ore and pit coal, whereas the GDR has the potentiality to supply machine-building equipment, chemical-processing equipment and similar products. These apart, there are distinct possibilities of expanding exports by way of increased sales of cotton fabrics, tea, coffee and nuts and kernels. It would no doubt be possible to enhance India's export trade for both traditional items and the new industrial products manufactured here. The possibilities of trading with the Eastern bloc become more apparent when the cases of Czechoslovakia and Poland and Hungary are examined as well. Czechoslovakia is and remains an important customer for Indian ores, tea, pepper, jute products, half tanned hides and engineering goods. On the other hand, Czechoslovakia had been supplying machine tools, textile machines, diesel engines, metallurgical and chemical products and a host of other items. No one would doubt the importance of these items to India's lesser capital-intensive industries There is substantial scope for further trade in these and other products.

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The Hungarians have also been purchasing the products sold to the other members of the East European bloc. In addition there has been a lively demand for mica, shellac, footwear and handicrafts. Several delegations to India have explored the possibility of importing light engineering products from this country. Equally the Indian market has remained responsible to the import of complete factory equipment, precision instruments, pharmaceutical equipment, detonators and power plants. Meanwhile agreements of co-operation have been concluded for the production of instruments, electric trolleys, the production of portal cranes, and, among a host of other items, precision engineering products. In the case of Poland, trade between the two countries is expected to be of the order of Rs. 35 crore in 1966. The main items of export from India are tea, coffee, groundnut cakes, manganese ore, various engineering goods and textile machinery. Moreover, there has been considerable interest in engineering goods, and India hopes to build up a big market in these areas. India's primary interest is to obtain capital machinery and power equipment which come under State to State credit. Poland recently undertook to supply large quantities of zinc, sulphur and steel.

Expansion Possible

From the preceding lines it becomes clear that there is a good base for the expansion of Indo-East-European trade. In addition, the goods imported by India are of great value for stepping up the rate of production as they assist in strengthening the intermediary sector of Indian industry. The overall trade turnover with the East-European countries increased from Rs 94 crore in 1960-61 to Rs 292 crore in 1964-65. The impact of this trade has been aptly expressed by the Minister of Commerce, Mr Manubhai Shah, when he remarked "that this trade has not only assisted in importing essential plants and raw materials without an additional draft of our foreign assets but has also helped in firming up the otherwise declining prices of our traditional export items".

By and large it may be said that while India has been exporting processed goods and manufactured items, we have been importing capital goods, complete plant and equipment required for the development plans, industrial raw materials such as non-ferrous metals, fertilisers and heavy chemicals. An attractive feature of our trade with this group of nations is that owing to the interest that these countries have shown in our exports we have oriented our production programmes for the supply of consumer goods such as cotton textiles, jute, tanned hides and light engineering products, to this growing market. It is equally encouraging to point out that study teams and delegations have been frequently exchanged to explore avenues for further trade expansion.

In view of the prominent feature of our trade with the East European group, there is every hope that the issues related with the revaluation of the balances of the accounts of these regions will be resolved amicably. Equally it is expected that a solution will be found for enhancing the trade in physical terms ; after negotiations, unfulfilled existing contracts will be computed at the new rupee value. The Government faces the crucial task of working out a system of export levies conducive to trade with these countries."

IMPACT OF DEVALUATION

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be quite high, so that there is great scope to exploit the export potential of the manufactures belonging to this category. In the case of several newly manufactured goods, like electric motors, A.C.S.R. conductors, power and distribution transformers, aluminium ingots, plastic button, dry cells, automatic looms, grinding wheels, the differential between the fair ex-works price in India and the C.I.F. import price is within 10 to 30 per cent. Devaluation of as much as 57.5 per cent is bound to make their exports profitable. The only limitation in expanding their production in many cases is non-availability of essential raw materials which need to be imported in the short run. This bottleneck could be easily surmounted if the import liberalisation policy is linked with export promotion.

Impact on Prices

The policy of devaluation has also been under fire on account of its impact on the price level. Several critics have blamed the Government for abandoning the policy of stimulating exports through discriminatory export subsidies and resorting to the drastic inflationary method of trying to increase export earnings through devaluation. The merit of export subsidies as a method of raising exports is that *they do not push up the prices of imported goods and to that extent their impact may not be inflationary.* However, insofar as the export subsidies succeed in stimulating exports, there is a net withdrawal of output from the economy and the impact to that extent would be inflationary. The effect of devaluation on import prices is bound to be inflationary, inasmuch as the importers have to pay larger local currency to purchase foreign exchange at the new rate. The prices of all goods requiring imported materials in their manufacture are likely to rise, as also of those goods the imports of which are permitted to supplement inadequate domestic production. But, if import traders were already charging excessively high prices before devaluation, thus making high profits which actually included scarcity rents on their imported inputs, the prices of final products may not rise further even after devaluation. In this context, the difference between devaluation and export subsidies is merely a matter of administrative and fiscal convenience and the merit certainly lies on the side of devaluation. It has also additional merits over export subsidies, inasmuch as devaluation is a potent weapon which can influence almost all the items in the balance of payment, on its credit as well as debit side. It creates a climate discouraging spending of foreign exchange, while it provides a pervasive stimulus to exports as a whole, and may prove to be more beneficial to the nation in its march towards self-sustained growth.

Gallery

Mazagaon Docks To Make Frigates

WORK has started on India's first modern warship at the State-owned Mazagaon docks in Bombay. This will be one of the three sophisticated frigates to be built for the Indian Navy. The frigates will be built on the latest conventional designs now being used in Britain. Such warships are serving not only with the British navy, but also with the navies of the Netherlands, Australia and New Zealand. The first India-made frigate is expected to be launched in October next year.

When the expansion of the Mazagaon docks is completed, it will be possible to construct not only small craft, such as dredgers, barges, tugs and coastal vessels up to 2,000 tonnes, but also merchant ships up to 10,000 tonnes.

The Dock has already built a self-propelled bucket dredger for the Indian Navy and a passenger-and-cargo ship, named Yerewa, of 1,500 DWT and a number of small craft. The total turnover of the Docks in 1965-66 was of the value of Rs 3.91 crore.

MIG Factory Commissioned

The Nasik unit of the Hindustan Aeronautics to manufacture MIG aircraft has been commissioned. Situated at Ozar, near Nasik, in Maharashtra, the factory will make airframes and assemble MIG aircraft.

The other two units of the MIG project are being set up at Koraput and Hyderabad, the former to manufacture engines, and the latter electronic equipment. The three together will produce the complete aircraft.

Gujarat Refinery in Full Production

THE Gujarat refinery at Baroda was formally commissioned on October 18. The refinery now runs at full capacity.

The first unit of the refinery, having a capacity of one million tonnes, went into production in October last year. The second unit of another one million tonnes went on stream in June last, reaching the proposed project capacity of two million tonnes. Now the refinery is run all by Indian engineers

The project has been built with Soviet assistance and collaboration and has cost Rs 28 crore.

A large complex of petro-chemical industries is coming up around the refinery.

A National Federation of Industrial Co-operatives has been set up in New Delhi to help industrial co-operatives. There are 53,000 industrial co-operatives in the country. The Federation will help the co-operatives in marketing their products on an organised basis.

200 People Can Speak at a Time

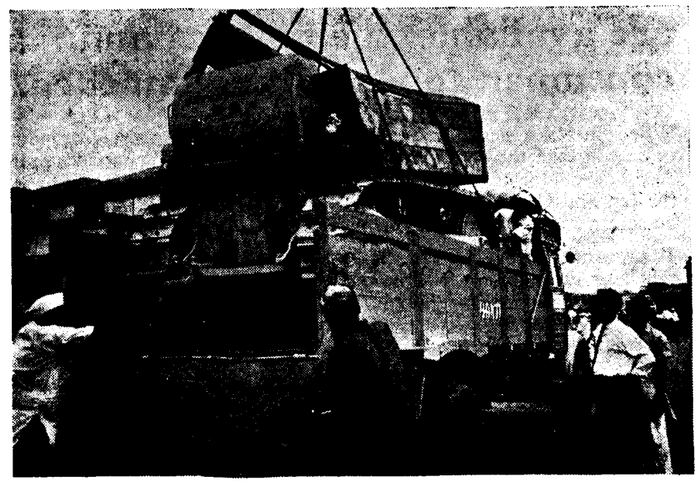
THE coaxial cable system has been opened for communication between Bombay and Delhi. This will enable more than 200 persons to converse on telephone between the two cities at the same time. It marks the completion of the Bombay-Delhi-Calcutta coaxial cable scheme.

Direct subscriber-trunk-dialling service between these places will become possible after automatic trunk exchange are installed for this purpose. An automatic exchange is being installed at Bombay.

The scheme has cost Rs 10 crore and covers a total length of 3,000 kilometres.

The equipment of the system which incorporates the latest techniques in electronics using transistor circuitory, has been completely manufactured by the Indian Telephone Industries, Bangalore.

Caterpillars



Eight tractors of Caterpillar type are on their way to the sugarcane farms of the co-operative sugar factories in Poona, Sangli, Kolhapur, Satara and Ahmednagar districts of Maharashtra. The tractors will do land levelling, deep ploughing, harrowing, terracing, bunding and interculturing operations.

The tractors have been bought by the Maharashtra Government for these factories from Larsen and Toubro Limited out of a U.S. loan. The supplier firm will also train persons to operate and maintain the tractors.



Over Rs. 6,250 crores worth of packaged consumer goods are bought and sold every year. The liberalisation of imports, expected to follow devaluation, will widen the range and expand the volume of consumer goods produced.

Unless more and reasonably-priced packages are available, the making and marketing of consumer goods will be impeded.

When you buy a can of butter or a tube of toothpaste you take the can and the tube for granted. As you should. But imagine what would happen if the can and the tube just weren't available! No butter or toothpaste sold. None made.

To prevent this kind of dislocation timely action is called for. As more consumer goods are produced, there must be a corresponding increase in the output of the consumer packaging industry—*without prices rising to uneconomic levels.*

Four steps to help ensure that we can help deliver the goods—at the right prices:

1. To keep in step with expanding consumer industries we need adequate supplies of local raw materials at reasonable prices. Which means a reduction in levies.

2. We need to import essential raw materials not obtainable in India. Again, at the right prices. Which means a reduction in import duties.

3. The healthiest, most progressive units in the packaging industry must be allowed to grow so that economic production, through scale and diversified activity, may be achieved.

4. There must be continuous access to the mainstream of international packaging technology without which we will not be able to provide consumer goods manufacturers with improved yet less expensive packaging.

Metal Box are ready and willing to do everything in their power to produce more, at reasonable prices. But we need the conditions and materials necessary to function at full capacity.

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FOURTH PLAN STRATEGY

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As a matter of fact the long-term strategy of planning in our country is based on the contention that the long-term rate of growth of the country is a function of increasing rate of investment in the capital goods sector. It is argued that the higher the rate of investment in the capital goods sector the lower would be the income generated in the short run but the faster would be the speed at which the income will increase after a critical period. This thesis is in a way a reformulation of the famous remark by Boehm Bawerk that the roundabout methods of production have both an advantage and a disadvantage. Their advantage lies in that they are more productive; but they are disadvantageous because they are lengthy and the greater productivity takes place only after a lapse of time. The implication of the statement is that the greater the roundaboutness of the method of production the larger must be the provision in hand in the form of consumer goods with which the factors of production can be sustained. This requires that *before* the emphasis is laid on the development of basic capital goods there must have taken place a big rise in the production of agricultural and other consumer goods. No wonder, in the process of economic development the agricultural revolution always preceded the industrial revolution.

The argument that is given in favour of the development of basic industries as a part of the strategy of self-reliance is that, as the process of economic development starts going, the imports go on increasing. But there is no automatic method by which the expansion of exports will take place equally fast. It means that the availability of foreign exchange *per se* can constitute a decisive restraint on development in a case like that of India. And this is why, in the words of John P. Lewis, "India's long-term foreign exchange outlook tends to shape her whole indigenous development design. For it means that the economy must do all it reasonably can to develop domestic substitutes for its otherwise rapidly expanding import requirements. Insofar as the central question of development design involves the composition of the output expansion that is to be promoted, the foreign exchange bottleneck supplies the crucial answer."

This view dominates the thinking of our planners to such an extent that even the problem of scarcity of foodgrains is supposed to be solved by means of industrialisation, particularly by the development of machine tools and heavy industry. For instance, Prof. Mahalanobis, in an article entitled 'Foreign Exchange Problem and Planned Development', suggests that the cost in terms of foreign exchange of importing foodgrains to feed the increasing population will be the highest. It can be reduced substantially if we import ammonium sulphate at least two years in advance of the crop season. It can be further reduced if a fertiliser factory is started four or five years ahead of the crop season. And it will be the lowest if we decide to make the machines to instal fertiliser factories. "Such a decision will have to be made only once but eight or ten years in advance of the season in which the fertiliser would be used." What will happen during these eight or ten years does not seem to be the concern of the planners!

The result of such a thinking is the acute scarcity of consumer goods, specially foodgrains, which we are facing today. The widespread inflation in the country combined with grave shortfalls during the Third Plan are sufficient indicators of the imbalances of the economy that need immediate attention and quick decision. To remove such imbalances it is necessary that the public sector in the Fourth Plan should concern itself as far as possible with the development of agriculture and infrastructure including power, transport and technical education. There should be greater emphasis on quick-yielding projects and the utilisation of excess capacity. It is high time that attention is paid to the provision of adequate amount of consumer goods. The question of drastic reduction of public expenditure to bring it in line with the real resources can hardly be over-emphasised. It is not the huge amount of expenditure but a judicious allocation of the expenditure, based on real resources which is of supreme importance in deciding the strategy of the Fourth Plan.

FERTILISER :

from Page 8

ASSAM II

A feasibility report on the setting up of a fertiliser plant using natural gas in Assam in addition to Namrup (now under construction by FCI) has been prepared jointly by the Burmah Oil Co. and the Fertiliser Corporation of India. The report recommends the establishment of a phased plant at Duliajan with a capacity of 145,000 tonnes of nitrogen. The report is under consideration. Also under examination is the question whether the plant under construction at Namrup should be expanded instead of building a separate unit at Duliajan.

BARAUNI

A revised Techno-Economic Feasibility Report for a fertiliser factory at Barauni utilising the heavy oil feed stock available from the refinery is being prepared by F.C.I. Sometime back, the Barauni fertiliser project was posed for Russian aid but the Russian authorities have expressed their inability to collaborate in this type of a project for some years to come. This branch of technology in the U.S.S.R. does not seem to have kept pace with the West European countries or the U.S.A. or Japan. No Russian help for this project could, therefore, be expected in the Fourth Plan period.

MACHU PROJECT

The foundation stone of the third major irrigation project in the Saurashtra region of Gujarat has been laid. Under the project, a dam, 13,473 feet long and 79 feet high, will be built across the river Machu in in Rajkot district to irrigate 19,000 acres and produce 6,300 tonnes of additional foodgrains a year.

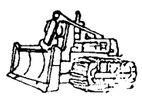


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RURAL INDUSTRY

A YOJANA SUPPLEMENT

ONLY REMEDY TO ABSORB ROOTLESS MILLIONS

U. N. DHEBAR

The country must be prepared to face this fundamental truth that it has not only to develop agriculture and industries as rapidly as it can but it has simultaneously to find ways and means to assimilate in its economy 20 to 25 per cent of the surplus and economically rootless population which is socially and politically victimised too.

Sectoral division of an economy is sometimes as bad as a political division. Compartmental examination of the problem of industrialisation in that sense requires to be done with greatest caution lest we may not in the process compartmentalise our economy. Those who, therefore, advocate rural industrialisation will have to appreciate that rapid industrialisation of the country is as much a necessity, as rural industrialisation. The solution of the immense problem of poverty if it is to be secured in the shortest possible time, will not be practicable except through the process of speedy development of the large-scale sector. There is no necessity, therefore, to scoff at those who think in terms of centralisation in certain basic sectors of production. One cannot, for instance, think of steel or cement or power being produced on a decentralised basis. So also one cannot think of means of transport or communication such as railway wagons or coaches or trucks or automobiles being produced on a rural scale. To think of large-scale production or mass production as an enemy of decentralised production or of rural economy will be a retrograde approach — even a reactionary one.

All-embracing Approach

The purpose of rural industrialisation as well as of large-scale industrialisation is the same. It is to provide along with agriculture and social services a solid and a stable base and strengthen the socio-economic structure of the country. As a matter of fact the whole function of planning is to ensure development of agriculture, of large-scale and rural industrial sectors and of social services in a manner that they help the process of integrated development of the country as a whole. In a way the various activities are but means to an end. To the extent they serve the end all of them are needed and welcome. They should not be converted into sacraments either by the votaries of the large-scale sector or by those of the rural development. Rural development has everything to gain and nothing to lose by following an all-embracing approach. As Gandhiji put it, let us keep our doors and windows open to the winds of the wide world. The only caution that is needed is that we do not level down its foundation.

With this as a preface, I would like to express my view that in the last few years we have allowed a few facts of fundamental and basic importance to our economy to be overshadowed by our rather amateurish zeal for rapid industrialisation. Nature intervened last year to give her final warning against PL 480. I am not one of those who consider PL 480 as something sinful. Imports of foodgrains in the present difficult situation cannot be avoided. But I am convinced that nothing has operated to drug us into complacency as PL 480. What is more, it has imprinted a wrong priority in our mind. It is these that have brought us to the very verge of disaster.

Rootless Multitudes

Similarly the other fundamental and basic problem that is over-shadowed is that there exists at the very base of our nation's economy an abysmal gap which needs a fundamental remedy. We have hardly realised the implication of the fact that there are 20 per cent to 25 per cent of the people in the country, especially in the rural areas, who are, economically speaking, rootless, socially speaking, not only unprivileged but victimised and who have no future unless that remedy is found. The grave problems of destitution, poverty, unemployment and under-employment are external symptoms of the grave reality. We can have a clear idea if we can imagine what it means to have a foot-long gangrenous limb in our six-foot long body.

turn to PAGE 32

Working of a Rural Industries Project in Kerala

Modern Units Around Kozhikode

31 out of 56 Project-sponsored units start producion

THE Rural Industries Project, Kozhikode, in Kerala has achieved a notable success in sponsoring modern industrial units in the small-scale sector and creating additional employment opportunities in the Project area. It has evolved its own strategy to suit its requirements. Apart from offering liberal loan assistance for construction of factories and workshops and issuing of machinery on hire-purchase basis, the Project agency has launched a commercial scheme under which it undertakes to set up an entire industrial unit and then hands it over to a selected entrepreneur on hire-purchase terms. Initially, the whole amount of fixed capital required for land, building, machinery, etc., is invested by the Project agency. The entrepreneurs who arrange their own working capital, are required to pay the fixed capital in instalments spread over a period of 20 years. So far seven factories with an employment potential of more than 500 persons have been set up under this scheme. These include a glass factory, a leather tanning factory, a footwear unit, an agricultural implements factory, a cattle feed manufacturing unit and an ice plant and cold storage.

A number of other units including those for the manufacture of aluminium utensils, plastic and rubber moulded goods, furniture and building materials, tooth paste, etc., have been set up under the financial assistance scheme for construction of factory buildings and workshops. The scheme provides for long-term loans up to 80 per cent of the total cost of construction of workshops or factory buildings subject to a maximum of Rs one lakh. These loans are repayable with interest at 3 per cent in 240 monthly instalments.

The new units established under this scheme are to create full-time employment opportunities for more than 1300 persons. Here is an account of some of the new industrial units established in the Project area during the last 2-3 years.

The Kerala Ice and Cold Storage at Parappanangadi, 40 k.m. from Kozhikode, which was inaugurated last month is the 31st unit to go into production in the Project area. The plant which has a capacity to produce 6 tons of ice per day. is one of the 56 units sponsored by the Project agency.

Parappanangadi is one of the 11 important fish catching centres in Kozhikode district which has a coastal line of 115 k.m. and a major fishing harbour at Beypore. The annual fish haul of the district comes to 81,300 tonnes valued at Rs 350 lakh. Fish being a perishable commodity requires cold storage facilities. Against its requirements of 200 tonnes of ice and storage facilities for 1,000 tonnes of fish catch, the existing plants in the district could produce only 80 tonnes of ice and provide storage facilities for 200 tonnes of fish. In view of the fact that fishery development plays an important role in the rural economy of the area, the Project authorities have undertaken a systematic build-up of ice production and cold storage capacity in the district.

The second ice plant and cold storage which has been set up at Beypore plant with a capital investment of Rs 3 lakh is also ready and will go into production very shortly. It can produce 5 tonnes of ice daily, and has a storage capacity of 100 tonnes.

Feroke Frozen Foods involving a fixed capital investment of Rs. 3 lakh (with a long-term loan of Rs 78,800 from the Project) is the third such unit being set up in the Project area.

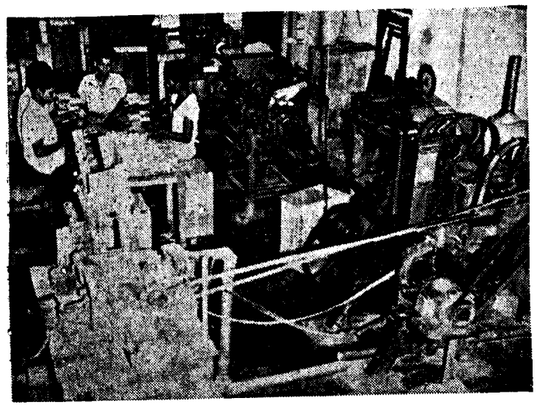
Skilled workers shave the raw hides in the leather tanning unit set up at Velimuk' u



Glass Factory

Amidst a typical Kerala rural setting at Thenhippalam, 24 K.M. south-west of Kozhikode, stands a glass factory on a 3-acre plot. The factory set up at a capital cost of Rs 3 lakhs, provides employment to 271 persons and prduces 3 tons of glass articles — bottles, jars, lantern chimneys, tumblers, etc. — every day. On completion of its expansion programme, the factory will be able to give employment to 100 additional hands.

For manufacturing glass wares, the factory utilises broken glass pieces which were previously being exported to Bombay in large quantities and which could be procured at nearly half the price in the local market.



