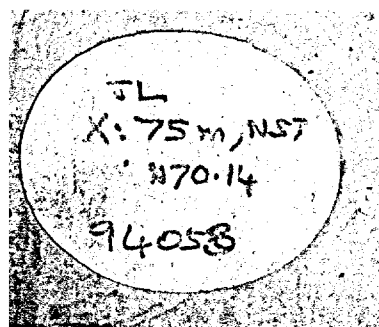
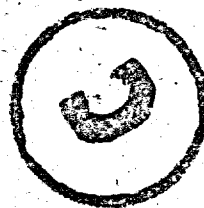


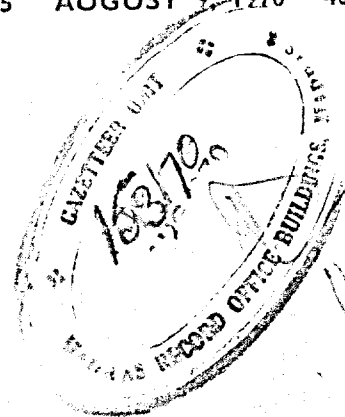
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