Inside view of a pencil manufacturing unit at Feroke

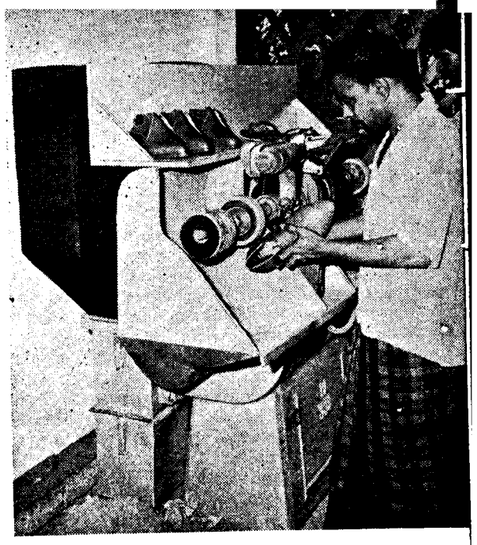
Bone Meal Unit

Just opposite to the glass factory is located another unit — a bone crushing factory set up at a capital investment of Rs 70,000. Previously there was only a small bone crushing unit in the co-operative sector with a nominal production capacity. The survey of the area revealed that 700 tons of bones were being collected annually and, with an organised effort, this collection could be trebled. In the new bone meal unit, it is envisaged to manufacture 1.5 tonnes of bone meal per day and provide gainful employment to 25 persons.

Footwear Factory

The leather tanning factory established at Velimukku, 30 K.M. from Kozhikode, employs 20 persons and has a production capacity of 8 quintals of leather per day. A survey of the area revealed that 3 lakh pieces of raw hides and skins used to be sent out of the district every year while at the same time processed leather in big quantities used to be brought in for manufacture of leather goods. Processing of hides and skins in the project area has opened new avenues of employment for the local people.

The footwear unit at Elathur can produce 100 pairs of shoes and chappals per day



To avail of the processed leather and create new skills, a modern footwear unit has been set up at Elathur, 9 K.M. north of Calicut, at a capital cost of Rs 72,000. The unit with an employment potential of 35 persons, can produce 100 pairs of shoes and chappals daily.

Agricultural Implements

Agricultural implements like mammaties, pick axes, crow bars,

turn to PAGE 32

The glass factory at Thenhippalam produces 3 tons of glass articles per day.

Picture shows blowing of glass by mouth.



ROOTLESS MILLIONS

from Page 29

The fact of the matter is that population as large as the population of U.K. or of Japan or France or Germany has no means or wherewithal for survival and will have none even when the industries expand and the agriculture develops to the full unless special remedies are found and deliberately applied. Neither the planning in India nor the country's Government has viewed this problem so far from this angle On the contrary in our zeal and passion for rapid industrialisation we have continued to draw wrong inferences from the history of economic development in the West that rapid industrialisation and a fully developed agriculture provide a complete answer to this problem as to all our other economic ills. No country in the West had this problem of mass endemic unemployment as a result of that portion of the people being absolutely surplus to the economy of the country as a whole. They were not called upon to think in terms of assimilating in the economic fold people who on a rational basis cannot be assimilated. If there is a belief that this 20 to 25 per cent of the people will get absorbed in the country's economy automatically with the development of our industries and agriculture, I must say it is a deceitful belief. There is no doubt that modern industries have a tremendous potential for creating wealth but they offer no answer to the problems of endemic unemployment. Similar is the belief, baseless though comforting, that development of agriculture will do the trick. Nowhere it has happened and in no part of the world in the modern setup shall we find, that any economy is in a position to support more than 50 per cent of its people on agriculture. Even the exceptionally developed agricultural set-up in the world is not in a position to support half of its population on land. We are merely postponing the evil day and deluding ourselves in the false belief that as the industries and agriculture reach the targetted development, there will be no unassimilated people left in the country. It should not be forgotten that nature's law of retribution is of ubiquitous application. A society that tries to build its structure on slipping sands must be prepared to be crushed under the weight of its own structure built with its own hands and by its own labour.

Fundamental Truth

India must, therefore, if it wants to avoid this fatality, be prepared to face this fundamental truth that it has not only to develop agriculture and industries as rapidly as it can but it has simultaneously to find ways and means to assimilate in its economy this 20 to 25 per cent of the surplus economically rootless population which is socially and politically victimised too. With the heavy pressure on land, it is not possible to expect land to support it. The modern industries are labour saving. They cannot do it. We have limited resources for expansion of social services. The answer has to be found by creating a sector which can lend a balance to agriculture as well as industries.

The problem of rural industrialisation is thus posed before the nation. It is not a problem of mere location of industries or a problem of providing supplementary occupation to the broad masses. It emerges as a problem of evolving a suitable pattern of socio-economic development balanced in approach and integrated in aim which makes for not only a sound and firm base for the economy of the country but as agricultural development looks after the development of 50 per cent of the people and rapid industrialisation looks after economic growth, a new branch works for absorbing the surplus rural mass in the mainstream of the national economy.

Unless the problem of rural industrialisation is posed and understood in this manner we shall be discussing it for ages without any day reaching any conclusion. It is for the economists either to deny this basic aspect of the problem or, if they admit that it exists, to suggest an alternative to it or they should be objective enough to accept the alternative that rural industrialisation is as much of strategic importance as food, defence and economic growth. One can only hope that the problem will be faced in its true perspective even at this late hour.

COST OF INDUSTRIALISATION

Village and small industries offer a solution for creation of large-scale employment at a cost the country can afford. According to experts the cost per person employed in rural industries may be on an average Rs 1,000 or so if appropriate technology is adopted and proper planning undertaken. At present it is Rs 5,000 to Rs 8,000 even in the small-scale sector. Compared to this, the cost per person employed in the large-scale industries comes to Rs 1,60,000 for steel, Rs 40,000 for fertilizers, Rs 1,00,000 for heavy machine building plant.

KOZHIKODE PROJECT

from Page 31

aruvals, etc., are being manufactured by a factory set up at Ramanathukara, 17 k.m. from Kozhikode on Calicut-Madras Trunk Road. The factory which has a capital investment of Rs 1.75 lakh, gives employment to 40 persons, and can produce agricultural implements worth Rs. 2 lakh every year. When in full production, it may meet the entire requirements of the district for the above-mentioned types of implements.

Cattle Feeds

With a view to manufacturing nutritive cattle feeds from locally available raw materials such as *tapioca*, oil cakes, black gram, etc., a factory has been set up at Naduvattom, 8 k.m. south of Kozhikode on Calicut-Beypore road. The factory established at a capital cost of Rs. 95,000 has been handed over to the Calicut Milk Supply Union. It has an employment potential of 15 persons.

Letters

COW DUNG MANURE

DEPLETION of soil fertility is one of the most important causes for the low production in our agriculture. Our soils have been cultivated for thousands of years continuously without any substantial use of manures and fertilisers. Particularly during the last 60 years owing to additional pressure on land for cultivating food for a rapidly growing population, the soil fertility has continuously gone down. Evidently yield per acre was higher in the earlier part of this century.

In the developed countries, the increase in population was preceded by a technological revolution in agriculture, one very important aspect of which was an increased application of fertilisers. This is a development which obviously failed to take place in India.

An increased application of fertilisers, then, is the prime necessity of our agriculture. An estimate is that we require a minimum of 7 to 8 million tonnes of chemical fertilisers. This poses a serious problem as our present production is only less than 4 lakh tonnes. The only alternative is cow dung, the manurial value of which is so well known. It is estimated that we have 140 to 150 million tonnes of dry weight of this manure available, of which about 40% is already used on farms, 20% is wasted and the remaining 40% is burnt as fuel. Nearly 80 to 90 million tonnes of this useful manure is thus not available for agriculture. It is difficult to save the cow dung that goes as fuel in kitchens as there is no suitable, cheap fuel substitute.

More coal should be made available as domestic fuel at cheap price, at least in the eastern region. Many might question the wisdom of fast exhausting our reserves by doing so, particularly because it serves as fuel for our developing industries—railways, iron and steel, etc. It should, however, be remembered that we will have to switch over to electricity in these industries as ultimately that is the only fuel which has an inexhaustible reserve.

A lot of cow dung manure can also be saved by a vigorous campaign to popularise the scientific composting methods all over the country.

Belgaum T. C. SHARMA

X & Y Axes

YOUR cover picture of the September 18, 1966, though is a good attempt to relate the contents of "First Symposium on Fourth Plan" pictorially, yet, I should say, it is quite defective in design. Firstly no histogram starts anywhere other than the datum line (X axis). Secondly, since each Plan is of five year duration, there is no scope for gradual increase in width in the X axis. Lastly, this particular issue being exclusively an analysis of the Draft Outline of the Fourth Plan it should perhaps be justified to use the National Income in the Y axis. If this is so, then during the Fourth Plan it is to be read as declining which let God forbid. I think these few points should have been borne in mind while designing the cover.

Hyderabad B. V. VENKATESH

EMPLOYMENT POTENTIAL

from Page 9

In the rural areas, the essential point to note is the close association between agricultural productivity per worker and the extent of industrial employment. Areas of chronic unemployment and underemployment are also faced with depressed agriculture. The problems of agricultural and industrial development have to be tackled simultaneously. Special provision may be made for these areas in the allocation of materials, funds, and training facilities. But nothing can induce growth until the people themselves have the proper outlook and initiative to take advantage of these facilities. Where chronic poverty and misery have throttled individual enterprise, the most crucial need is to find a substitute for it and to get things started. The Rural Industries Projects may partly fill this gap. But the possibilities of setting up a network of industrial-cum-farming cooperatives need to be fully explored.

The Rural Works Programme is to "serve as an effective but flexible instrument of employment policy." It is, however, regrettable that it "is conceived of as a supplementary programme" for which the Plan makes a limited provision of Rs 95 crore. This is perhaps due to the conflict, employment and growth objectives which is involved in this programme. Employment needs demand that these works are concentrated in the most depressed and devitalised areas. Productivity considerations would pull them where some material base is already in existence. If some areas lack production potential an account of natural deficiencies (and they may be very few), the solution would lie in moving people away from them. In other areas, the intensity of the programme should vary with the extent of poverty and depression. It may be advisable to select a few areas and make a concerted drive by undertaking simultaneously a number of complementary projects. the programme is first extended in depth and the production possibilities realised with a shorter time lag, it may be possible to place it at par with other development programmes and claim larger funds for its further expansion.

Also, it may be noted that since wages form the major component of the cost of this programme, and a large part of wage receipts go into food consumption, the programme could be both intensified and expanded as food production targets in the Plan are progressively realised. Food surplus may, however, accrue in areas of labour shortage, and labour utilisation programmes may have to be pursued in areas of continued food deficit. An effective mechanism will have to be provided for the mobilisation of food to these areas.

Finally, the Third Plan experience also indicates that the success of the programme could require more expertise at the local level for the proper formulation of schemes and adequate technical and supervisory personnel for its effective implementation. Skill-formation programmes provided for in the Plan can be of considerable significance in this regard, particularly if they include not only training in technical production skills but also in managerial and supervisory skills.

Yojana seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion on problems of social and economic development.

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NEXT ISSUE

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and a SPECIAL CALENDAR

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YOJANA

This Issue

VILLAGERS AND THE PLANS



In India there is a large vacuum between action and information. The vastness of the country, the size of the population, divided into many languages and dialects, and the undeveloped stage of communications, leave a very large number of people outside the pale of information about things happening in the economic, social and political life. The problem of mass communications remains unconquered. There is a flood of words going out from the top; there is little information coming up from the bottom.

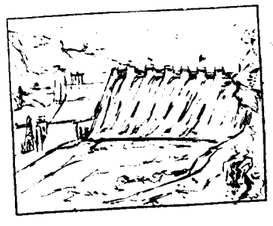
The Spotlight in this issue is on a survey undertaken by the Agro-Economic Research Centre of Allahabad University in a village about 23 miles from Allahabad. The purpose of the survey was to find out to what extent the villagers were aware of the Five Year Plans, their accomplishments and failures, targets and objectives. The results are most revealing. (See Pages 2—5).

How State Plans Are Made

For about three months now, the Planning Commission has been busy discussing the State Fourth Five Year Plans with representatives of the various State Governments. Many people would like to know how the Planning Commission deals with the Five Year Plans of the States; what kind of machinery and what amount of work go into this very important matter. For an informative account of this process, see Page 13.

The Chambal Is Being Tamed

Chambal is one of the projects now in an advanced shape in the country. It is changing the desert landscape of a large area in Rajasthan into blooming agriculture. It is also supplying power to many new industries. On Page 16 is an article on the benefits the people of Rajasthan are deriving from Chambal. There are sketches drawn by R. Sarangan who visited the Chambal project some time ago.



Two Villages

For two success stories turn to Page 25. These will tell you how a village in Assam has, without any outside help, wiped out illiteracy and how a village in Hissar District of Haryana Prant has undergone a peaceful transformation.

COVER by R. SARANGAN

YOJANA

December 11, 1966 | Fortnightly Journal Published on behalf of the Planning Commission | Agrahayana 20, 1888

Vol. X No. 24

SHARING OF SCARCITY

THE election months are also likely to be the months of great concern about food. The danger inherent in this situation must not be overlooked. Between now and election day, leaders of Government, and the administration itself, will be preoccupied with the poll. Will they also be able to devote to the food problem the time, thinking and action that it urgently requires?

The rains seem to have injected a quantity of hope and optimism in official estimates of the coming harvest; but even if the country is able to salvage a reasonably good crop, the overall situation will be far from reassuring. The uncertainty of overseas supplies adds to the urgency of national efforts which can hardly wait for the new Governments to take over at the Centre and in the States.

The first thing to be done with the utmost expedition is to implement the decisions taken at the Chief Ministers' conference. The most important of these is to formulate a national food budget after assessing the surplus and deficit of each State. The budget is to be prepared and implemented by a National Food Council. Another decision is to make the Food Corporation the predominant agency for procurement and distribution of foodgrains throughout the country.

These decisions have been described as highly constructive by almost the entire press, although doubts have been expressed about their timely and faithful implementation.

It is true that the formulation of a national food budget has so far eluded the Government, nor has Mr Subramaniam explained what exactly made him more hopeful of action this year than last year. Perhaps he found a greater awareness in the State capitals of the urgency of a national food budget, perhaps the art of persuasion he has been using patiently for months has at last shown promise of success. The time factor, however, is of the utmost importance. Not merely had the target of procurement to be fixed by the end of November, the overall procurement will have to be much higher next year than the current year's estimated total of 3.5 million tons. This for the simple reason that we are not likely to get from world markets anything approaching the 10 or 12 million tons of foodgrains imported in 1966. The only way we could hope to tide over the crisis is to procure as much as we can internally and to introduce effective equitable distribution over as large an area as possible.

However distasteful it may be, one cannot deny the fact that many Indians today eat much more and better than many other Indians. About 28 million people in some 15 towns, including the four metropolitan cities, are assured of their weekly ration of cereals. About 93 million others are covered by informal rationing; there is already some pressure on this system in view of the shortage of supply. Three-fourths of our countrymen are, however, not yet covered by any organised distribution network. Many of these, especially those living in the surplus States, have access to a reasonably plentiful supply. But those living in States like Bihar, which continue to be in the grip of a severe drought, have very little to eat.

Commonsense would suggest that those Indians who have more should readily share their rations with those who have very little. This, however, is not being done except in areas brought under statutory rationing. Perhaps after the elections some of the State Governments will find it easier to share their surpluses more generously with the deficit States. But the crucial months may not wait till the poll is over. If the UAR can have a uniform bread ration for its entire people, if the Chinese could share distress on a national scale during the last famine, there is no reason why Indians should lag behind. What the people need is to be enthused to a spirit of sacrifice by examples, not words.

The greatest harm could be done by actions like the relaxation suddenly announced in Delhi, and happily withdrawn with great promptitude, of the guest control order. Already foreign newspapers have been pointing out our failure to share shortage and distress. A nation is judged by its fortitude at times of crisis, by what it can deny itself voluntarily.

Even within the rationing system, there is scope to save cereals. The more well-to-do can very well do with less grains and make it up with vegetables, fish, meat and so on. It should be considered whether rations should not be fixed on the basis of the income of the wage-earner and the size of the families. The campaign for a mealless day in the week needs to be revived. All extravagant use of food should be strictly banned for at least two years. It is not a question of official action alone; every Indian has to feel that the grains he saves go to feed hungry people.

For twenty years we have not had to make any real sacrifice for the sake of the nation. We have had it too easy. The steady economic progress and internal stability have breathed into our minds not merely the habit to criticise and find fault with others, but also a craving for more and more comforts. We have created many pockets of affluence and privilege in a landscape of poverty and hardships. It is these pockets which stand in the way of rational dynamic socio-economic policies being implemented. The total national will must now show itself to be much more powerful than these pockets of resistance wherever they may be.

VILLAGE PEOPLE AND THE PLANS

ONLY 1 OF 3 VILLAGERS KNOW OUR PLANS EXIST

YOJANA Spotlight

BRIGHT SPOTS

Teachers, students and other educated people are reasonably well-informed about Plans.

All conscious cultivators favour planning.

Half of the cultivators know about Plans.

44% of them are enthusiastic; 40% ready for hard work and sacrifice.

DARK SPOTS

Housewives, labourers and artisans are mostly ignorant of, and indifferent to, Plans.

Knowledge of details is extremely poor.

Only one in five is enthusiastic about Plans.

80% villagers do not know to what extent Plans succeed.

IF the economic plans which are put under execution by the Government from time to time are to achieve the desired degree of success, it is imperative that they have the enthusiastic support of the masses. This is particularly important in the context of rural areas, especially in a country like India where the bulk of the people live in villages and about 50 per cent of the national income is contributed by agriculture. It is an axiom of economic growth in a democratic country that enthusiastic popular support of economic plans would accelerate development, just as its absence would retard it.

There are at least some national programmes of vital importance for accelerated economic growth which need public support for their successful execution, such as increasing agricultural output, improved housing, increasing the rate of saving and avoiding waste of food. Without mobilising public support and enthusiasm for such programmes, success cannot be achieved. In order to achieve this kind of mobilisation, people must be given (a) an understanding of the tasks, (b) an appreciation of their importance and usefulness, (c) knowledge of the concrete ways in which each class of population can help, and (d) institutional facilities and resources for the fulfilment of these programmes.

Mass enlightenment is the first step. There is empirical evidence of the existence of a positive correlation between education and Plan consciousness on the one hand and awareness and enthusiasm on the other. This is as much true of rural as of urban areas.

It is, therefore, vital to ascertain the degree and kind of Plan consciousness that at present exists among the people residing in the various rural areas of our country and the agencies which are supporting it, so that a strategy of extending Plan consciousness can be evolved on the basis of local studies.

A. N. AGARWALA

With this end in view, the Agro-Economic Research Centre of the University of Allahabad conducted an on-the-spot study of Plan consciousness in village Dhaharpur which is only 23 miles away from Allahabad and is fairly well-connected with the surrounding urban areas. It is not a shut-in village, cut off from the modern forces of change and progress. Whereas no village in India can be taken to be typical of the 5,64,000 villages sprinkled throughout the country, this study does probably give at least some inkling of the kind of situation that might be prevalent generally in our countryside.

The survey reveals that there is a *shocking degree of ignorance, indifference and psychological black-out in rural areas about the various economic plans. Less than one-third of village-dwellers know that Five Year Plans exist.* Persons who have heard about these Plans have very superficial knowledge about their objectives, or their main features, or their achievements. No wonder that most of the villages do not have any enthusiasm for our Plans and are not prepared to make any sacrifice or effort for making sure that they are a success.

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In the Dhaharpur village, most of the housewives, labourers and artisans did not know that there have been four Five Year Plans. *Among students and cultivators, only two persons out of every five had this knowledge; but happily most of the teachers and educated persons were correctly informed on this point.* However, there was even greater ignorance about the broad features of economic Plans. Even the major objects of the Plans were generally unknown.

For instance, four out of every five villagers did not know why and with what expectations economic Plans have been initiated. Again, only 10 per cent of the informants could tell correctly the year in which the First, Second and Third Plans were started.

Out of a total number of 188 informants, only 2 could tell as to who formulates the Plans, and only 3 as to who finally approves them. There was a total eclipse of knowledge about the financial outlays of the various Plans; as also about the sources of finance, their relative importance, the major heads of outlay and the amount set aside thereunder. *As many as 80 per cent of villagers had no idea as to whether or not the various Plans have been successful in achieving their objectives.*

RESULTS OF A SURVEY NEAR ALLAHABAD

THE SURVEY ANSWERS QUESTIONS LIKE:

ARE OUR VILLAGERS READY TO WORK HARDER?

HOW DO THEY SIZE UP THE ADMINISTRATION?

DO THEY FAVOUR DEMOCRACY?

IS ILLITERACY A BAR TO PLAN AWARENESS?

In such a disappointing state of affairs, one cannot expect much genuine support for economic Plans from the rural masses. *Only 22 per cent of informants in village Dhaharia spoke favourably about them though very few were unfavourably disposed towards planning.* But what is to be noted is that about *three-fourths of the people were in the zone of complete indifference and did not care as to whether Plans* failed or succeeded.

Only 19 per cent of informants—one in every five—stated that they felt enthusiastic about economic Plans. The whole of the unconscious section of village-dwellers was, as a rule, without any kind of enthusiasm.

As one would expect, the participation of the people in the actual execution of Plan programmes or projects was very nominal. It is clear that a great opportunity for kindling a mass upsurge and using it constructively for national growth is being missed.

The survey reveals that Plan consciousness is primarily a function of education; and favourable reaction is largely a function of consciousness. Therefore, spread of education is imperative for winning popular support.

It should be noted that *most of the correct answers came from teachers and other educated persons; and students' response was generally better than that of cultivators.*

Labourers, artisans and housewives could not give practically any answer correctly. They can be said to be in a state of almost total ignorance.

Favourable reaction among the conscious section of the village people was quite common. *Almost all the conscious cultivators favoured economic planning*; and there was a high level of favourable reaction among the conscious sections of students, teachers and other educated persons as well. *It would, therefore, seem that if villagers are given the benefit of education, or are, at any rate, supplied with adequate information about Plans on a systematic and regular basis, one can expect them to lend their support to the Plan programmes and even to make efforts and sacrifices for making them successful.*

The main sources of information about Plans to villagers were conversation, lectures, newspapers and course materials, in the order mentioned. It is our feeling that mass media of oral communication should be installed in the countryside. This should prove to be very rewarding. But systematic diffusion of knowledge through printed words has also proved to be useful and literate villagers can be expected to act as effective multipliers.

Very few villagers had any idea about the benefits that have resulted from the Plans either to them or to the country. When asked leading questions about the social categories which have benefited from them, about one-fifth of the informants stated, somewhat haltingly and vaguely, that manufacturers, industrial workers, salaried people, cultivators and traders have been the beneficiaries. Taking the cultivators as a group, *28 per cent felt that they have benefited from Plans, and 12 per cent stated that they have been harmed by them.* Some informants, though they constituted a

very small fraction, said that Plans had increased personal incomes, added to employment opportunities, given facilities to cultivators, and provided educational and social welfare services.

WHAT THEY WANT

Projecting their vision to the Fourth Plan, some informants made certain specific suggestions about its objectives. Provision of increased facilities for agriculture, greater expansion of edu ation, creation of employment, industrial development, expansion of social services, equitable distribution, provision of transport facilities and provision of power were mentioned as desirable objects. But as to the proper size of the Fourth Plan, most of the informants (85 per cent) had no idea whatsoever. Those who had, wanted a relatively small Plan. Only 5 percent of them wanted it to be twice as big as the Third Plan; and 10 per cent suggested that it should be 1½ times the size of the Third Plan or of the same size as the Third Plan. About the desirability of using foreign capital, three-fourths of the informants were unable to say anything. But 15 per cent were against its use; and 10 per cent were in its favour.

Questions of a general character, though not altogether unconnected with planning, were also asked to gain an insight into the general thinking process of the informants to have an idea of the breadth of their vision and interest and to know which way their mind was working. These produced an interesting body of answers.

For instance, those connected with the survey were left with the suspicion that our villagers, in their present mental and economic state, are probably not very keen on doing hard and sustained work. There was almost total response to questions about the amount of work that people should put in; but the majority opinion was in favour of putting in six working days per week and six hours of work per day, which is not much in a crisis-oriented situation that the country is facing. However, *one-third of informants did favour an eight-hour day.*

When asked about the efficiency and integrity of the present administration, a substantial majority of informants (62 per cent) expressed their satisfaction. This does not, however, seem to be quite a dependable reaction, because cross-questions revealed that an equally substantial majority (62 per cent to be exact) also felt that corruption was widely rampant in society and that there was need for a firmer and cleaner administration. It is, however, significant that only one person out of the 188 who were contacte l, was in favour of the establishment of dictatorship in the cou try; all the rest were in favour of continuing the democratic system.

Villagers Want the Plans to :

Do More for Agriculture

Widen Education

Create Employment

Expand Social Services

Introduce Equitable Distribution

Provide Transport

If one were to determine the position of cultivators *vis-a-vis* other sections of the rural population in respect of Plan consciousness on the basis of this survey, one would place them in quite a favourable light. They constituted an informed and knowledgeable section of the village and fell in the same class as teachers, other educated persons and students in this respect.

Almost half of them knew about the existence of economic Plans; and 40 per cent of them knew that there have been four such Plans. This is significant because most of housewives, labourers and art sans did not know this.

Twelve per cent of cultivators could even tell correctly the years in which the First, Second, Third and Fourth Plans were started; and approximately 40 per cent of them had fair knowledge about their broad objectives. Nearly 30 per cent of them gave tolerably satisfactory answers as to how the first three Plans had succeeded in achieving their objectives.

As many as 44 per cent of cultivators thought that Plans were useful; and *25 per cent of them definitely stated that they were enthusiastic about these Plans.*

Approximately 28 per cent of them felt that they as a class had benefited from planned efforts; and 40 per cent of them declared that they were willing to make efforts and sacrifices in the interest of Plans. As for using foreign capital for economic growth 35 per cent of cultivators were in favour.

They stood in general for hard work: 60 per cent of them favoured six days of work in a week. As many as 36 per cent of them actually favoured an eight-hour day, though an equal percentage favoured a six-hour day. In a dark landscape of widespread and colossal ignorance about Plans, cultivators present a somewhat bright patch, which is a matter of some satisfaction.

MASS COMMUNICATION

If we want to raise the level of Plan consciousness and mass support in rural areas, it is imperative that carefully selected channels of mass communications are built up and the wires are kept humming with news.

The degree and depth of Plan awareness on the pa t of v ll ge people depend, *inter alia*, upon ( ) their capacity and willingness to know about the various aspects of the Plans and (b) the availability of proper and timely information.

No empirical evidence has been collected by us to indicate that villagers are inherently incapable of understanding the economic progress that is being made, or are unwilling to do so. There is, no doubt, an enormous range of ignorance and indifference among village population; but there is no basis on which we can ascribe it only, or principally, to the mental incapacity or sloth of village-dwellers. In fact, the response of villagers to at least some questions was practically cent per cent.

On *a priori* considerations, it may be stated that housewives, labourers and artisans have presumably considerable illiteracy and a narrow outlook; and, therefore, their level of understanding and appreciation of the country's economic progress is bound to be low. Even if this logic is accepted, it only indicates the advisability of feeding them with Plan information in the simple form in which they can absorb it. It is, in other words, a question of choosing the proper or correct communication technology. As such, the conclusion is inescapable that there is a positive correlation between the level of Plan awareness and the degree of availability of Plan information in rural areas. Therefore, the installation of suitable media of mass communication in the countryside should be expected to raise the degree and depth of Plan consciousness.

MAKING USE OF MEDIA

In this context, it would be useful to know what communication media are likely to prove to be the most effective for this purpose. While there is a wide range from which a choice can be made, they can be broadly divided into (a) oral media, (b) audio-visual media, (c) visual aids, and (d) printed media. On the basis of the present survey, it can be said that oral media are sure to produce good results, though other media would certainly help.

Oral communication channels can be expected to work because of widespread illiteracy; but they can be said to be effective on empirical grounds. It has already been stated that conversation and lectures were found to be important sources of Plan information in this particular village. These forms of communication can be usefully strengthened. We should imagine that informal talks with villagers or groups of villagers would produce good results; and that lectures would be effective if they are wholly purposive and are dissociated from all kinds of celeberations and grandeurs which reduce them to the level of *tamashas*.

All media of Mass Communication are useful to create Plan awareness in village people. But the spoken word has the greatest impact. The radio can play a revolutionary role.

Teachers, students and other educated people should form the spearhead of a movement to spread Plan information in villages.

Audio-visual aids were not tried in this village and no information is, therefore, available on their impact on public mind; but they can be expected to be very effective. This can also be said about purely visual aids, that is to say, exhibitions depicting the progress made under the Plans in a way that simple people can understand and appreciate. Mobile vans moving from village to village and exhibiting documentary, short and feature films of suitable type should help.

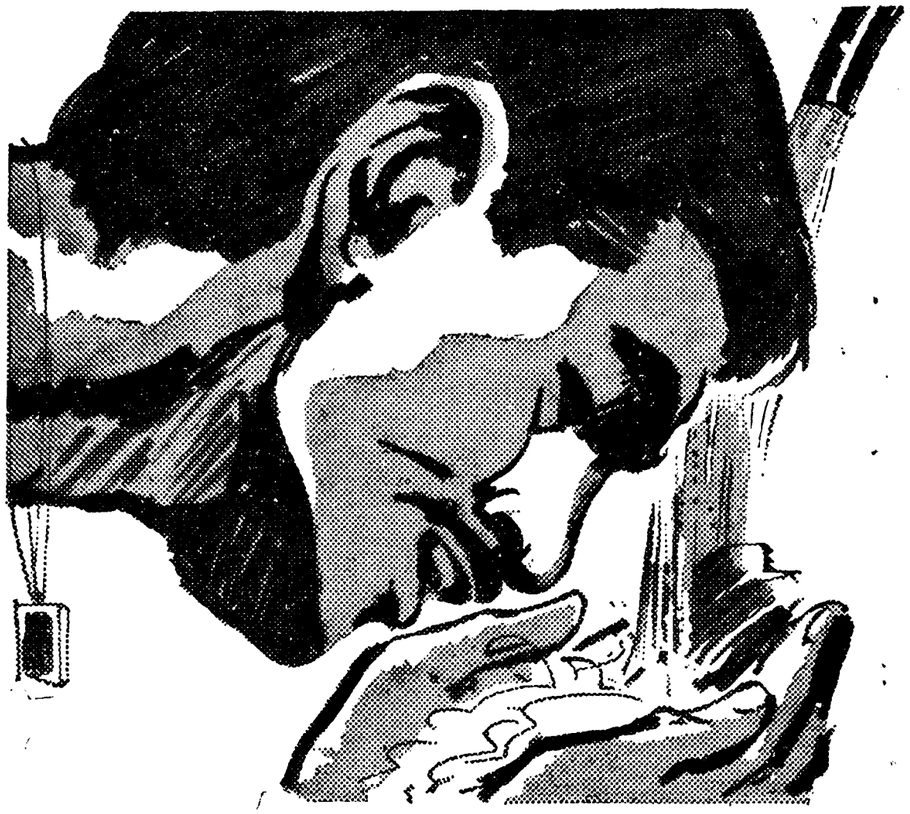
Printed literature was found to be a good source of information to villagers, and newspapers and course materials were mentioned prominently in this respect. It would be wrong to conclude that the prevailing illiteracy in villages deprives literature of its power to impress the public mind. It is true that the reach of printed matter would be relatively limited; but the readers act as multipliers and knowledge gets easily and extensively diffused. It would help if suitable literature, oriented to meet the capabilities of village people, is prepared and circulated; and course books for students are made to include elements of Plans and their progress.

A CHALLENGE

We would also like to suggest that any programme for dissemination of knowledge about Plans in the countryside might usefully make teachers, other educated persons, students and cultivators the spearhead of the movement. They would turn out to be effective multipliers of knowledge and can be expected to encourage and help others to learn about planned efforts and their results. If links are established between universities, colleges and schools and the above-mentioned categories of village people in some kind of institutionalised form, it would be a good supplement to the efforts which are made at the official level,

We may caution against the likely mistake of generalising about the media of mass communication that would prove to be effective all over the country. This would vary according to region, locality and other conditions. Special media and channels of communication should preferably be adopted on the basis of regional and local studies.

It is our feeling that if there is widespread ignorance about, and indifference to, planned efforts in the countryside and a general lack of enthusiastic support for th m, it would be very wrong to blame the villagers for this sorry state of affairs. In fact, *it is somewhat surprising that so much knowledge actually exists in the countryside, particularly among cultivators,* in the absence of any systematic efforts to diffuse knowledge among them about the country's Plans. However, the need of improving the present state of affairs is quite obvious. It is an opportunity as well as a challenge to the administration in general and to information and publicity agencies in particular to mobilise the psychological and emotional resources that are at present lying hidden in the sub-consious of the village populace, and to turn them into vigorous, productive national assets.



QUENCHING OUR THIRST WITHOUT AID

Pipes made from Union Carbide Polyethylene are taking water to thirsty villages, substituting for pipes made with scarce imported materials...Polyethylene saves foreign exchange in other ways, too.

Cool, clean drinking water that he almost did not get. Why? Because zinc, an imported material used in conventional metal pipes for carrying water, is in short supply. But Polyethylene pipes ensure that he gets his water when it is wanted. Manufactured from Union Carbide Polyethylene resins, these pipes are today helping to take pure, clean drinking water to the remotest areas—thereby playing an essential role in rural development.

And pipes are just one example...Union Carbide Polyethylene resins are converted into a host of other plastic end-products which are making the country less dependent on scarce imported metals and materials. Cable insulations, containers or conduits—indigenous Polyethylene is taking over, doing the job more economically, doing it better.

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UNION CARBIDE *SOWING THE SEEDS OF PROGRESS*

UNION CARBIDE PRODUCTS FOR INDIA'S HOMES, INDUSTRIES AND AGRICULTURE:

EVEREADY Torch Batteries; Torches, Torch Bulbs; Radio and Transistor Batteries; Telephone, Railroad & Industrial Cells; Mantles; NATIONAL Cinema Arc Carbons.

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PRODUCTIVITY: the only way to self-reliance.

THE CRITIQUE Continued

CRUCIAL ISSUES TREATED SUPERFICIALLY

A. GHOSH

WHILE considering the Fourth plan strategy, one has to keep in mind that it starts with a very ominous background. Serious defence problems, an extremely desperate balance of payment position, a fast rising inflationary wave which is not under control and which is provoking serious internal discontent—these and a host of other serious elements in the situation have taken away all the manoeuvrability of the planners. The days, therefore, of playing with plans are over.

On reading the Plan, however, it is difficult to get the impression that the planners realise the gravity of the situation. One is forced to wonder how serious are the planners regarding the Plan. This impression is brought about by the very superficial analysis the planners make about crucial aspects of the economy and the equally casual happy-go-lucky remedies they suggest.

In two very important aspects planners should have gone into details before formulating the Plan. One of the aspects is the rising food prices and how to control them without stopping growth according to the Plan, and the other is the consequences to the economy of starting with a set of targets but not being able to achieve them. Both require a serious study as they define the upper bound of the growth targets.

The Plan has this to say about the rising prices:

"These shortfalls in domestic production occurred at the same time as aggregate spending in the economy was rising in both the public and private sectors. In consequence, the Third Plan period witnessed a steep increase in prices, especially prices of agricultural commodities."

> While formulating the Fourth Plan, the planners should have gone into greater details on two important aspects: (1) the rising food prices and (2) the consequences to the economy of starting with a set of targets but not being able to achieve them.

RISING PRICES

The prices of rice and wheat, the available supply including imports, and the per capita income since 1947 (given in a separate table) show that prices have been rising steadily with a rise in per capita supply of both rice and wheat. The indices for per capita supply of rice and wheat in 1964-65 were 124 and 200, compared with 1946-47 as base, while the price index was 120.

A straight forward multiple regression was fitted to the data along with income as follows:

$P = -64.2 - 57.3R - 22.4W + 1.07Y$ (See the Table for symbols)

A simple calculation shows that a decrease of 24 points and 10 points in price was actually achieved through increased supply of rice and wheat but that a rise of 72 points was caused by rising income during this period.

Assuming that per capita income goes up on an average by 4 per cent as envisaged in the Plan, the index for per capita income will go up to 250 (approximately). This will mean that there will be an addition of 53.5 units to the price due to the expansion of income. If we assume equal increments in supply of rice and wheat to neutralise the effect of this expanding income, per capita rice and wheat supply must increase in five years by approximately 0.33 maunds each.

The per capita rise in supply during the past 18 years has been 0.43 maunds in rice and 0.46 maunds in wheat, including ever increasing imports. In other words, it would be necessary to raise per capita supply (including imports) by about 16 per cent for rice and 30 per cent for wheat in five years. Without imports these figures would easily go up to 25 per cent for rice and 50 per cent for wheat.

A detailed analysis thus shows that if planned expenditure goes up as visualised, the expansion of agricultural output necessary to keep prices down (good weather or bad) would run into staggering figures.

Even with the most hopeful ideas regarding weather, attempts to keep food prices stable, reduce imports and expand the economy as planned, are incompatible tasks, unless much more serious institutional changes are made in the distributive system. To reconcile a slowly expanding food output with the two other objectives, a very serious effort has to be made by the Government to become the dominant

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element in the buying and selling of foodgrains all over the country.

COST OF FAILURES

The second aspect of the planning procedure worth detailed investigation is the cost of not achieving a Plan. This is necessary in order that the increasing risk of an unfulfilled Plan could provide an upper bound to various targets. The cost paid for the non-fulfilment of a Plan is very high in terms of inflationary pressure.

Physical and financial balances are counterparts of the blueprints of a planned economy. In a free enterprise economy, the operation of market forces equilibrates demand and supply for the commodities and factors in physical terms as also in many terms. In a planned economy this is not done automatically but through the achievement of planned targets.

The imbalance between the financial and physical targets, if any, comes in the shape of an inflationary pressure. This is because all such development is pushed through at a high tempo. It is often, therefore, seen that the physical plan faces shortages and bottlenecks which were not anticipated in the beginning.

Since the financial plan precedes the actual physical execution, it does not have the same rigid inhibitions; and it often happens that during the period of operation, the actual growth of the economy is smaller than the financial counterpart of the same period. This manifests itself in an inflationary pressure, there being a more liberal flow of money than of goods. It is, therefore, a very important task to the planning authority to devise a consistent and balanced financial counterpart to the physical plan. To be forewarned of the possible dangers of a rising discrepancy between these counterparts and to provide adequate safeguards against such possibilities is a sound line of defence.

A calculation can be made of the rate of price rise for each sector, including the interactions, by assuming a simple input-output model formula.

The price rise in different sectors, if a plan is started but the anticipations regarding outputs are not fulfilled, can be estimated by the model formula.* A three-sector economy for India was used for an exercise and it was found that the lower achievement of the Third Plan with a spending as visualised in the Plan could cause a price rise of 18.8 per cent for agriculture, 22 per cent for industry, and 33 per cent for the tertiary sectors, over the five year period.

TABLE

Year	Per capita supply of rice (md.) (R)	Wholesale price index of rice (P)	Per capita supply of wheat(md.) (W)	Wholesale price index of wheat (P)	Per capita income at 1948-49 prices(Rs.) (Y)
1947	1.78	59	0.46	66	228
1948	1.75	83	0.54	121	233
1949	1.83	87	0.62	111	234
1950	1.82	91	0.60	94	234
1951	1.60	104	0.72	96	248
1952	1.62	100	0.32	98	250
1953	1.66	102	0.66	96	256
1954	2.04	86	0.58	79	266
1955	1.74	76	0.64	70	268
1956	1.77	93	0.64	86	268
1957	1.98	104	0.82	90	276
1958	1.69	108	0.70	96	267
1959	1.99	102	0.86	102	280
1960	2.01	109	0.91	91	279
1961	2.11	105	0.86	89	294
1962	2.07	109	0.90	92	293
1963	1.91	122	0.88	91	295
1964	2.12	139*	0.72	104	298
1965	2.21	151*	0.92	113	314

*Estimated.

CONCLUSIONS

On the basis of these two points, some broad conclusions regarding the strategy of the Fourth Plan may be drawn. Progress in agriculture even in the most optimistic estimates will not be enough to keep prices down, given that the growth of economy is maintained at a high rate. I unhesitatingly support the Planning Commission in the stand that industrial expansion at a high rate is indispensable if we are ever to come out of our difficulties. But at the same time, no false hopes should be put on an unwarranted growth of agricultural output. For reasons stated in my earlier article in Yojana (September 18, 1966) I am convinced that under the present conditions with millions of scattered and small holdings and our poverty-ridden farmer dependant mainly on weather, our agricultural progress is bound to be slow, to say the least, even though fertiliser and other inputs are made moderately available.

Given that agricultural progress will be slow, progress of the country as a whole will depend on the industrial progress that could be carried out with a comparatively backward agriculture. This means procurement and distribution—a painful but inevitable step to avert agricultural instability from seriously damaging the Plans. Entry of the public sector as a major competitor both in buying and selling in grain trade is a must if Plans are to be executed. Otherwise the future growth of the country will be conditioned by monsoon and foreign aid, and not by our Plans.

With a backward and slowly moving agriculture and a parasitical commercial grip on economic life, the nationalisation of grain trade and of banking is possibly the only way to save planned progress.

*Inflation in a Planned Multi-Sector Growth Process by A. Ghosh. Arthaniti. Vol. III. No. 11.

PLAN INVESTMENT IN HUMAN RESOURCES

Too Small to Meet the Needs

THE CRITIQUE Continued

More articles by eminent economists on the Fourth Plan will be published in the coming issues of Yojana

O. P. GUPTA

The author thinks that the outlays on education, health and medical services and family planning are too short to raise the human resources required for the Plan programmes. They should be raised by Rs 1,500 crore more, and the money should be collected by cutting by 10 per cent the outlays on all heads except agriculture.

For achieving its objectives, one of the principal tasks that have been kept in view in the Fourth Five Year Plan, is the "development of human resources, for which substantial additional facilities will be provided in the social services sector, especially for the rural areas, and these will be suitably reoriented in the direction of increasing productivity". (Draft Outline, Page 17).

Before examining the provisions in the Fourth Plan to achieve this task, it would be interesting to see rates of growth in some other countries besides India. The following table shows the annual rate of growth of ten selected countries :—

*Country	Years	Gross Products
Bulgaria	1955-61	8.9
China	1953-58	12.6
Czechoslovakia	1953-61	6.8
Hungary	1953-61	7.4
Japan	1954-61	9.9
Poland	1953-61	7.4
Rumania	1953-61	8.5
U.S.S.R.	1953-61	9.4
Yugoslavia	1953-61	8.7
India	1952-63	2.5

(Reference: India Pocket Book of Economic Information, 1965)

Apart from the fact that most of the above mentioned countries are centrally planned economies, the plausible explanation of the higher rates of growth in countries other than India, is the superior application of skills and techniques resulting from greater literacy, investment in skill training, and the application of superior human techniques.

In the Fourth Plan of India, the social services sector comprises 14 heads of development, namely, education, scientific research, health, family planning, water supply, housing and construction, welfare of backward classes, social welfare, craftsmen training and labour welfare, rural works, hill areas and special areas, rehabilitation, public co-operation, and other programmes. Out of these, only the first twelve contribute directly or indirectly towards conservation and development of human resources. Education, health and family planning are the main contributors, and so, we will discuss them in some detail.

EDUCATION

During the Fourth Plan, an attempt will be made to link education more purposively with the requirements of the country's development. There is no doubt that investment in education and educational planning are of cardinal significance to economic growth. The latest UNESCO report on higher education points to the fact that the Soviet Union and the East European countries have looked at educational planning chiefly in its relationship to economic planning. The Soviet Union, it is stated, realised earlier than other countries that for an economic plan to succeed, the structure of education must produce at the right time and in the right balance, the number of specialists, semi-specialists, skilled and unskilled labour that a plan requires. In broad terms, the educational target in the Soviet Union is the provision of universal secondary education by about 1970, so that from this pool of ability, by 1980, higher education may be available for all who desire it.

In India, programme under education in the Fourth Plan is expected to increase the enrolment from 78.5 to 92.2 per cent in the age-group 6-11 (primary stage), from 32.2 to 47.4 per cent in the age-group 11-14 (middle stage), and from 17.8 to 22.1 per cent in the age group 14-17 (high school stage) and from 1.9 per cent to 2.4 per cent in the age-group 17-23 (University stage). The admission capacity of diploma and degree courses in engineering and technology will be increased to 68,000 and 30,000 in 1970-71 from 49,000 and 24,000 in 1965-66 respectively.

Our educational programme compares unfavourably with the educational target in the Soviet Union for 1970. We should step up our targets for all stages of education. By 1970 we will complete 20 years of planning, and even now we do not have universal primary education. Without cent per cent enrolment at the

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primary stage, we will not have the broad base required for our educational pyramid. Therefore, our educational target should be as follows:—

1. Free and compulsory primary education for 100 per cent children in the age-group 6-11.
2. The proportion of girls reading at different stages from primary to high school, as compared to boys, being 1 : 4, this big gap should be filled up.
3. The Government of Uttar Pradesh has made girls' education free up to the high school stage. To fill the gap between the enrolment of girls and boys, some further incentives should be given, in the shape of scholarship and book grants.
4. Subsidised mid-day meals should be provided for both boys and girls.
5. Facilities of university education should be increased, as future teachers, managers and administrators will come only from the universities.
6. The quality of education should improve. This will be possible only by improving the quality of teachers.
7. To improve the quality of teachers, adequate emoluments and proper status should be given to them. The teacher should not get less pay than persons of similar qualifications in other occupations.
8. Special steps should be taken to increase the supply of women teachers, specially to teach science subjects in the intermediate and degree colleges.
9. The outlay on education should be increased by about Rs 1,000 crore to make it Rs 2,310 crore in place of Rs 1,210 crore.

HEALTH & MEDICINE

Two economists, Walter Galenson and Graham Pyatt, working on behalf of the International Labour Organisation, have shown that there is a very high correlation between increasing investment in health, housing and social security on the one hand, and the rate of economic growth for a given country on the other hand. In other words, a close positive relationship exists between the investment in human resources and the rate of economic growth.

In the programme for the expansion of medical and health facilities, stress has been laid on augmenting training facilities for different categories of medical personnel. The aim is to overcome the current shortages in qualified personnel and, at the same time, improve the medical and public health services. This is expected to improve the doctor-population ratio to 1: 4600 as compared to 1: 5,800 at the end of the Third Plan period. Similarly, it is proposed to add 60,000 beds to maintain the present bed-population ratio of 1 : 2,000. It can be easily seen that for a vast country like India, this provision is like a drop in the ocean.

Besides, no attempt has been made to introduce any national health service scheme, in spite of the profession that our goal is a Welfare State. In the United Kingdom 3.5 per cent of the gross national product is spent on the national health service, over and above what is spent on medical colleges, hospitals and other ancillary health services. If a national health service scheme is introduced in our country, even in a modest way, it will greatly reduce the pressure of patients on the hospitals.

The outlay on health is Rs 492 crore. This is much too small. It should be increased by about Rs 400 crore to about Rs 900 crore.

FAMILY PLANNING

A family planning programme is an integral part of the conservation of human resources. The basic objective of our family planning programme is to reduce the birth rate from 40 per thousand at present to 25 per thousand as expeditiously as possible. The operational goal for achieving this objective is to create facilities for 90 per cent of the married population of India for the adoption of family planning by group acceptance of a small-sized family.

The size of the family varies generally according to the father's occupation, educational differences of mothers, and early or late marriages. Prof. Ellsworth Huntingdon of Yale University, in his work "The Conservation of Man", has effectively shown that late marriages systematically reduce the birth-rate. They also reduce the average length of a generation, thus diminishing the rate of natural increase in population.

Therefore besides the existing programme for IUCD insertions for 10.5 million married women by 1970-71, we should also have a concerted programme of female education as well as giving the girls in marriage at a comparatively late age. The Sarda Act, which has prescribed the age of consent as 14 years, should be repealed or amended, and a new Act, prescribing the age of consent at 18 years should be put on the statute book.

It has been suggested in this paper that the outlay on education should be increased by Rs 1,000 crore, and that on health by Rs 400 crore. From where will these additional resources come? I find that the programmes under 'Public co-operation' and 'Other programmes' are not effective in the conservation and development of human resources, and hence they can be scrapped. This will yield Rs 80 crore. For the rest, if the outlays on all the heads of development, except agriculture, are nibbled off by 10 per cent, the necessary resources required for the conservation and development of the human resources will be forthcoming.

SOVIET AID FOR SEED FARMS

The Soviet Union will give India as a gift agricultural machinery and equipment valued at Rs 1 crore for setting up five State seed farms. An agreement was signed recently. The Soviet Union will also supply shortly as commercial credit farm machinery worth Rs 5 crore for setting up ten more State seed farms and fifteen centres for giving agricultural machinery on loan to farmers.

U.P. to Grow More Food

Uttar Pradesh has increased the target of the Mexican and K 68 wheat areas from 5.25 lakh acres to 9 lakh acres for the current rabi sowing. The district authorities have been asked to ensure that no plot remains uncultivated.

Uttar Pradesh Government has also decided, for the first time, to undertake winter cultivation of hybrid maize and rice this year.

THIS INDIA

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

Along with other students all over the country, the students of a college in Delhi also went on strike. In support of their demands, they also resorted to a hunger-strike.

But some of them could not withstand their appetite and asked their friends to replace them.

When they were replaced, they went and had a nice meal and returned to resume their fast.

The whole thing was executed in such a manner that no hunger-striker was really left hungry.

New Delhi *A. N. Dilip Kumar*

On October 23, I kept my bullock-cart standing in front of the Octroi Naka of our town.

"What have you got in your cart?" asked the Naka Chaprasi.

"Gold and some silver," I replied.

"How much?"

"About a kilogram."

"Then I must go to the secretary-saheb to ask about the octroi amount."

The Chaprasi returned after a while and demanded, "Pay Rs. 125"

"What? That's too much", I said.

"Then come with me to the secretary-saheb."

I followed the Chaprasi.

"Yes, you'll have to pay that amount", the secretary said sternly.

"It's too much," I entreated.

"Let's have a way out. You pay only Rs. 25 by way of octroi, and—and—and give me Rs. 25 or so, and we shall square up matters." The secretary suggested.

"No, secretary saheb, I can't pay."

"Then you can't go," the secretary roared. "Bring that gold here. I'll call the police."

I brought the leaves of *shami* and other trees and placed them before the secretary.

"Is this your gold and silver?"

"Yes, of course", I replied. "Don't you know that today is Desehra day, and these leaves are presented as gold and silver on this day?"

Dhamangaon *M. B. Ranghe*

It was in the morning of the first day of the month. My husband was ready to go to the office when a postman knocked at the door to deliver a V.P. parcel for Rs 21.45.

My husband asked the postman to come the next day since he was yet to get his salary.

I interrupted, and paid the postman the amount.

It was a sweet surprise for my husband to find that big amount in the house on the first day of the month! I explained to him how I used to keep aside the 25-paisa coin whenever I found one in his pocket.

There's a way to save, indeed!

Varanasi *Malati Bhalerao*

Recently a new Agriculture Extension Officer joined our Panchayat Samiti. The B.D.O. sent him to a village inspecting a chilli field which was infested with pest. The A.E.O. was a fresh agricultural graduate. In the field the pest he saw was new to him.

When the farmers approached him for a remedy, he replied, "You have committed a mistake by sowing the seeds of green chillis. Next time you sow the seeds of red chillis which will be free from all sorts of pests."

Newal (Distt. Tonk). *R. P. Nag*

I went to a remote village in the Cachar district of Assam for demolishing an illegally constructed shed. A poor villager had encroached on government land to make a bamboo shed near his house.

My staff began demolishing the shed. The encroacher stood near me. He did not say a word of protest. Nor did he crave for pity.

Soon after the demolition work was over, the villager went inside his house, brought a glass of milk and offered it to me. I felt embarrassed and refused to take the milk. But in a voice tinged with emotion, the man said, "Sir, it was your duty to demolish and you have done it. But you have come all the way from the town and have not taken anything since. For God's sake please drink this milk. Otherwise I will be disappointed."

He was all smiles when I drank the milk.

Bihupuria *Mriganku Mohan Das*

Recently when I went to my village, I saw an old man preaching to a young man of about thirty years the advantages of family planning. The old man was persuading the young to get himself sterilised. I asked the old man how he was interested in propagating this idea. He replied: "Babuji, you might have studied the poems of Vemana. One faithful son is worth more than a dozen unfaithful ones. I am a father of four and all have deserted me in my old age. I can't work in the field. If I take this fellow — a father of five —to the family planning centre, they will give me six rupees. After all, I must live too."

Visakhapatnam *R. L. Kopparty*



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HOW STATE PLANS ARE FINALISED

S. R. GUPTA

Since October, the Planning Commission has been busy going over State Plans with delegations from the State Governments. S.R. Gupta, Information Officer, Planning Commission, explains in this article the long process of dialogue that goes on between Yojana Bhavan and the State Capitals before each Five Year Plan is finally processed.

The State Governments draw up their Draft Plans in the light of guidelines supplied from Yojana Bhavan. The Planning Commission sets up a large number of working groups to deal with every aspect of Plan papers received from the States. As a result of long, sustained team work within Yojana Bhavan, and between it and the State Governments, emerge the State Plans.

In the Draft Outline of the Fourth Five Year Plan the distribution of Outlay in the public sector between the Centre, States and Union Territories is Rs 8,536 crore, Rs 7,073 crore and Rs 391 crore respectively.

The development programmes for the 17 States thus claim nearly 44 per cent of the total public sector outlay in the Fourth Plan.

With the varied geographical features, levels of development and special problems of each of the States (and within the States, in districts), some being less developed than others, the preparation of the State Fourth Plans in the context of the national Plan presents complex issues for the planners.

To meet the challenges underlying these issues, procedures and techniques applicable to the State Plans have been evolved since the beginning of planning in 1951.

In preparing the Fourth Plan these procedures and techniques have acquired a distinctive pattern.

To understand this pattern, it is necessary to recall some of the landmarks in the dialogue between the Centre and the States since the publication in October 1964 of the Memorandum on the Fourth Five Year Plan. The memorandum was endorsed at the twenty-first meeting of the National Development Council held on October 27-28, 1964.

Of these landmarks the first possibly was the communication sent to the States by the Planning Commission in May 1965. It forwarded guidelines for agriculture and allied subjects. This sector of the economy had been given an overriding priority in the national, no less than in the State, plans for 1965-71. By this time, State budgets in most cases had been adopted by the legislatures. Formulation of programmes for the State Fourth Plans could be undertaken in the light of the points suggested in the guidelines.

First Guidelines

These guidelines indicated in some detail the principal bases—production goals, targets and outlays, as well as programmes, crops and areas —for agricultural development. The lines on which the essential details of State plans for agriculture were to be prepared were also suggested.

For other sectors of development, too, guidelines were laid down, more specially for road and road transport development, craftsmen training, labour programmes, welfare of backward classes and social welfare, hill and border areas and backward regions. To help identify markedly backward areas, selected indicators were developed. The States were invited to specify how socio-economic activities were to be accelerated in the Fourth Plan.

By September 1965, a revised Plan document on resources, outlays and programmes with marginal adjustments was ready for more precise planning in the States. This document, the second for the Fourth Plan, was endorsed at the twenty-second meeting of the NDC, held on September 5-6, 1965. The country was then facing aggression from Pakistan.

During 1965-66, the States were engaged in preparing their proposals within the broad contours drawn up in these documents and to chalk out their agricultural programmes. Whatever be the other changes thought of or debated upon in these years, because of diversion of resources from development to defence —agriculture had indisputably to be more or less the same as before.

Revised Guidelines

The NDC approved on August 20-21, 1966 at its twenty-third meeting the Draft Outline of the Fourth Five Year Plan, the third and penultimate Plan document. It set out revised outlays and targets and schemes for resource mobilisation which took into account the rigours of defence and a certain decline in economy due to the unprecedented drought of 1965 and to a lower order of foreign aid in 1965-66. The plan-frame underwent a change, though not in essentials. It also became evident that family planning to reduce population growth and higher exports were as essential for a self-reliant economy as agricultural development. All these new factors were fully reflected in the latest set of guidelines sent to the States for their Fourth Plans. These guidelines were much more comprehensive and exhaustive than the earlier ones. With their elaborate proformae, they diverted State planning endeavours towards the refurbished national goals, which past events had made somewhat

compulsive. Four communications, one close on the heels of the other, were sent by the planners within two months beginning September 9, 1966. Each covered every single aspect of development in the States.

1966 Documentation

To begin with, the States were advised to prepare their Fourth Plan proposals under five heads — summary statement of plan outlay proposed; distribution of outlays under selected sub-heads ; details of principal schemes and projects, particularly for irrigation and power, and others for which foreign credits were required in 1966-67; key physical targets of production and development; and check-lists of principal projects costing Rs 5 crore and above.

Other suggestions made were for preparation of a set of three principal statements — a short memorandum on the plan, notes on individual heads of development and important schemes; and a review of the progress in the Third Plan.

Simultaneously, attention was drawn to assessment of State resources based on the assumption that physical policies should be pursued in the States in accordance with national goals. For realistic planning, a rough idea was given to the States of the volume of Central assistance proposed for them during the Fourth Plan.

The agriculture guidelines for "preparation of a fully co-ordinated, complete and self-contained Plan" and building up targets from village, block and district levels upwards called for four stages of planning: (i) preliminary work at Centre and State headquarters; (ii) preparation of Plan-frame at headquarters; (iii) provisional plan at district and block levels; and (iv) blueprints for action at local levels.

Within these stages was compressed the quintessence of thinking on agricultural development.

The guidelines, for as many as 11 main sectors of development, with 21 tables for agriculture, 6 proformae for roads and transport development, and a number of annexures for compilation of data, concentrated attention on such diverse socio-economic issues as plans for drought-affected areas, village and small industries, hill and border regions and backward regions.

Similarly, guidelines on development of roads and transport, welfare of scheduled castes and tribes, craftsmen training and manpower employment services, family and child welfare, were elaborate enough not to admit of any chancy affair or haphazard planning.

A "key" for collation of data for planning district development within State boundaries was also called for in respect of 12 indicators for consideration of levels of development.

Tripartite Consultation

Monumental documentation in many ways as these guidelines are, the written directional material had its own limitations. For instance, it could not obviously anticipate issues emerging from local knowledge of State planners which had to be considered before imprecision and any other lapses odious to the national Plan could be obliterated from their Plan documents.

To tie the loose ends in State development programmes, as it were, a six-week process of consultations between the Planning Commission, Union Ministries and States, beginning from mid-October, was arranged. These tripartite consultations in Delhi, spanning a three-day period in case of each State, ranged over the entire field of development activity.

This was possible as 20-25 working groups were set up for each State, with representatives of not merely the States but also of Planning Commission and concerned Union Ministries. These groups re-analysed, intensively and in depth, all issues, including States' finances, Central aid, and so on, impinging on the State plan, and reported back to one of the Programme Advisers of the Planning Commission. The Programme Adviser, in turn, after carefully analysing the working group reports, submitted crystallised proposals to the Union Minister of Planning and State Chief Ministers who, at top-level meetings, attended by senior officers, reviewed the State proposals, and finally approved the scope and dimensions of State Fourth Plans.

By the end of November, all State Plans would thus have been discussed and most of them finalised. For the remaining States some more discussions were considered essential. It is expected that their Plans would also be approved by the middle of December.

In a more or less similar manner, the Fourth Plans of the 11 Union Territories are prepared, reviewed and analysed on the basis of guidelines and personal discussions, the latter scheduled for the first half of December.

These procedures and techniques, requiring expertise, both in written documentation and at conference tables, on a wide range of social or economic issues, ensure comprehensive guidance to States to compile data, prepare development schemes and finalise their plans at all levels from village upwards.

The right type of direction is also available to them for not only planning for better living standards for all and for higher growth rates for the economy, but also for correcting imbalances and weaknesses which, despite all precautions, are apt to creep into planning for any five-year period.

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116 Lakh Lives Insured

THE Life Insurance Corporation transacted new business of Rs 798 crore in 1965-66 as against the total business of Rs 701 crore in 1964-65. The total business amounted to Rs 4,394 crore under 115.89 lakh policies at the end of March 1965; an increase of 12.8 per cent over the previous year. The total business had grown more than three times while the number of policies increased more than double during the past ten years. The Life Insurance Fund increased to Rs 977.56 crore from Rs. 380.61 crore on September 1, 1956; an increase of 157 per cent.

The premium income for the year 1965-66 was Rs 179.76 crore as against Rs 162.25 crore in the previous year. The total net income amounted to Rs 224.55 crore.

Out of over 15.61 lakh policies issued in India in the year, 70.4 per cent were taken by persons insuring for the first time, and 35.9 per cent came from rural areas.

ROAR HUSHED TO WHISPER

ON November 12 the roar of the mighty Niagra Falls was hushed to a whisper. American army engineers cut the flow of water that cascades over the 1000-foot wide precipice to one-fourth of its normal volume. They were studying how to preserve the scenic beauty of the Falls against the ravages of erosion and rock slides. This was the first time that man ever tried to stay, even partially, the wall of water that tumbles 182 feet over the Niagra Falls. The operations took place on the American side of the Falls known as the "American Falls."

The engineers claimed that the operation was a complete success. Normally, 8000 cubic feet of water goes over the "American Falls" every second. This was cut to 2000 cubic feet a second, and the area above and below the precipice was surveyed by soundings and by aerial and surface photography.

A large heap of rocks and talus deposited by erosion has gathered at the foot of the American part of the Niagra Falls. This has piled more than half way up the face of the Falls in many places. The engineers are trying to find out if anything could or should be done to remove the large heap of rocks.

There are very few people content to leave natural phenomena alone. When they see a mountain they climb it. When they see a channel they swim it. Instead of just goggling at Niagra Falls they go over it in a barrel or cross it on a tight rope.

This is civilisation, isn't it? We are always messing about with Nature and we seem to have a particular grudge against rivers. We exploit them for electricity—the Niagra Falls are already almost completely exploited for this purpose both by the United States and Canada. The brook which thought men might come and men might go but it went on for ever, was babbling a lot of nonsense.

Many Green Eyes

ONE wasn't much surprised to read James Cowley's report in *The Statesman* that the persons in our High Commission in London were singularly unmoved by the choice of Reita Faria as 'Miss World' in the 1966 'Miss World' Contest in London. The diplomats were presumably a little afraid of their wives and the wives themselves were perhaps a wee bit jealous. In any case, some people think that it is outside the Indian Way of Life to make very much noise about a girl wearing the world beauty crown. In most other countries we would have by this time been treated to an impressive array of pictures of not only Reita as she was in Bombay but also perhaps of her family. But not in our Press Till the time of writing only *The Hindustan Standard* of Calcutta has published a number of pictures on Reita, but these too have been received from London.

Reita seemed to have taken the British press completely by surprise. For, a staff reporter of a London newspaper in a pre-contest report on November 15 had nothing to say about her except that she wanted to serve India through the medical profession. In the careful catalogue of the vital statistics of many of the contesting beauties, Reita did not figure at all. The biggest girl was Miss Canada who weighed ten stones, and the tallest, Miss Switzerland, an alpine 5'-9". The shortest was Miss Morocco, 5'-2". Miss Canada scored a record 39" for the most vital of the upper statistics.

Twelve of the girls had green eyes, though the number must have increased tremendously when the crown was bestowed on India's Reita Faria.

He Was a Dreamer

LORD Butler's recent estimate of Jawaharlal Nehru's leadership, in the course of the first Memorial Lecture at Cambridge, is a notable contribution to the contemporary world's evaluation of the shaper of Indian's destiny. Lord Butler who is Master of Trinity College, said that one aspect of Nehru's stature as an internationa statesman was his determination to respect human values in the politi cal sense—in other words, his de mocratic principles. He would be remembered as a man whose con tribution to the cause of democrac "ranks as high as those Himalaya peaks which towered his erstwhil prison walls." In spite of Jawahar lal Nehru's tremendous political act vity, he had the ability to becom a dreamer. "He might be startle as he journeyed along the road b a fine type of man or a beautifi woman who reminded him of son ancient fresco. Then he would sl away into the past and live for while another life." Lord Butl recalled that Nehru had read Ch mistry, Biology and Botany Trinity. "For those who wish to Prime Ministers, it is a consolati to know that he got a second class



IGNORAMAN

Wants to Know

Why

Married Women aren't allowed to enter Beauty Contests

* * *

THE election of Mr Ronald Reaga a former film star, as Govern of California prompted the *Lond Times* cartoonist to sport the follo ing caption: "Why shouldn't film-star make a good Govern —if Henry Fonda made an i pressive President in *Fail Safe* a Peter Sellers was an excellent P sident in *Dr StrangeLove?*"

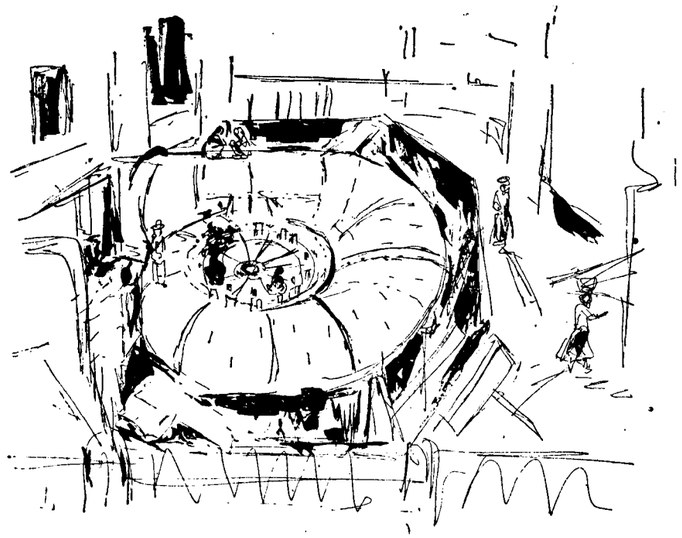
R. SEN GU





The Chambal Is Being Tamed

The Gandhi Sagar Dam is changing the face of large areas in Madhya Pradesh and Rajasthan. Power is leading to the sprouting of many industries and is giving agriculture a leap forward.



by BALI CHOPRA

Sketches by R. Sarangan

THE Chambal, the largest tributary of the Yamuna (which in its turn feeds the great Ganga) flows through three of our largest States, Madhya Pradesh, Rajasthan and Uttar Pradesh.

The Chambal is thus a most shared river. But it happens to be, so far, perhaps the least used river in India. For, until the Gandhisagar storage project and the complementary Kota Barrage were taken up after Independence, the total runoff of 4.193 mil. cu. m. (3.4 mil. ac. ft.) from its large catchment of 22,533 sq. km. (8 700 sq. ml.) were used little for irrigation and less for power.

Apart from the wasted waters, Chambal floods have been carrying away millions of tons of precious soil, leaving thousands of acres gashed into ravines on its banks unfit for cultivation.

The two States of Madhya Pradesh and Rajasthan joined hands to utilise the Chambal waters for irrigation and power for the benefit of both in an equitable share.

Briefly, the overall plan of utilisation of the Chambal envisages a cascade of three dams with a power house at the foot of each, before the waters, headed up at a barrage, are channelled along two of the largest canals in the country.

Of the four major hydraulic structures, the first and the fourth, Gandhisagar Dam and Kotah Barrage, have now been completed and are making a substantial contribution of irrigation water and power to the valley.

Gandhisagar is a straight gravity stone masonry dam 514 m (1,685 ft.) long at its top, rising to 65 m (212 ft.) above its deepest foundation. At its base 381 m (1,250 ft) long and 51 m (167 ft) wide, the dam tapers off to 6.4m (21 ft) thickness at the peak to carry a road bridge 4.6 m (15 ft) wide, above the crest gates.

Gandhisagar is designed to store the Chambal run-off of two successive monsoons from the catchment of 22,533 sq. km. (8,700 sq. ml.) above the dam site.

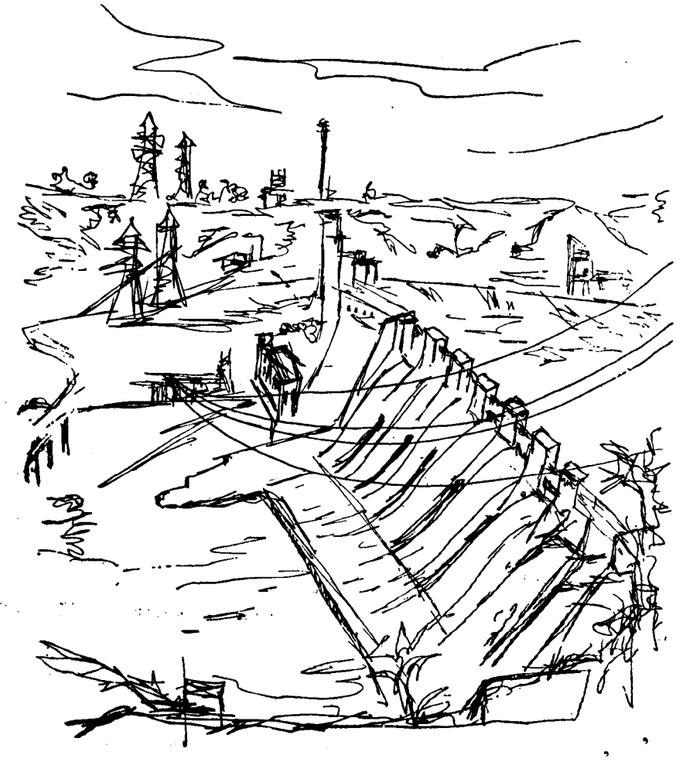
The power station downstream, at the foot of the dam on the right, is built in concrete. Five penstocks of 4.7 m. (15.5. ft) diameter run down from controlled gates on the upstream side through the dam, each to a power unit of 23,000 kW capacity. Four units, with their control panels, have been erected and tested. They have been commissioned. The 11 KV current generated by the units is stepped up to 132 KV at the switch-yard next door before transmission to Ujjain and Neemuch.

The power plants have been largely erected and tested by Indian engineers.

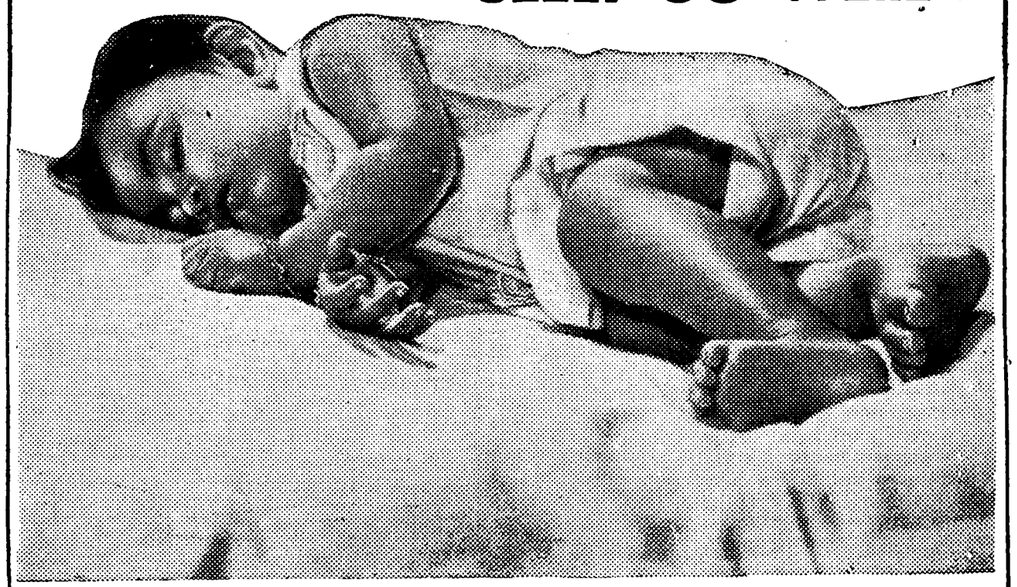
• Like the magnificent temples of old, many of the modern places of pilgrimage in new India are being built by hand. Gandhisagar Dam is one such raised, stone by stone, by craftsmen who have inherited their skill from old masters of Andhra, Rajasthan and Tamilnad. At the peak of construction, the dam site was a picture of thousands of human ants at work, raising the edifice, foot by foot. No wonder, a perspicacious visitor commented that Gandhisagar was a 'cottage industry product'.

The excavation for foundations of the Gandhisagar Power Station started in 1954 and was completed in time. The excavation for the draft channel for the outflow of water released from the turbines into the river was completed in 1957, ahead of schedule.

turn to PAGE 22



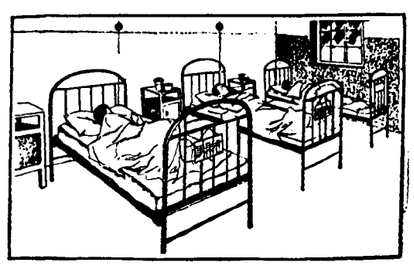
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Books

AN 'ALTERNATIVE' TO 4TH PLAN

Seminar on Fourth Plan : Planning for Self-reliance. Edited by Ranjit Gupta. Published by Impex India, New Delhi. 196 pages. Rs 18.

M. R. Kulkarni

THE Sarva Seva Sangh wished it was possible to present an 'alternative' Fourth Plan (wrongly described as 'alternate' plan in the present publication). It soon dawned on the Sangh—what should have been self-evident from the beginning—that it was asking for the impossible. It is not, therefore, surprising that the aim of the Seminar on Fourth Plan, sponsored by the Sangh and organised by the Institute of Gandhian Studies in early 1965, finally came to be modestly defined as assisting the Planning Commission by constructive suggestions for lending "balance" to the Plan within its given framework.

The aim of achieving a national minimum may be regarded as the central theme of the Seminar. On the basis of the outlay and the rate of growth now envisaged in the Fourth Plan, one is doubtful even if a national minimum consumption of Rs. 20 per month per capita (the figure adopted by the Perspective Planning Division of the Planning Commission for its exercise on this subject) could be attained by 1970-71. But the spokesman of the Sangh thought that "through a careful selection of schemes and programmes of investment" it would be possible to realise a national minimum of Rs 35 by the end of the Fourth Plan. This can be accomplished in their view by so recasting the programmes of development as to give a 'capital-output ratio not lower than 2 : 1.

One only hopes the Sangh will come out with details that will lend some substance to their fantastic claim. Fortunately, some of the participants in the Seminar were aware of the stupendity of the problem and lent the necessary balance to the discussion, though there was no confrontation of the views to result in a consensus.

On other items of agenda of the Seminar, viz., guaranteed employment, welfare of weaker sections, rural industrialisation etc., the two papers by Prof. D.R. Gadgil, included in part I of the publication, were handy for giving a proper lead. However, the agenda was not apparently settled in advance. The discussion was inevitably conditioned by the papers which, in turn, did not fall in a pattern, as they were not contributed specially for the Seminar. Some were just picked up from well-known sources. One, therefore, looks in vain for the fulfilment of even the modest aim of the Seminar, viz., throwing up suggestions, which the Seminar was expected to put forth for lending balance to the Fourth Plan.

And finally, what is one to make of the title of the book—'Planning for Self-Reliance'? There is hardly a reference to the objective of self-reliance either in the papers or in the proceedings of the Seminar. But who cares?

Mathrubhumi Plan Supplement

Mathrubhumi Plan Supplement 1966. Published by Mathrubhumi Printing and Publishing Co. Ltd., Calicut. 132 pages. Re 1.

THERE is no dearth of newspaper supplements in India but *Mathrubhumi* of Calicut is probably the only major newspaper which brings out a full supplement devoted entirely to planned economic development.

When one finds that the paper has been doing this useful work for the seventh year running, one cannot but congratulate it on its effort. Specially so, when newspapers in this country are so miserly with space when it comes to reporting social and economic change. They have an enormous appetite for politics.

The *Mathrubhumi's* Plan Supplement, published on November 14 to coincide with Jawaharlal Nehru's birthday, is at once satisfying and disappointing. It is satisfying because there is a novel attempt through a series of interviews by two correspondents of the paper to find out how planned economic progress has affected the life of common people. The two correspondents have taken a random selection of people. A barber who was interviewed says that opportunities of better living have improved in the last 17 years although he feels that this has not been due to the Plans and planning. His explanation is rather interesting. Those who got only one hair-cut in two months were now getting two hair-cuts in a month. Although the Kerala barber did not realise that between two hair-cuts in a month and one hair-cut in two months lies the difference between destitution and the beginning of progress, a Chinese hair-cutter in Peking would have known it very well.

The Supplement is disappointing in the sense that it has far too many articles by dignitaries and officials, including six diplomatic representatives of foreign countries. These articles often tend to be platitudinous and in any case it is doubtful if they enhance the intellectual value of a Plan Supplement. We hope that the *Mathrubhumi's* next Plan Supplement would be subjected to a far deeper probe by members of its staff to the changes which have occurred in the lives of the people in Kerala and, on a wider field, in the South Indian States.

Another point worth noting is that the Supplement has a number of contributions from non-Malayali writers which have been translated into extremely readable pieces by members of the staff.

R.K.P.

CHINA : Growth of Modern Labour

THE labour force in China is estimated to be about 300 million, the largest in the world. Its non-agricultural sector is still rather small, i.e. less than one-fifth of the total. There was a rapid rise in the non-agricultural labour force during the First Five Year Plan and the "Great Leap Forward". But since then there seems to have been a setback.

According to official statistics, 57 million Chinese were working on non-agricultural jobs in 1958. This was more than twice the number recorded in the year of the Revolution. Of this total, one-seventh were non-productive workers: men and women engaged in the service sector of the economy. Employment in the private sector dwindled, between 1949 and 1959, from more than 20 million to less than 2 million. Employment in the traditional sectors fell from over 18 million to less than 13 million. The "modern" sector's capacity to absorb workers led to an increase of registered employment from 8 million to 44 million. Twenty-four million Chinese were employed in industry in 1958.

These statistics are taken from *Non-Agricultural Employment in Mainland China: 1949-1959*, by John Philip Emerson. The book has been published by the Bureau of the Census, U.S. Department of Commerce, Washington.

Mr Emerson says that women continue to account in China for less than one-fifth of the non-agricultural labour force. Some three-quarters of the workers and employees engaged in modern industry and in the State sector are under 35 years of age and, thus, ignorant of the conditions which existed before the Revolution.

INDONESIA : In Four Stages

THE present Indonesian Government has officially laid down a two-year strategy to restore the economy and to attain political stability before elections are held in July 1968. The strategy has two broad aspects: (1) Creation of the psychological conditions needed to achieve economic and political stability, and (2) creation of infrastructural and "super-structural" conditions required for stability.

The "basic strategy" consists of two phases, each divided into two stages. The two main phases are "Rehabilitation" and "Stabilisation". Each "stage" will cover six months.

At the moment. the first stage, which is called the "rescue stage", is being worked out. During this phase, the nine "basic commodities" including rice, textiles, kerosene, salted fish and cooking oil, will be available only in limited quantities.

FAR and NEAR

A new Yojana feature which will acquaint readers with significant socio-economic developments in various countries, especially those in Asia and Africa.

These commodities will, however, be available in higher quantities during Stage II—"Rehabilitation". The structural organisation will be more effective, though not yet efficient, during Stage III — "Consolidation". The fourth stage is for "Stabilisation", at the end of which will come the first general election after many years.

BURMA : Tractors for the Field

IN Burma an effort is being made to increase the mechanisation of agriculture. Most of the tractors come from Czechoslovakia. They are used in place of draft animals for double-cropping. On an average, tractors are being used one hour a day.

Mechanisation is only part of the Burmese Government's programme to modernise agriculture. It also distributes improved seeds for double cropping, including long staple cotton, sugar and sesamum. Also encouraged is the greater use of fertilisers, but the high price seems to be an inhibiting factor.

The development plans in Burma have a greater emphasis on agriculture than industry. But certain industrial projects are coming up. A chemical fertiliser factory is being built in Central Burma to reduce the need of imports; Burma at present buys 34,000 tonnes of chemical fertilisers abroad. Under construction are a paper mill at Sittang, two sugar mills, a new cigarette factory, and several other projects.

According to a Rangoon newspaper, there are nearly two million unemployed in that country.

Burma used to be the world's leading exporter of rice. She has now dropped to the third place.

U.A.R : Anti-love Songs

THE UAR Government is planning to step up its birth control campaign by broadcasting "anti-love" songs and making gifts of money to midwives who are likely to earn less if fewer babies are born.

Cairo's Birth Control Chief, Dr. Khalil Mazhar, appears to be rather disappointed at the progress of the Loop in the UAR so far. Only 20,000 Egyptian women (out of 14,885,554 at the last count) have so far taken the Loop. The UAR population has been growing almost at 3 per cent.

A number of lyrics set to traditional Arab melodies will be wafted through the UAR broadcasting system during the winter.

One particularly trenchant stanza is :

"You have beaten the rabbit in having so many children,

Put on your brakes so that you don't have trouble in your family...

Life will be more troublesome for you who have beaten the rabbit

You have put your husband in debt, morning and evening,

You, mother of boys and girls, have created a school class in your house."

—Editor

DEVALUATION:

Time For Stock-Taking

A REJOINDER TO THE "FOUR ECONOMISTS"

IN an article published in *Yojana* (June 26, 1966), four economists made out a case for devaluation. They made several observations and listed some of the possible benefits of devaluation. Some of their statements and views are examined in this article.

1. "*"If exporters maintain the foreign prices, they will reap substantial profits after devaluation.*"

If exporters could maintain the same foreign prices, it would mean that our exports had no competitive price disadvantage and there was no need for devaluation. The basic idea behind devaluation is to make our goods cheaper in foreign countries without affecting the domestic prices so that foreigners could be persuaded to buy more of our goods. Naturally, after devaluation, the foreign buyers would expect a reduction in foreign prices. If there is no reduction in foreign prices, they might adopt the policy of wait and see, thus affecting our exports. Press reports confirm this.

We can maintain the same foreign prices only in cases where we have a monopoly and the demand is price-inelastic. If it were so, we did not need the help of devaluation.

2. "*There are other commodities where the limitation is not world demand but inadequate supplies available for exports*".

In such cases, devaluation was not at all needed, Their exports could be expanded by expanding domestic output to such an extent that it could satisfy both the domestic and the external demand. Liberalisation of imports and/or expansion of domestic agricultural production could have helped the expansion of domestic production. And liberalisation of imports could have been tried even without devaluation.

In fact, the undue emphasis on heavy industries and the neglect of agriculture, which continues to be a gamble in rains even after 15 years of planning, were the basic cause of our difficulties, and devaluation will not help us to overcome this defect.

R. L. VARSHNEY

3. "*In those industries which produce exportables and have substantial idle capacity mainly because of the lack of imported raw materials and spares, any increase in foreign exchange allocation (or availability) will bring particularly large gains in foreign exchange earnings.*"

Idle capacities in such cases were the result of the defective import policy of the Government which attached more importance to development imports at the cost of maintenance imports. More and more capacities continued to be added irrespective of whether they could be utilised or not. And liberalisation of imports in such cases could be made without devaluation. If exports could be increased by merely ensuring adequate imported raw materials, we could have done this by suitably amending our import policy without undertaking such a radical measure as devaluation whose benefits are rather uncertain.

Significantly, the four economists do not mention commodities whose production and/or exports could be increased. That could have enabled the public to exchange their arguments with more thoroughness.

4. *The economists also maintain that selective export promotion measures had led to anti-social practices like over-invoicing of imports and under-invoicing of exports.*

These practices are the direct result of exchange control and had nothing to do with the export promotion incentives. Nor will devaluation completely eliminate them. On the other hand, if inflationary pressures gather momentum, as they are likely to, and if exchange control is not relaxed, there will be a good demand for smuggled gold as the best hedge against inflation and these anti-social practices will only increase in intensity.

Moreover, there is no guarantee that devaluation will in any way make our customs officials more honest and vigilant.

5. "*Tourism in India will become less expensive and hence more attractive.*"

In theory, it seems all right. But the economists seem to forget that more than 50 per cent of the tourists consist of Americans. And the Americans will get the supply of rupees from the PL 480 funds and India will not get anything in foreign exchange.

6. "*Repatriation of profits will cause less of a drain on foreign exchange*".

To the extent it happens, further

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investment in terms of foreign capital will become less attractive to foreigners. The average foreign investor is interested in the repatriation of rupee profits and dividends. And in this respect, every rupee will purchase less foreign exchange than before.

7. *The economists claim that the prices of basic consumer goods will not increase as a result of devaluation. And they cite in support the intention of the Government to subsidise sales of imported foodgrains and kerosene.*

But they just omit to mention that, as pointed out by Mr Boothalingam, former Finance Secretary, this subsidy would be given *only in the current year.* If the subsidy is continued in the years to come, the common man will have to bear the cost of subsidy through higher taxes.

8. *They further say that the prices of coarse and medium varieties of cloth will not be affected because of their relatively small import content.*

But the small import content will cost more and it would be too much to expect that devaluation will make our manufacturers so patriotic as to absorb this higher cost themselves without increasing the price of cloth. Thus, in a nutshell, it would be a vain hope to say that "even in the future, prices of items of mass consumption need not be seriously affected." This hope has already been belied.

9. *"In general, if in the wake of devaluation a substantial increase in external assistance comes about and imports are liberalised, idle capacity in the economy will get activised and the increase in output will help dampen any tendency towards price rises."*

It is extremely doubtful whether the reduction in costs due to utilisation of capacity will be so high as to neutralise all price increases due to the higher cost of import content. Then there are not many goods which do not have any import content at all. Hence the assumption that there are many home-produced goods which do not have any import content has a doubtful foundation.

10. *The third part of the article begins with the assumption that devaluation will lead to an increase in foreign exchange earnings.*

To offset a decline in the unit prices of our goods in terms of foreign currency due to devaluation, there must be an increase of at least 57.5 per cent to maintain the same foreign exchange earnings. If the increase in exports is less than 57.5 per cent we will be worse off than before. For 70 per cent of our exports the Government has imposed export duties to partially offset the effects of devaluation. Yet some margin remains. At best we might not lose in terms of foreign exchange earnings in respect of these goods. For the rest of the goods, neither the foreign demand nor the domestic supply is so elastic as to permit a 57.5 per cent increase in their exports.

As regards export duties, there is already a clamour for the removal of, or reduction in, these duties. The Government stood firm against these demands for some time. However, it seems to be yielding ground. In many cases, the duties have been revised so as to reduce their overall incidence. If this trend continues, our export prices in terms of foreign currencies will decline, and our foreign exchange earnings even from the traditional exports will go down. If the experience of 1949 devaluation is any guide, it is very likely that all export duties might ultimately be removed within a period of three to five years.

11. *The four economists rightly conclude, "The advantages that devaluation is expected to create in export markets will be largely lost if inflationary tendencies are not held in check."*

Unfortunately, the fact is that if the Government could not control inflationary tendencies so far, it would be still more difficult for it to do so after devaluation. The question that arises is: What is the fundamental cause of inflation? It is the Planning Commission's insistence to go ahead with grandiose Plans which is at the root of the trouble. Devaluation has clearly proved the failure of past policies. It is now time for a reappraisal of policies. Yet the Planning Commission seems to be unwilling to learn.

Chambal Project

from Page 17

The 95 m (311 ft.) long and 18 m (59 ft.) wide Gandhisagar Power Station houses four generating sets of 23,000 KW capacity, each driven by a turbine of 34,000 H.P.

The ultimate installed capacity of the power house will be raised to 115.000 kW, from the present capacity of 92,000 kW. Power generation will be 80,000 kW at 60 per cent load factor.

Work on the power station began in October 1957 and it was ready for generation and supply in November 1960. Three of the units were in commission by 1960-61 and the fourth in August 1963.

The storage structure with the power station has been constructed at a total cost of Rs 18.4 crore, of which the Dam alone costs Rs 13.6 crore. The cost of water storage works out to hardly Rs 16 per thousand cu.m. (Rs 20 per ac. ft.), the cheapest so far in India, if not in the world.

The first and avowed benefit from Gandhisagar is the large block of power that it develops for the economic advance of the areas commanded by it in Rajasthan and Madhya Pradesh. Power lines run to Ujjain, Indore, Bhopal, Nagda, Ratlam and Gwalior.

The Gandhisagar Power Station is also linked with Punjab, Madhya Pradesh and Uttar Pradesh, to form a vital part of the North-Western zonal grid in India.

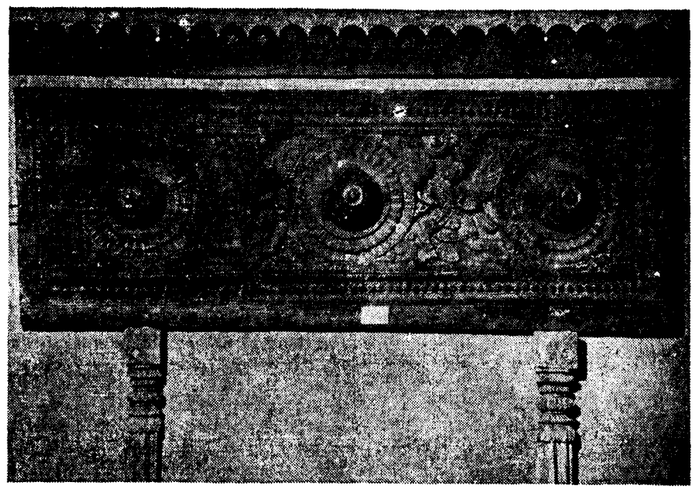
With the completion of the Chambal cascade in 1967, with its three dams, associated power houses, and the diversion barrage, the capricious river will not only have been brought under control but its resources will have been utilised practically to the full. The total storage capacity of the Chambal Scheme will be 8.42 million acre feet, the total installed capacity will be 3,86,000 kW, and irrigation will be ultimately extended to 14 lakh acres in the two participating States.

Availability of power has stimulated a number of major industries. Pig iron and zinc smelters have sprung up at Udaipur. Factories for rayon, tyre cord, precision instruments, fertilisers, cables and cement have come up at Kotah.

BOMMAI KOLU

USHA CHETTUR

hotographs by R. D. LUTHRA





An Exhibition of South Indian Crafts

MR K. Ramamurthy (Kora) is one of those who belie the axiom that the collector's sense in our people does not go beyond Swiss-made cuckoo clocks and American pop-up toasters. Kora is a collector of antiques—antiques which he has grown up with.

The Bommai Kolu—literally, a display of dolls—is actually much more than a collector's antics, or antiques. It is a painstakingly assembled collection of the arts and crafts of the deep South, several of which have been resurrected by Kora himself. Kalamkari, the 'writing craft' of the Telugu-speaking area of South India, is one example. At the instance of Mrs Kamaladevi Chattopadya, Kora started a Kalamkari school at Kalahasti, Andhra Pradesh —the birth-place of the art. The Kalamkari technique is used to depict stories from the puranas and the medium used is vegetable dyes on long cloth panels.

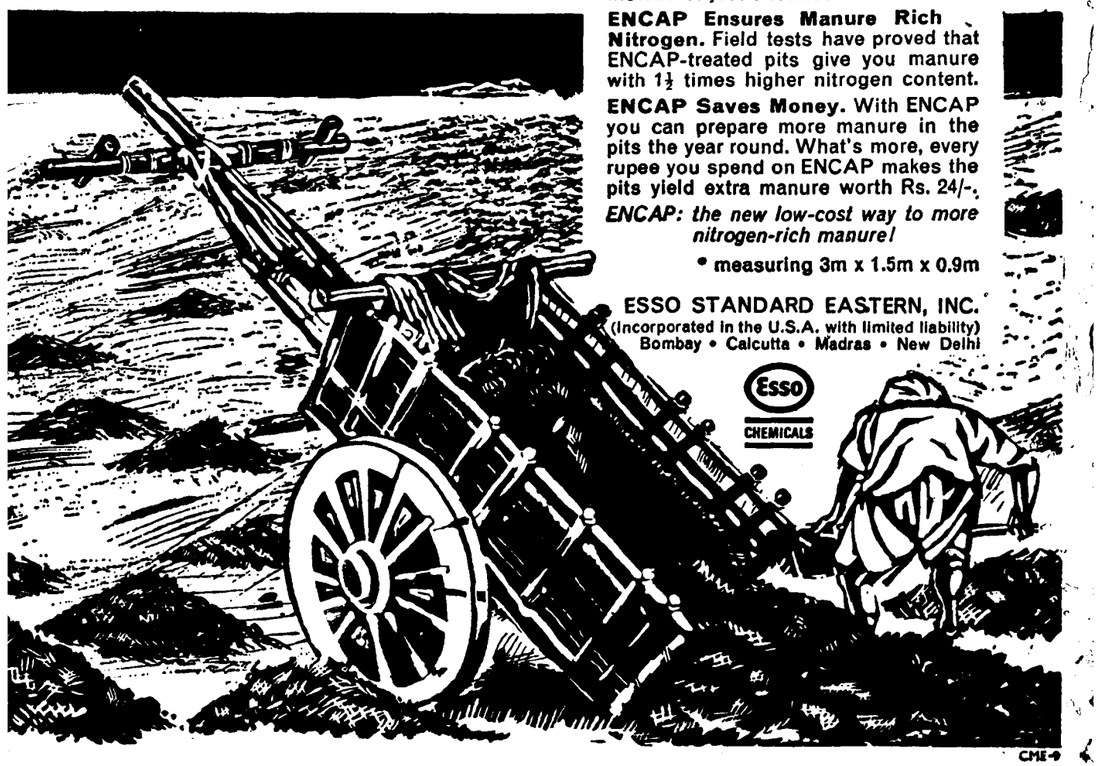
The other striking section of the exhibition is the woodcarvings. The Rajas of Chettinad—a wealthy trading community of the South, in their anxiety to modernise their surroundings, started stripping off exquisitely carved wooden friezes with which their houses were decorated for centuries. Kora smelt a treasure and managed to get together an incredible collection before the Rajas got wise to the fortune they could amass from these carvings. Chettinad friezes, about 2½ feet by 8 inches, now come for over Rs 1,000. Kora's collection of Ratha carvings (some over 400 years old, auctioned for Rs 40,000 recently) are indeed impressive.

In the actual 'Bommai' or doll section, there are the Griharachana idols used for household worship, Kodampalli toys, animal figures in bronze and wood, marionette puppets of the Kannada area and, of course, the interesting Tholu Bommalattam or colour leather shadow puppetry. These leather puppets are done in pure folk style using vegetable colours on raw hide.

Kora's exhibition of traditional South Indian arts and crafts shows that the artist and craftsman of South India used a variety of media for his work. Exhibits show a wide use of paper, glass, mica, wood and leather. Most of the exhibits on sale had 'sold' tags on them and a quick survey of the buyers' names showed that, besides the usual foreign collectors, there were a heartening number of indigenous art-enthusiasts as well.

Kora announced that this was only one-tenth of his entire collection and to those who did not get to Ravindra Bhawan early enough, there is the hope that Kora will bring out another tenth of his treasures soon.

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* measuring 3m x 1.5m x 0.9m

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PILSNER: Where Indians Train at Czech Factory

J. C. JAIN

In Prague the snowfall usually begins in the first week of December, but last year it started quite early. Prague was covered with a white mantle of snow when I got down at the railway station. Dr Haban, ex-Consul of the Czechoslovak Consulate in Calcutta, who is now Secretary of the Czechoslovak Society for International Relations in Prague, as well as Dr Vincenc Porizka, a reputed scholar of Indology, came to receive me.

Nestling in the hills round the river Valtava, Prague, capital of Czechoslovakia, is one of the most beautiful cities of Europe. It is an ancient city, a treasure-house of interesting *objects d'art* from the point of view of ancient culture. This city which abounds in churches has earned for itself the title "City of Hundred Spires".

Situated on a hill bordering the Valtava, the Prague Castle is known for its magnificent architecture. It had been the residence of the Heads of State from the 9th century onwards. The Castle consists of the Royal Palace with the Chapel of all Saints and several other halls. The Vladislav Hall in the Castle is one of the finest specimen of Gothic art in Central Europe dating from 1486 to 1502. The Royal Summer Palace is one of the fascinating Renaissance buildings in the north of Alps.

On the opposite bank lies the historic Old Town which was linked with the Lesser Town by means of a wooden bridge in 1000 A.D. This structure was replaced by the Charles Bridge constructed by Charles IV, King of Bohemia and emperor of the Holy Roman Empire, in the 14th century. According to a popular legend, the bridge was built with the greatest care by adding eggs to the mortar to make it stronger. A large number of eggs was required for this bridge which was 520 metres long and 10 metres wide, having 16 arches to support it. Consequently, all the towns in the Bohemian kingdom were called upon to send as many eggs as possible for the purpose. When this too could not meet the demand, a large wagon load of eggs were procured from Velvary.

The bridge is adorned with 30 statues all erected between 1683 and 1714 A.D. The oldest one, after the Crucifix, represents St. John of Nepomuk, who was selected to obliterate the memory of the martyr John Huse during the anti-Reformation period.

The beauty of the bridge is further enhanced by the natural scenery of the surrounding hills, the beautiful gardens of the Lesser Town, the rising steeples and the gleaming river in whose waters the towering buildings are reflected in all their glory.

After addressing the faculty and the students of the Oriental Institute, we set out to Pilsner at the suggestion of Dr Krasa, President of the Czechoslovak-Indian Committee.

Pilsner, or Plzen as the Czechs call it, situated in west Bohemia, is one of the provinces of Czechoslovakia. It is the fifth largest town in the Republic with a population of 140,000. The town has preserved a number of cultural and historical monuments, some of which date back to the Gothic period. The Gothic church in the heart of the town has a 103-metre high tower from which one can get a beautiful view of the surrounding countryside.

SKODA WORKS

At Pilsner many students from India are undergoing training at the Skoda Works (now V.I. Lenin Works, formerly Wellenstein Engineering Works). Occupying an area of 2.5 square kilometres, the Skoda Works, the largest engineering concern in Czechoslovakia, produces turbines, locomotives, machine tools, ship's engines and other machines.

Pilsner is also famous for its excellent beer. The Pilsner Urquell beer is enjoyed all over the globe.

In fact, Pilsner enjoys a remarkable degree of geographical and geological advantages which favour the brewing of this delicious beer. The rich heavy quality of barley and hops and the minerals of the brewing water, along with the propitious climate of the valley, are all conducive to perfect brewing. Moreover, the massive caves hewn out of the solid sandstone rock form natural cellars for this quality beer.

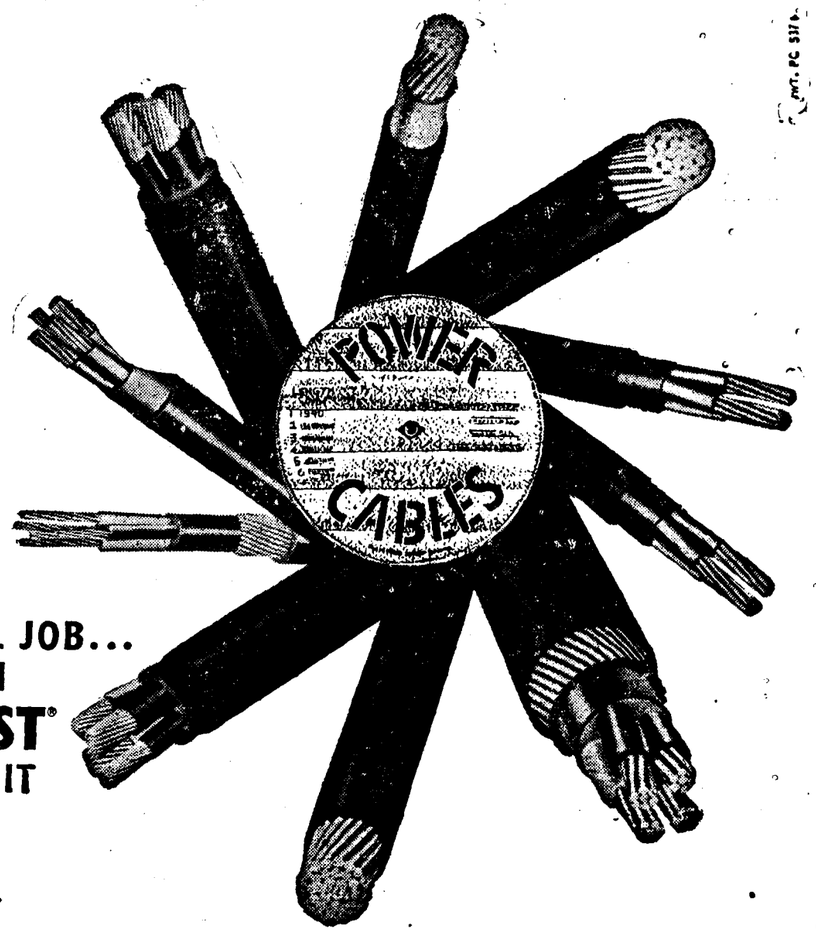
A museum has been erected in the town where beer was manufactured in olden days employing crude methods. Old methods of the manufacturing plant are also preserved here: also the process is explained by means of illustrations. Heaps of barley and hops are also shown. The museum attracts visitors from all over the world.

100 INDIAN TRAINEES

Over a hundred Indian engineers are undergoing training at the Skoda Works under an agreement between India and Czechoslovakia. These young technicians have to complete a basic course in Czech language before they leave for home.

The students are accommodated in a spacious hostel, founded in 1963, and are under the care of Mr. Shevesta. They celebrate National Days and also different fe tivals in the Indian calendar. Indian embassy officials participate in these programmes.

Recently several meetings have taken place to discuss further collaborations in economic and commercial spheres as well as cultural exchanges between India and Czechoslovakia. The Czechoslovac-India Society is soon holding a conference in Prague.



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RURAL INDUSTRY



A YOJANA SUPPLEMENT

Importance of Well-co-ordinated Area Plans in Rural Industrialization

S. H. PORE
and
V. D. DESHPANDE

The authors who are members of the Research Staff of Gokhale Institute of Politics, Poona, have, in this analysis, based their observations on a study of the operation of rural industries projects in Maharashtra, especially those at Wardha and Vengurla. Some of their comments may, however, be found to have general applicability.

THE expression 'rural industrialization' has not been defined in exact terms and consequently only vague ideas have come to be associated with it. In the beginning the objective, as stated, was "to build a pyramid of industry broad-based on a progressive rural economy." In concrete terms it was supposed to mean "a dispersal of industries to the small or urban centres and rural areas." It was presumed that "in such a planned dispersel, there will be room for linking up small assembly units in urban centres with the manufacture of parts and components by ancillary units in rural areas and for small units and artisans in rural areas to be serviced by common facility workshops set up in small towns." At a later stage, the objective was stated to be "to bring about a diversified and balanced rural economy." This was later supposed to mean 'a co-operative agro-industrial economy." Again at a later stage it was stated that rural industrialization will have to include not only development of agro-industries or processing industries but also a full-scale development of modern mechanised small-scale and medium industries.

It will be seen that all these expressions have very wide and different connotations. It is not proposed to go into a critical analysis of these expressions here; they are briefly stated here only to emphasize the fact that ideas regarding rural industrialization are still to be formed in concrete terms.

Area Approach

Since the primary objective of the programme involved all-round development of the area, it was obvious that in any area the rural industrialization programme should form a part of a well-integrated and well-co-ordinated plan of local development. Previous experiences of various organizations, such as the Village and Small Industries Division of the Planning Commission, the Central Small Industries Organization, and the Khadi and Village Industries Commission, all of which worked in the same field, also indicated the necessity of a careful survey of the needs, resources, and the development potentialities of the area, and formulation of a well-conceived and co-ordinated rural industrialization programme on the basis of the results of such a survey. The importance of involving the people of the area and their representatives in drawing up and in executing the programme was also clearly indicated.

Usual Schematic Pattern

Though the importance and the necessity of an integrated and co-ordinated area plan was recognized at the beginning, further developments in the project areas showed that the

JAMSHEDPUR STEELMEN WIN SHRAM VIR NATIONAL AWARDS

In March 1966, the Government of India held the first ceremony to honour the country's new heroes—technicians and industrial workers—with *Shram Vir* National Awards. These awards will be made every year in recognition of suggestions leading to higher production at less cost.

Of the 27 awards this year, no less than five, including two top prizes, went to Tata Steel employees—the largest number won by any industrial unit in the country.

At Jamshedpur, during the last 20 years, employees have put forward over 12,000 suggestions, of which nearly 1,000 have been accepted. These suggestions have helped to increase productivity and make operations safer, and have led to the utilisation of local know-how and materials for self-reliance.

Tata Steel is proud that it pioneered the Suggestion Box Scheme to encourage initiative from the shop floor ... a scheme which is becoming a standard industrial practice in India today.

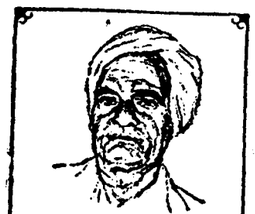


R.C. BHAKAT
won top award of Rs. 2,000 for suggesting modifications to the New Floor Charger in the Plate Mill.



M.M. MAZUMDAR
won top award of Rs. 2,000 for suggesting use of basic bricks in door arches of open hearth furnaces.

TATA STEEL



K.B. DUBEY
won Rs. 500 for devising a gadget for protecting wagon brass-bearings from pilferage.



BALWANT SINGH
won Rs. 500 for suggesting modifications to top coolers of open hearth furnaces.



AFZAL HUSSAIN
won Rs. 500 for suggesting modifications to the side frame of L.B. wagons.

The Tata Iron and Steel Company Limited

JWTTN 3274A

Letters

SAINIK SCHOOL SCHOLARSHIPS

THE survey of scholarship schemes in *Yojana* of October 16 does not mention the scholarships available in Sainik Schools. There are 15 Sainik Schools, one in each State, giving public school education to about 4,900 students. About 75 per cent of these boys receive scholarships from the State and the Central Governments. Merit Scholarships are also tenable.

Various kinds of scholarships are given in the Sainik Schools. In Mysore, Kerala and Assam the scholarship schemes are: full scholarship to those whose family monthly income is Rs 400 or less; three-fourths scholarship to those with family income up to Rs 750; one-half scholarship to those with family income up to Rs 1,000; one-fourth scholarship to those whose family income is up to Rs 1,200. The full scholarship comes to Rs 1,900 plus clothing fees, and the one-fourth amounts to Rs 475. This is the model scheme recommended by the Ministry of Defence to all States which is still being examined by the States which have not adopted it.

In other States, the ratios of family income and scholarship are a little different, the scholarship amount rising to Rs 2200 in Bihar, Maharashtra and Madhya Pradesh on a lower family income.

Clothing fees are at Rs 300 for the first year and at Rs 150 for subsequent years except otherwise stated.

Liberal scholarships are granted by the Ministry of Home Affairs to residents of Union Territories. A limited number of scholarships are also awarded by the Ministry of Defence to sons of serving or ex-service JCOs/OR and equivalent ranks of the Navy and Air Force.

The Jammu and Kashmir Government is also granting scholarships at the rates shown above to boys from J&K studying in Sainik Schools

E. J. SIMEON
Sainik School, Kunjpura Principal

IV Plan Critique

WITH great interest I have read in the recent issues of your esteemed journal the views of various commentators regarding the feasibility and realism of the Fourth Plan programmes. The remedial measures, suggested by Messrs Baljit Singh and K. T. Merchant (*Yojana*, November 13, 1966) call for serious thinking.

If the difficulties faced in the implementation of the Third Plan are to be avoided, and if self-reliance and stabilisation of prices are to be attained, priorities of production should be fixed in such a manner that the supply of consumer goods should not lag behind the purchasing power of the people. Further, there is an urgent need for adequate supervisory and technical personnel for the effective implementation of properly formulated schemes and stoppage of misuse of public resources. This can be brought about only by the spread of education of the right type at various levels, making each and every one fit for the role to be played by him.

Kota (Rajasthan) R. P. SINGH

Wrong Approach

MR Paranjoti's story (This India column, *Yojana* October 30, 1966) makes shocking reading.

The very approach is wrong. After all it is not by time and again speaking or writing about casteism that caste system can be wiped out.

It is still wrong to inject into the minds of the young people caste differences as has been stated in the story. The young boy was asked to which caste he belonged and he was made to feel the difference between his caste and another by such a question.

This certainly does not promote or pave the way to a casteless society.

Coimbatore Y. V. VISVESH

Yojana Bhavan Diary

The Planning Commission has completed discussion on the Fourth Plans and the Annual Plans for 1967-68 of all the States. The discussion had begun on October 14.

Since December 1, the Planning Commission has been meeting regularly to discuss the Plans of the Union Territories.

Among the important foreign visitors who met Mr. Asoka Mehta were: Mr Ridgeby Foster, Adviser to India, Pakistan and Burma Association in London (Nov. 21), Mr David Holden, Editor, *Sunday Times*, London, and Mrs Dorothy Jacobson, Assistant Secretary, Agriculture Department, U.S.A. (Nov. 24), and the Russian delegation headed by Mr S.A. Skachkov, Chairman of the Soviet State Committee for Foreign Economic Relations (Nov. 30).

Prof M.S. Thacker, Member, left for Prague on December 1, to discuss with the Czechoslovak authorities the future programmes of the Central Machine Tools Institute, Bangalore. From Prague he will go to London to attend the Technical Committee meeting of the Delhi Institute of Technology.

Dr D.K. Ghosh of the Economic Division left for Bangkok to attend an ECAFE meeting.

Dr A.C. Joshi, Adviser (Education), proceeded to Milan to attend the meeting of the Continuation Committee for creation of an International Committee on Educacational Exchange, being held there from December 2 to 5.

WORKSHOP & SEMINAR

The Planning Commission is holding a 3-week training workshop in New Delhi from December 26 to January 14 for middle-level personnel engaged in the preparation and evaluation of projects. There will also be a week's Orientation Seminar for policy makers from January 16 to January 21. Collaborating with the Planning Commission is the U.N. Centre for Industrial Development. Both the Workshop and the Seminar will be held at Vigyan Bhavan.

dustries producing investment goods by increasing appreciably the proportion of investment in the basic heavy industries so that our country would become more and more independent of imports of foreign machinery and capital goods. Yet it was added that there was "a physical and/or socially acceptable limit beyond which it is not possible to push up investment in the capital goods industries (because of the shortage of capital goods and technical personnel or because it would involve too great a sacrifice of immediate benefits)". It is obvious that the socially acceptable limit of pushing up the investment in capital goods sector is well within our sight, if it has not yet actually reached. The general discontent in the country, the organisation of 'bandhs' in several States and the big demonstrations against the Central Government are all pointers in this direction.

Limiting Factors

In his essay, Prof Mahalanobis pointed out some limiting factors to the policy of pushing up expenditure in the capital goods sector. Among others, the non-availability of consumer goods to face the increasing demand as a result of rising income due to increased public expenditure, lack of technical personnel and the inadequacy of administrative machinery were considered to be the most important limiting factors. A review of the achievements of the Third Plan shows that all these factors are proving a bottleneck.

As regards the availability of consumer goods, there has been an acute shortage of foodgrains and other basic consumer goods. Except for one year, 1964-65, the agricultural production did not show any increase, and the large imports of foodgrains continued. Industrial production was also lower than expected. The result was a sharp rise in prices. During the Third Plan the prices of foodgrains increased by 48.4 per cent, those of industrial raw materials by 32.6 per cent and of all commodities by 36.4 per cent.

In India, since the bulk of consumer goods are derived from agriculture, the large increase in agricultural prices led to an increase in the cost of living necessitating the increase in the wage rate, dearness allowances etc., resulting in the cost-push inflation. The lack of technical personnel combined with the non-availability of raw materials due to stringent conditions led to a shortfall in industrial production. And, finally, as the Draft Outline admits, one of the main reasons contributing to the shortfall of production in the Third Plan was that "the administrative rules and procedures lacked the flexibility to meet the changing needs and the necessary changes in them had not come about" (Page 5).

Even after these shortfalls and the decision to devalue the rupee (which was a clear admission of the fact that we were living beyond our means), the public sector outlay during the Fourth Plan has been increased to Rs 16,000 crore from that of Rs 8,631 crore in the Third Plan. The reason given is that the shortfalls in the Third Plan necessitate a stepping up of the efforts so that we are able to achieve self-reliance by the end of the Fifth Plan, as originally suggested in the Third Plan document.

In considering the extent to which the perspective set out in the Third Plan document is to be revised, the Draft says "it must be mentioned that it is generally undesirable to lower one's sights, especially when one is thinking of a period as distant as ten years from now rather than of the immediate future" (Page 27). It goes on to say that "we cannot slacken our efforts during the Fifth Plan period. Indeed it may have to increase in both magnitude and intensity" (Page 28), which requires that, if we have to start at the beginning of the Fifth Plan from the position that was suggested in the Third Plan document, we have to step up our efforts in the Fourth Plan so that in addition to its own desired objectives and targets as a part of the long-term perspective plan the deficiencies of the Third Plan are also made up. It is not that the Planning Commission does not recognise the significance of the present difficult economic situation. The deficiencies are duly recognised but the conviction is that the "constraints which loom large in the immediate present tend to diminish or even disappear given timely decision and prompt action in the present" (Page 27).

Scarcity Innate

Let us examine what timely decisions and prompt actions are proposed in the Draft Outline to remove the bottlenecks and do away with the distortion of the economy.

In spite of the fact that agriculture is said to have been given the highest priority in the Fourth Plan, the distribution of public outlay in the Draft between various items of expenditure remains almost the same as that of the Third Plan. Whereas in the Third Plan the expenditure on agriculture, community development and co-operation was about 13 per cent of the total expenditure, in the Fourth Plan it increased to 15 per cent. On the other hand the expenditure on organised industries and minerals increased from 20 per cent in the Third Plan to 25 per cent in the Fourth Plan. This shows that there has not been any substantial change in the proportion of expenditure on agriculture over that of organised industries and minerals. The percentage of expenditure on irrigation decreased from 7.6 in the Third Plan to 6 in the Fourth Plan.

It is suggested that the tightening of administration in the field of agriculture will lead to the desired increase in the agricultural production. It is hoped that the administration will be geared up to the basic economic and social tasks which will help the country to tide over the present difficulties. In regard to technical personnel it is suggested to link education more purposively with the requirements of the country's development although in the Draft no plan seems to have been worked out to accomplish it.

In spite of its claims the Draft Plan does not anticipate any great increase in consumer goods, particularly agricultural commodities. In formulating the price policy for the Fourth Plan the Draft says that the prices of basic consumer goods are to be held through expansion of State participation and control in regard to both wholesale and retail trade. Perhaps such a scarcity of consumer goods is an inherent part of the long term strategy of Planning as enunciated by Prof Mahalanobis.

turn to Page 27

Books

A SOCIO-ECONOMIC SURVEY OF A VILLAGE

Ashok V. Desai

Loyera: A Socio-Economic Survey. R.N. Tewari and R.A.P. Singh. Published by Vidya Bhavan Rural Institute Udaipur, 149 Pages.

LOYERA is a small village of about 700 people in the Aravalli range in South Rajasthan. It is almost a satellite of Udaipur.

Tewari and Singh have collected information on the common socio-economic characteristics of the village population: its composition by sex, age, caste, type of family and occupation, birth and death rates, literacy standards, land use, size of holdings, crop output, income, expenditure, assets and liabilities. Thus one gets a comprehensive statistical picture of the village.

Loyera is on the fringe of the Bhil region, and almost half of its population consists of Bhils. It also has a dominant farmer caste, the Dangis, who make up about a quarter of the population and own nearly a half of the land. The village's demands cannot, however, support most of them in their traditional occupations, and all, apart from traders, have taken to cultivation or general labour.

Births in the village in 1960-61 were four times as many as deaths. But two-thirds of the deaths were of children under fourteen. This risk of early death was even greater for girls: there were only 129 girls under 15 as against 141 boys. And presumably the risk persists later in life, for there were 29 women over 45 against 39 men. True, there were 159 men and 164 women between 15 and 45, but a large proportion of these women was probably brought into the village by marriage. It is a pity, the report gives no information on this point.

Compare this with the livestock situation: there were 189 oxen against 145 cows, and 62 female buffaloes against 20 male ones. The sex composition of calves is not given, but I am sure it would show the same sex biases.

These figures, apparently unrelated (they appear almost at the opposite ends of the study), illustrate the same basic characteristic of a poor community, *viz.*, that when it is short of resources, the community favours its work force and sacrifices the segments of the population which consume more in relation to their work. It sacrifices children, especially girls since they will not grow up into able-bodied men; it discriminates against women, and for the same reason it sacrifices its cows. We find the same picture all over India: that the proportion of men increases with poverty, the proportion of oxen increases with draught requirements and is lower in areas with high availability of fodder. Buffaloes, which are wetland animals by origin, are much more numerous in the drier regions of India where more fodder is available. (However, buffaloes are kept in Loyera probably because their milk finds a lucrative market in Udaipur).

Similarity would be found even in the way in which the less productive members of the rural community are eliminated: the mechanism probably involves the deprivation of basic consumer goods. May be the process is more drastic with the male buffalo calf, which is straightway deprived of its mother's milk; perhaps the elimination of human beings is managed more gently, more institutionalised. One would like to know.

I wish the study had thrown more light on this problem of the relation between population and resources. Let me not suggest that this is the only problem of importance. But one wants to consider what a village survey can usefully do. That most of the Indian villagers are illiterate, or that most of them engage in agriculture and work on small, fragmented holdings, are long known facts. We even have nationwide statistics showing these things; to make village surveys to demonstrate them for the n'th time is wasteful. Surveys should investigate questions that cannot be tackled by censuses and governments: they should study people in greater detail, and find out how poverty affects their day-to-day life, what they can do to improve their circumstances, and what prevents them from doing it.

Coming back to the survey, it deals with three matters in greater detail the occupational pattern, agriculture, and income and expenditure.

The major influences on the occupational pattern are poverty and urbanisation: poverty led to a decline in the demand for minor services and a reversion of specialised workers to agriculture, and the growth of Udaipur relieved the pressure on land by diverting small farmers and labourers to the town.

The investigators made their own estimates of the crop area and livestock population, and found that they differed substantially from the village *patwari's* records. They say that the *patwari's* figures of area were more correct than theirs since his records were "an official document with legal recognition", while his livestock figures were less reliable since they were not in an official document. This seems a curious way of resolving the issue.

It is also likely that the estimates of income and expenditure are wrong.

To conclude, the study contains much interesting material; and the fact that it could contain more reliable or much more material does not detract altogether from its value.

Scholarships—A Correction

The All India Education Conference in a resolution passed recently is understood to have asked the Government of India to raise the number of *merit scholarships* (not of *public schools*, as reported in the last issue of Yojana) in public schools to 2,000.

IMPEDIMENTS TO RURAL DEVELOPMENT

T. M. C. Menon

Impediments to Development in Developing Countries. Edited by Nageshwar Prasad and B.N. Jayal. Published by the Gandhian Institute of Studies, Rajghat, Varanasi. 165 pages. Rs 8.

THIS book would have been more aptly titled as "Sociological Impediments to Rural Development in India". It is concerned largely with the non-economic factors inhibiting village community development in India.

The Gandhian Institute of Studies and the Indian Committee of the Congress for Cultural Freedom jointly sponsored a seminar on "The impediments to development in developing countries" in January 1965. This book is the outcome of the seminar presenting its discussions, papers and conclusion. Participating in the seminar were political and social leaders like Messrs Asoka Mehta, Kamlapati Tripathi, Jayaprakash Narayan, Achyut Patwardhan and Nabakrushna Chaudhuri in addition to leading administrators, social workers, academic sociologists and economists.

The book is divided into three parts. Part I, titled "The Dialogue", contains the introductory speeches by Prof. S. Dasgupta, Joint Director of the Gandhian Institute, and Messrs Achyut Patwardhan, Asoka Mehta and Nabakrushna Chaudhuri. The issues to be considered by the seminar are spelled out here in vague terms and the speeches offer a rather uninspiring introduction to the deliberations to follow. Mr Patwardhan asks the seminar to enquire why the rural sector has lagged behind the urban sector in development. Mr Mehta discusses the broad features of the Plans and the main areas where shortcomings in implementation were noticed. In particular, he thinks there has not been an adequate appreciation of the needs of the situation and the determination to reach set goals. Mr Chaudhuri, while agreeing with Mr Mehta's views, poses the question somewhat differently and asks as to why the people have lacked faith in the development programmes drawn up by the Government.

The speeches are followed by a useful summary of the discussion that took place on the papers presented at the two sessions of the seminar. Altogether twelve papers were read and these are reproduced in full at the end in Part III. It is a little astonishing if not disheartening, to find that the experts differ so much both in their diagnosis of the maladies affecting the Indian rural society and their prescriptions to cure these. Hindu religious philosophy, mutual mistrust, caste, escapism, lack of self-confidence, unsympathetic and uninspiring administration, have, among others, been listed as the causes for rural retardation.

From this analysis it would have been difficult for one to understand clearly the complex problems facing the rural society of this country. Happily, however, a chapter on conclusions and recommendations is added where the seminar's discussions are put in a cogent manner. The seminar came to five main conclusions. First, the rural community often showed resistance to change due to its socio-cultural complex of which the most formidable were caste and religion. Second, there was a lack of effective leadership and initiative caused partly by the failure of a new leadership emerging to fill the vacuum created by the removal of tradition leaders. Third, technical advice was not available at the level of implementation. Fourth, the true motivational factors were not recognised and suitable incentives not offered to encourage them. Last, there was too much of a gap between the ideal and the practical.

Though some of the recommendations of the seminar are merely familiar platitudes, they contain some useful suggestions. Some helpful advice is given to encourage and activate village panchayats. Similarly, the recommendations regarding agricultural education, suitable governmental and educational agencies, communications media and the use of extension agencies offer useful tips for gearing up development.

The book perhaps does not offer much in the way of new light on the Indian village communities and clear recommendations on improving the pace of rural development. Nevertheless, as a restatement of the case it has a purpose to serve.

Livelihood in an M. P. Village

Earning One's Livelihood In Mahuva by D.P. Pandit. Published by Asia Publishing House, New Delhi. 100 pages. Rs 12.

Dev Prakash Gupta

THIS book is the outcome of the social survey work done by the author herself in the seaport of Mahuva in Gujarat. Mrs Pandit deserves appreciation for taking up a door-to-door study, unlike those attempting on bulky treatises in a closed room, and herein lies the merit of this book brought out by the Department of Sociology of the M.S. University of Baroda.

A thorough study and minute observation of the inter-actions prevailing in a simple society, turning from agriculture to industrialisation in the process of economic development, it is a scientific approach to the changing economy of a community either pushed or pulled into different activities of production. To bring out the conflict as well as relationship between the caste, creed and tradition on the one hand and status-approach, prospects and education on the other, in an awakened Indian community seems to be the object of Mrs Pandit even though Mahuva is not typical of the urban scene of our country.

The rendering of these observations is of equal interest to the men of sociology, commerce and economics. There is hardly any aspect of Mahuva's social and mercantile life and its individuals, families and the occupations left untouched. Mrs Pandit holds the manual labour, skill and d sire for an independent living to be the factors responsible for the changing pattern of occupation. Wherever possible, the observations have been illustrated and are supported by facts and figures, and the data are classified in tables—some of them mere reproductions but the majority collected by the author herself.

IMPACT OF DEVALUATION

On Foreign Trade, Domestic Production and Prices

M. V. PRADHAN

A country is forced to devalue the external value of its currency when its foreign trade is in persistent imbalance. Exports are stagnant and can be sold only at low price and imports are inelastic and are in too much demand.

In the case of a backward economy like India, characterised by a subsistence agrarian economy, exports, mainly agriculture-based, and a national effort to get out of this situation through a programme of development having a heavy import content, a persistent and widening gap between imports and exports is inevitable.

In such a situation, if economic development is not to founder, either the foreign reserves have to be continuously depleted or the country must go on incurring foreign loans. There are, of course, limits to both alternatives. For one thing, borrowing creates its own problem of servicing the interest and amortisation payments. If the loans are short-term and with high interest rates, payment of interest and capital borrowed in earlier periods reduces the net quantum of aid in later periods and, if the take-off of self-sustained growth is not reached in the meantime, a serious situation is created, as is confronting this country today. Also, no further depletion of foreign exchange reserves is possible, because the country has already run them down severely. Caught in this unenviable situation of heavy international indebtedness and low exchange reserves, the Government of India even explored the possibilities of mobilising domestic gold hoardings by introducing the Gold Bond Scheme. But the response has been poor, and the policy has created a new class of embittered persons.

A Forceful Factual Reply to Critics

The disequilibrium in the foreign trade has, however, persisted with exports amounting to just three and a half per cent of the national income in 1965, whereas imports were as large as six per cent, leading to a gap of Rs 600 crore. In such a situation, one solution is that we should cut down imports and bring them down to the level of exports. This would be an ideal solution, if the country's imports were of a substitutable nature, so that we could manufacture within the country whatever we are importing. But this is not always possible. Food imports are necessary just to prevent starvation. Industry requires several mineral-based raw materials which are not indigenously available. In several cases India's present industrial capacity, technology and technical know-how are inadequately developed to have hundred per cent success in reaching the goal of import substitution. If we cut down on essential imports of machinery, industrial raw materials, components and spares, the result would be under-utilisation and idle capacity, falling production and reduced employment with consequential deterioration in living standards. The sufferings of the people would increase further. This, of course, does not mean that we should abandon the policy of import substitution as a long-term measure of tackling our foreign trade disequilibrium. *In fact, one of the main objectives of devaluation of the rupee is to promote this policy of import-substitution industries.* In the immediate short run, there are limits to import substitution, and the adverse balance of trade must be corrected by operating mainly on exports.

Balance of Payments

Most economists agree that even in a mature economy, equilibrium in balance of payments should not be secured at the cost of full employment. Prof. R. F. Kahn defines disequilibrium in the balance of payments of a country as being expressed by the degree of deviation on its part from the position in which she would be in a balance of payments equilibrium, while admitting imports freely under free trade conditions and while enjoying reasonably full employment.

Another writer on the subject, Macdougall, is also of the view that the balance must be achieved without the aid of discriminating restrictions on dollar expenditure, or all-round restrictions on trade that would be removed if the foreign exchange situation permitted; and it must not be achieved at a high cost to employment or economic growth.

The relevance of these theoretical definitions to the Indian case is self-evident. *We should not try to achieve a balance of imports and exports at too low a level, which would mean abandoning a desired rate of growth.* If the rate of growth of population requires a growth rate in the national income of five per cent per annum, then the level of exports should be so fixed as to achieve a balance with imports consistent with a five per cent rate of growth in the national income. In a mature economy the desiderata for balance of payments equilibrium are full employment and

There is no reason why we should not pause for a while and improve the economic organisation so that the waste of public money can be minimised. The non-development and non-Plan expenditure now comes to five per cent of the total expenditure a year. If it can be reduced to 3½ per cent there will be a saving of Rs 335 crore for Plan purposes. There is a great deal of unnecessary expenditure even in the Plan which does not add to the country's productivity. This has to be reduced to a substantial minimum before we launch another set of tax proposals or increase the rate of existing taxes.

Another question which needs emphasis is equality of opportunity. When we claim that the broad objective of our planned development is a socialist structure of society, we have to see to what extent we have progressed towards that goal as a result of 15 years of planning and what new directions does the Fourth Plan Outline give to bring the goal nearer our reach. *If the concept of equality is taken to be repudiation of classes, fair share in the distribution of good things of life and the longing for a society in which people, no longer divided by the barriers of privileges, can be conscious of their common humanity, we are far away from the ideal.* Probably it will be ages before we can attain this ideal. But even as regards equality in the narrower sense, of distribution of income and property, of the money spent on education and other social services, and of reduction of inequalities, we are far behind the socialist goal. *Planning in the last fifteen years has rather increased the concentration of wealth and power in the private hands and reduced the economic well-being of the common man.*

The stress and strain of economic life during the Third Plan has, it seems, obliterated the purpose of socialist goal in the Fourth Plan. The proposals laid down in the Fourth Plan towards the achievement of a socialist society are the same as in the earlier Plans. They can be summarised as: (i) extension of the public sector both in the productive and distributive systems so as to control and regulate the private sector, (ii) increase in taxes to reduce disparities in income and property ownership, and (iii) the establishment of various programmes of production, education and welfare to change the social and cultural climate of the country. But viewed in the context of the present Indian scene, these proposals are not likely to touch even the fringe of the problems. In view of this, definite social goals should be included in the planning mechanism and there should be an attempt to change property relationship by the process of which socialism as visualised in the Plans can be meaningful. In other words, the object of socialist planning should be to maintain a framework of opportunities — opportunities as secure as possible, as equal as possible and as large as possible—in which each individual can shape his own life.

The Fourth Plan gives only a picture of financial outlays and physical targets and desires to change the economy on the basis of capitalist methods and incentives. It must be reoriented on the basis of socialist ideals so that it can be both an inspiration and a guide to action.

UNION TERRITORY
OF
PONDICHERRY
A Glimpse of Its Progress

		1954	1966
Revenue	...	Rs. 130 lakhs	Rs. 370 lakhs
Food Production	...	34,880 tonnes	56,090 tonnes
Sugar Production	...	Nil	11,000 tonnes
Power Consumption	...	18 units (per capita)	196.4 units
Industrial Establishment (SSI)	...	18	207
Length of Black-topped Roads	...	52.24 kms.	256.51 kms.
Primary & Middle Schools	...	154	311
High Schools	...	18	40
Enrolment	...	20,526	64,115
Children Benefited by Mid-Day Meal Scheme	...	3,928	39,600
Degree College	...	Nil	1
Students in Medical College	...	12	420
Hospital Beds	...	651	1,648
Primary Health Centre	...	Nil	12
Veterinary Dispensaries	...	2	13
Co-operative Societies	...	Nil	191

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GOVERNMENT OF PONDICHERRY

Planning for FAMILY PLANNING

ASHISH BOSE

THIS paper evaluates briefly the *formulation* of the family planning programmes in the First, Second, Third and Fourth (Draft Outline) Five Year Plans.

In the First Plan, the problem of population growth receives attention in the very first chapter, but the advocacy of the need for population control is cautious. It said, "It is not possible to judge whether an increasing population is favourable or unfavourable to development...But in the short run—and we are concerned here primarily with the earlier critical stages of development—there is no doubt that, given a situation in which shortage of capital equipment rather than of labour is the main limiting factor in development, a rapidly growing population is apt to become more a source of embarrassment than of help to a programme for raising standards of living In other words, the higher the rate of increase of population, the larger is likely to be the effort needed to raise per capita living standards."

The Second Plan put the same idea in a more forthright manner : "The logic of facts is unmistakable and there is no doubt that under the conditions prevailing in countries like India, a high rate of population growth is bound to affect adversely the rate of economic advance and living standards per capita. Given the overall shortage of land and capital equipment relatively to population as in India, the conclusion is inescapable that an effective curb on population growth is an important condition for rapid improvement in incomes and in levels of living."

It will be noticed that while the First Plan refers to the shortage of capital equipment, the Second Plan mentions, in addition, the shortage of land. The Third Plan brought in

A detailed study of the Fourth Plan shows that there is a divergence within the Plans in the basic philosophy of family planning. The formulation of the Plan has been in terms of family planning as an integral part of development planning, but the formulation of the programme has been in terms of family planning as an integral part of health planning.

the discussion on population two more factors—the rate of saving and the growth of labour force. "In an underdeveloped economy with very little capital per person, a high rate of population growth makes it even more difficult to step up the rate of saving which, in turn, largely determines the possibility of achieving higher productivity and incomes." The Plan also refers to "the formidable task" of providing employment opportunities to the new entrants to the labour force.

The most important single factor which influenced the discussion on population in the Third Plan was the 1961 Census which came as a shock to the planners as the Census revealed a much higher rate of population growth than was anticipated. This gave a new orientation to the role of population control. It was not merely a question of shortage of land or capital equipment but one of "the significance of population in relation to economic development". The Third Plan came out with a categorical statement: "The objective of stabilising the growth of population over a reasonable period must therefore be *at the very centre of planned development.*"

SOCIAL DIMENSIONS

The Fourth Plan (Draft Outline) adds a new dimension to the discussion on population control by bringing in social factors. It says : "Growth of population over the past decade and a half has diminished the impact of economic growth. Under Indian conditions, the quest for equality and dignity of man requires as its basis both a high rate of economic growth and a low rate of population increase. Even far-reaching changes in social and economic fields will not lead to a better life unless population growth is controlled. Limitation of family is an essential and inescapable ingredient of development."

To sum up, the need for population control has been emphasised on various counts in the Five Year Plans—shortage of capital equipment, shortage of land, low rate of savings, rapid increase in the labour force, equality and dignity of man, and the overall demands of economic growth, especially, increase in per capita income.

But interestingly enough, the philosophy of family planning put forward in these Plans does not emphasise the approach towards population control just outlined above. In other words, whereas the basic formulation of the Five Year Plans took due note of the economic consideration necessitating family planning, the advocacy for family planning in these very Plans was largely on grounds *other than economic.* The philosophy

Regd. No. D—876

QUOTATION BOX

Men may come and men may go, but the Planning Commission will go on for ever.

—Mr D. Sanjivayya in the Lok Sabha

Mr Raj Bahadur, Union Minister for Information and Broadcasting, told a Hyderabad audience that "Dr Chenna Reddi, the Finance Minister, and I are both Rafians."

—Correspondent's Diary in the Hindu

The State Government recently received a request from an association of milkmen in Madras city for permission to add water to milk. The reason adduced for the request was that the maintenance of milch animals had become costly.

—Quoted in The Times of India

There has been much talk about spiritual affinity between India and China. But it is only a myth. Since ancient times, the Chinese have always been willing to accept any theory in which there is no God.

—Mr K.P.S. Menon

If you can't get a compliment any other way, pay yourself one. I can do it right now. I can state that at this moment there are two men who are most remarkable. Kipling is one and I am the other one.....Between us we cover all knowledge. He knows all that can be known, and I know the rest.

—Mark Twain in a speech in Bombay in 1896

Under a directive from the Union Home Ministry, the police took back from Mr Roshanlal Gupta, editor of a local (Yamunanagar) Urdu daily, a gallantry medal given to him by mistake at a recent investiture in New Delhi. The medal will be given to the actual recipient, a truck driver of the same name.

—A TOI report

A deaf, dumb, blind and retarded seven-year old child is suing two doctors for allowing him to be born.

—Reuter

India's 16 States regard themselves as individual nations when it comes to food.

—Washington Post

The common reader chooses his newspaper much in the same way as one chooses one's life mate—first falling for the look. Only later would he care to go deeper and seek soul, heart or virtues wherever they may lie.

—Santosh K. Ghosh in Vidura

If repressive measures continued and students were not allowed to hold demonstrations, they would stand to it that no Congress leader or Minister was able to address a public meeting or attend a public function.

—Statement by a student leader in Delhi

A general meeting of the U.P. Engineers' Association has decided to adopt "Er"—an abbreviation indicative of their profession, instead of the usual prefix "Mr"

—A news report

In Washington, one veteran Senator complained to a sub-committee chairman last year that Senator (Robert) Kennedy was given preferential treatment for a freshman member.

"Oh, no," was the chairman's reported reply. "I treat him the same way I'd treat any future President."

—Richard Reeves in the New York Times

See Paris and cry.

—An American woman in Paris

Several years ago, an art dealer showed Picasso a new 100-franc note. Picasso immediately began to draw on the empty spaces around the edges of the note. When he finished seconds later, he smiled and said, "Now it's worth twice as much."

—Milton Esterow on Picasso art exhibition in Paris

There is a cement shortage and there appears to have been a bit of a mix-up; I hope that the Government will bring forward concrete proposals.

—Mr Ioan Evans in the British House of Commons

Student picketing before Calcutta University offices and the Presidency College continued on Thursday.

At about 2 p.m., nearly 200 students squatted on College Street in front of Presidency College and staged an open-air drama for about an hour. The police did not intervene and all traffic using the route was diverted. Only tramcars remained stationary.

—A news report

Film stars have more news value than Ministers.

—Prof M. Ruthnaswamy in Parliament

More than one thousand persons throughout the world commit suicide every day. According to the World Health Organisation, in industrial countries suicide is among the first ten causes of death and seems to be increasing. Among students, the rate is higher.

—A.I.R. news

BHILAI'S FIFTH FURNACE

THE fifth blast furnace of the Bhilai Steel Plant has been commissioned. This is part of the expansion programme to raise the plant's capacity from one million tonnes to 2.5 million tonnes of ingot steel.



The fifth blast furnace will use indigenous fire clay bricks in the stoves. Also, it uses thinner sheet plates of special steel for stoves.

The sixth coke oven furnace was also recently commissioned.

Looking Back

From YOJANA, December 15, 1957

WHEN I returned to India in 1947 after an absence of well over thirteen years, certain things struck me rather forcibly—the bush-shirt vogue, the rarity of public conveniences, the habit of talking loud, of cutting across conversation, the difficulty of cashing cheques in banks, of buying stamps or sending telegrams in post offices, small acts of discourtesy or lack of social sense. Some of these were new; most of them one knew of, but was just jolted back into remembering. Of course they have all their brighter sides as well as the seamy side. The bush-shirt is certainly comfortable and convenient in hot damp weather.....

The one habit which hurt most was the habit of talking during concerts—not gentle whispers about things which couldn't wait, but the aggressive loud conversation the moment a musican started his performance.

DR NARAYANA MENON

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The Hungarians have also been purchasing the products sold to the other members of the East European bloc. In addition there has been a lively demand for mica, shellac, footwear and handicrafts. Several delegations to India have explored the possibility of importing light engineering products from this country. Equally the Indian market has remained responsible to the import of complete factory equipment, precision instruments, pharmaceutical equipment, detonators and power plants. Meanwhile agreements of co-operation have been concluded for the production of instruments, electric trolleys, the production of portal cranes, and, among a host of other items, precision engineering products. In the case of Poland, trade between the two countries is expected to be of the order of Rs. 35 crore in 1966. The main items of export from India are tea, coffee, groundnut cakes, manganese ore, various engineering goods and textile machinery. Moreover, there has been considerable interest in engineering goods, and India hopes to build up a big market in these areas. India's primary interest is to obtain capital machinery and power equipment which come under State to State credit. Poland recently undertook to supply large quantities of zinc, sulphur and steel.

Expansion Possible

From the preceding lines it becomes clear that there is a good base for the expansion of Indo-East-European trade. In addition, the goods imported by India are of great value for stepping up the rate of production as they assist in strengthening the intermediary sector of Indian industry. The overall trade turnover with the East-European countries increased from Rs 94 crore in 1960-61 to Rs 292 crore in 1964-65. The impact of this trade has been aptly expressed by the Minister of Commerce, Mr Manubhai Shah, when he remarked "that this trade has not only assisted in importing essential plants and raw materials without an additional draft of our foreign assets but has also helped in firming up the otherwise declining prices of our traditional export items".

By and large it may be said that while India has been exporting processed goods and manufactured items, we have been importing capital goods, complete plant and equipment required for the development plans, industrial raw materials such as non-ferrous metals, fertilisers and heavy chemicals. An attractive feature of our trade with this group of nations is that owing to the interest that these countries have shown in our exports we have oriented our production programmes for the supply of consumer goods such as cotton textiles, jute, tanned hides and light engineering products, to this growing market. It is equally encouraging to point out that study teams and delegations have been frequently exchanged to explore avenues for further trade expansion.

In view of the prominent feature of our trade with the East European group, there is every hope that the issues related with the revaluation of the balances of the accounts of these regions will be resolved amicably. Equally it is expected that a solution will be found for enhancing the trade in physical terms ; after negotiations, unfulfilled existing contracts will be computed at the new rupee value. The Government faces the crucial task of working out a system of export levies conducive to trade with these countries."

IMPACT OF DEVALUATION

from Page 22

be quite high, so that there is great scope to exploit the export potential of the manufactures belonging to this category. In the case of several newly manufactured goods, like electric motors, A.C.S.R. conductors, power and distribution transformers, aluminium ingots, plastic button, dry cells, automatic looms, grinding wheels, the differential between the fair ex-works price in India and the C.I.F. import price is within 10 to 30 per cent. Devaluation of as much as 57.5 per cent is bound to make their exports profitable. The only limitation in expanding their production in many cases is non-availability of essential raw materials which need to be imported in the short run. This bottleneck could be easily surmounted if the import liberalisation policy is linked with export promotion.

Impact on Prices

The policy of devaluation has also been under fire on account of its impact on the price level. Several critics have blamed the Government for abandoning the policy of stimulating exports through discriminatory export subsidies and resorting to the drastic inflationary method of trying to increase export earnings through devaluation. The merit of export subsidies as a method of raising exports is that *they do not push up the prices of imported goods and to that extent their impact may not be inflationary.* However, insofar as the export subsidies succeed in stimulating exports, there is a net withdrawal of output from the economy and the impact to that extent would be inflationary. The effect of devaluation on import prices is bound to be inflationary, inasmuch as the importers have to pay larger local currency to purchase foreign exchange at the new rate. The prices of all goods requiring imported materials in their manufacture are likely to rise, as also of those goods the imports of which are permitted to supplement inadequate domestic production. But, if import traders were already charging excessively high prices before devaluation, thus making high profits which actually included scarcity rents on their imported inputs, the prices of final products may not rise further even after devaluation. In this context, the difference between devaluation and export subsidies is merely a matter of administrative and fiscal convenience and the merit certainly lies on the side of devaluation. It has also additional merits over export subsidies, inasmuch as devaluation is a potent weapon which can influence almost all the items in the balance of payment, on its credit as well as debit side. It creates a climate discouraging spending of foreign exchange, while it provides a pervasive stimulus to exports as a whole, and may prove to be more beneficial to the nation in its march towards self-sustained growth.

Gallery

Mazagaon Docks To Make Frigates

WORK has started on India's first modern warship at the State-owned Mazagaon docks in Bombay. This will be one of the three sophisticated frigates to be built for the Indian Navy. The frigates will be built on the latest conventional designs now being used in Britain. Such warships are serving not only with the British navy, but also with the navies of the Netherlands, Australia and New Zealand. The first India-made frigate is expected to be launched in October next year.

When the expansion of the Mazagaon docks is completed, it will be possible to construct not only small craft, such as dredgers, barges, tugs and coastal vessels up to 2,000 tonnes, but also merchant ships up to 10,000 tonnes.

The Dock has already built a self-propelled bucket dredger for the Indian Navy and a passenger-and-cargo ship, named Yerewa, of 1,500 DWT and a number of small craft. The total turnover of the Docks in 1965-66 was of the value of Rs 3.91 crore.

MIG Factory Commissioned

The Nasik unit of the Hindustan Aeronautics to manufacture MIG aircraft has been commissioned. Situated at Ozar, near Nasik, in Maharashtra, the factory will make airframes and assemble MIG aircraft.

The other two units of the MIG project are being set up at Koraput and Hyderabad, the former to manufacture engines, and the latter electronic equipment. The three together will produce the complete aircraft.

Gujarat Refinery in Full Production

THE Gujarat refinery at Baroda was formally commissioned on October 18. The refinery now runs at full capacity.

The first unit of the refinery, having a capacity of one million tonnes, went into production in October last year. The second unit of another one million tonnes went on stream in June last, reaching the proposed project capacity of two million tonnes. Now the refinery is run all by Indian engineers

The project has been built with Soviet assistance and collaboration and has cost Rs 28 crore.

A large complex of petro-chemical industries is coming up around the refinery.

A National Federation of Industrial Co-operatives has been set up in New Delhi to help industrial co-operatives. There are 53,000 industrial co-operatives in the country. The Federation will help the co-operatives in marketing their products on an organised basis.

200 People Can Speak at a Time

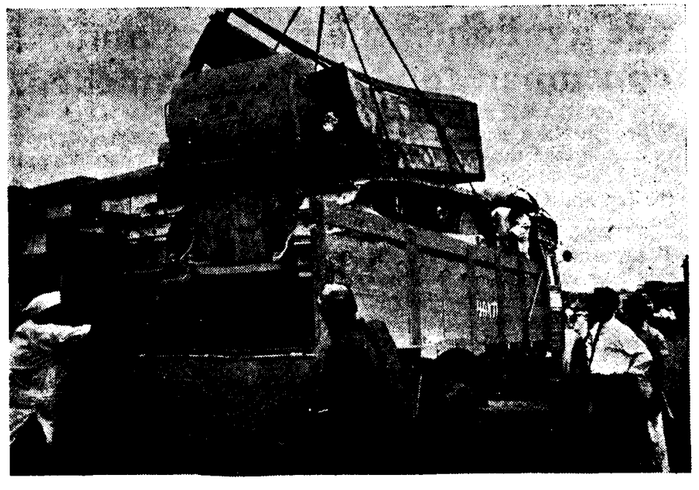
THE coaxial cable system has been opened for communication between Bombay and Delhi. This will enable more than 200 persons to converse on telephone between the two cities at the same time. It marks the completion of the Bombay-Delhi-Calcutta coaxial cable scheme.

Direct subscriber-trunk-dialling service between these places will become possible after automatic trunk exchange are installed for this purpose. An automatic exchange is being installed at Bombay.

The scheme has cost Rs 10 crore and covers a total length of 3,000 kilometres.

The equipment of the system which incorporates the latest techniques in electronics using transistor circuitory, has been completely manufactured by the Indian Telephone Industries, Bangalore.

Caterpillars



Eight tractors of Caterpillar type are on their way to the sugarcane farms of the co-operative sugar factories in Poona, Sangli, Kolhapur, Satara and Ahmednagar districts of Maharashtra. The tractors will do land levelling, deep ploughing, harrowing, terracing, bunding and interculturing operations.

The tractors have been bought by the Maharashtra Government for these factories from Larsen and Toubro Limited out of a U.S. loan. The supplier firm will also train persons to operate and maintain the tractors.

REGD. NO. D-876

YOJANA

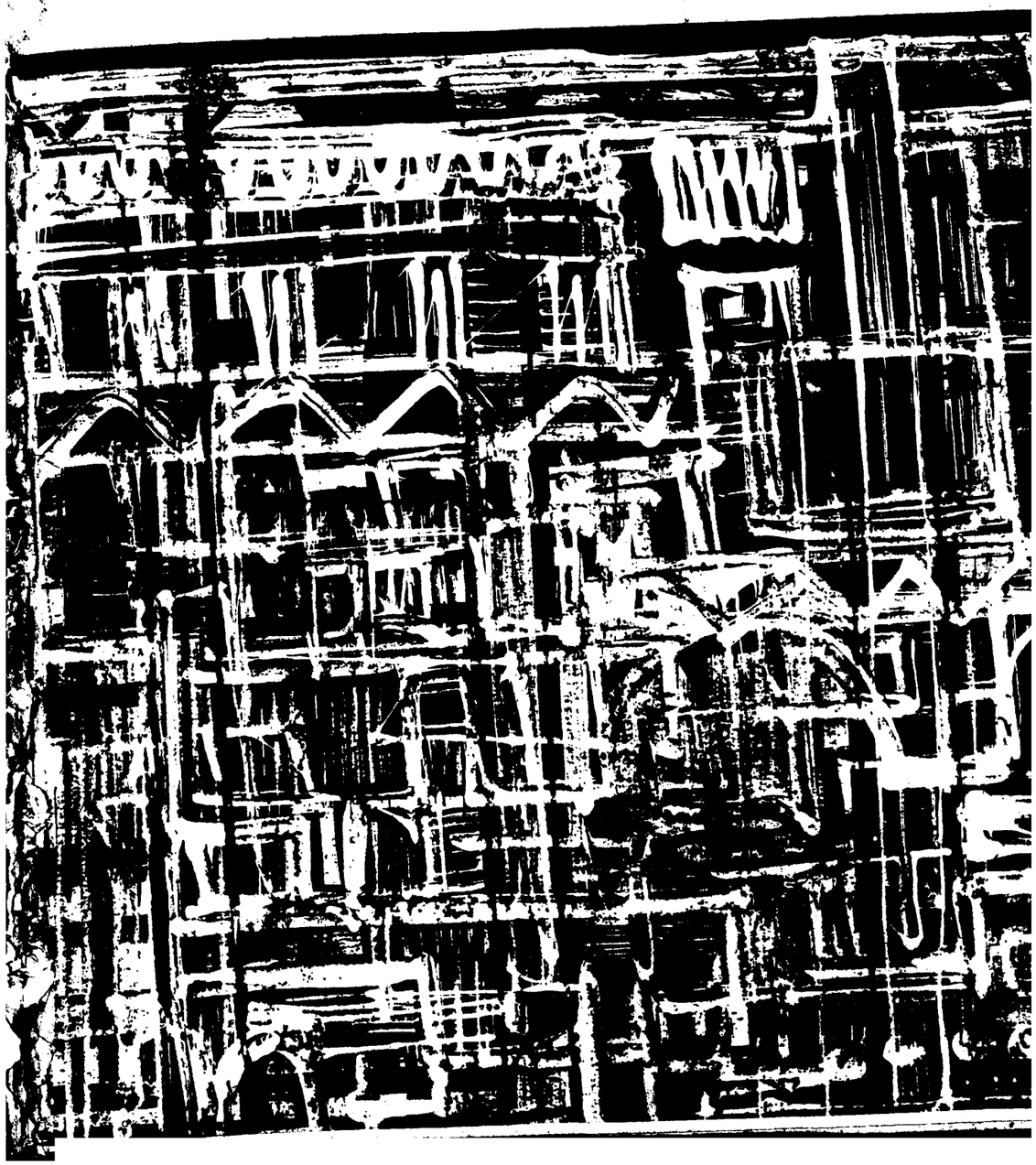
DECEMBER 11, 1966

TH YEAR 24

FEW VILLAGERS KNOW OF PLANS

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25 PAISE



QUOTATION BOX

Russian friendship means they will use their veto against Pakistan at the UN.

Agriculture will be on a war footing means that nothing will be done.

Communist means his income is below Rs 1,000 a month.

Socialist is a Communist whose income is nearing or past the Rs 1,000 mark.

—MAD, Calcutta

A man is chivalrous when he has the desire to protect every woman from every man—except himself.

—Anon

Locked up in Office (by Mistake)

—A newspaper headline

"Yes, of course, she is going on strike. She is a member of the Union".

—Swedish Prime Minister, when asked if his wife, a teacher, was going on strike

Lights could not be fixed at the foot of the idols (in Jagannath Temple, Puri) as there was an objection by 'Sevaks'.

Mr A.K. Das, Administrator of the Temple, regretted that Lord Jagannath was regarded as a "commercial" consumer and required to pay more for power than a domestic consumer.

—A news report

Some councillors (of Delhi Corporation) remarked that women teachers in municipal schools wore tight dresses which were not a healthy influence on schoolgirls.

—A "Times of India" report

Trouble is brewing in an English medium school in Gandhigram, near Kandla port, where boys are asked to put on frocks and skirts as punishment for violating school regulations.

—A UNI report

The Assam Government, after ten days of publication of reports regarding 'sale of children' by some people in Kokrajhat Sub-Division 'to save them from starvation', issued a clarification saying that it was not a case of 'sale', but a kind of mortgage, locally known as 'dhana'.

—A report in "The Hindustan Standard"

He (the manager of Delhi Super Bazar) was kind enough to explain further that, since about 70 per cent of the people of our country cannot be trusted to be honest, while another 10 per cent are downright dishonest, the remaining 20 per cent should not mind putting up with the inconvenience caused by the security arrangements.

—A letter in 'The Hindustan Times'

Mr Khanna, Union Minister, said it was not in the human grain to give up power. Citing his own case, he said, although he was approaching 69, he intended to run for the next election. "I am asking for an extension for myself although I have to retire my officers when they reach the age of 58".

—A news report

I happened to meet Low at some kind of social gathering a little while before he died. He complained wryly to me that he was no good as a cartoonist any more because he no longer hated anyone or resented anything.

—Malcolm Muggeridge in "The Encounter"

We are ludicrous creatures. We are comical. It is in this light that we should see ourselves. Only humour, whether rose-tinted, black or cruel, humour alone, can restore our serenity.

—Eugene Ionesco

According to a Food and Agricultural Organisation report rats are eating well these days in the countries where people eat poorly.

—A.I.R. news

Looking Back

From Yojana November 3, 1957

I have at last in desperation turned
my face from both temple and
mosque.
I listen no more to the sermons of
the preacher, or to thy fairy tales,
O Brahman.
In images of stone thou hast conceived the presence of God.
For me every particle of my country's
dust is a deity.
Come, let us once more tear off the
veil of estrangement.
Let us reconcile them that have become separated, efface all duality.
Long has the habitation of our hearts
been desolate.
Come, let us build a new temple in
this land;
Let us make it loftier than all the
shrines of the earth,
With a pinnacle towering up to the
Heavens.

From a poem by Mohammad Iqbal translated by Prof M. Mujeed

Yojana Bhavan Diary

The Planning Commission has begun discussion on the Fourth Plans and the Aunual Plans for 1967-68 of the States. The discussion began on October 14 and will continue up to the end of November. The Plans of West Bengal, U. P., Jammu & Kashmir, and Maharashtra would be discussed by the end of October.

The Annual Plan of NEFA with an outlay of Rs. 2.5 crore for 1967-68 has been approved.

The Planning Commission had meetings on Plan Publicity (October 11) and Modernisation of Rice Milling Industry (October 20).

The Commission has issued detailed guidelines to States for their plans for roads and road transport development.

Among the distinguished visitors to the Deputy Chairman, Mr Asoka Mehta, during the last fortnight were: Mr L. Baruna, Yugoslav News Agency, 'Tanyug', Dr Jacoby, Chief of Land Reform, F.A.O., Rome, Mr Murrey Mender, Diplomatic Correspondent, Washington Post (Oct. 7); Mr Henry Bizot, Chairman of National French Bank, Mr Subagio, Leader of the Indonesian Parliamentary delegation (Oct. 10); Mr Donald W. Loyle, President, A.B.C. International Television Inc.

Prof. M.S. Thacker, Member, Planning Commission, left for Rome on October 20 to attend the meeting of the United Nations Advisory Committee on Science and Technology to Development to be held there from October 20 to 26.

Mr. K.A.P. Stevenson, Joint Secretary, left on October 16 for Berlin to attend the International Study Conference on the Role of Public Administration in National Development to be held in Berlin from October 17 to November 8. He is a member of the Indian delegation to the Conference.

Mr. B.N. Datar, Adviser, Employment Labour and Social Planning, has resumed his duties after completing a three-month assignment with the Food and Agricultural Organisation in Rome.

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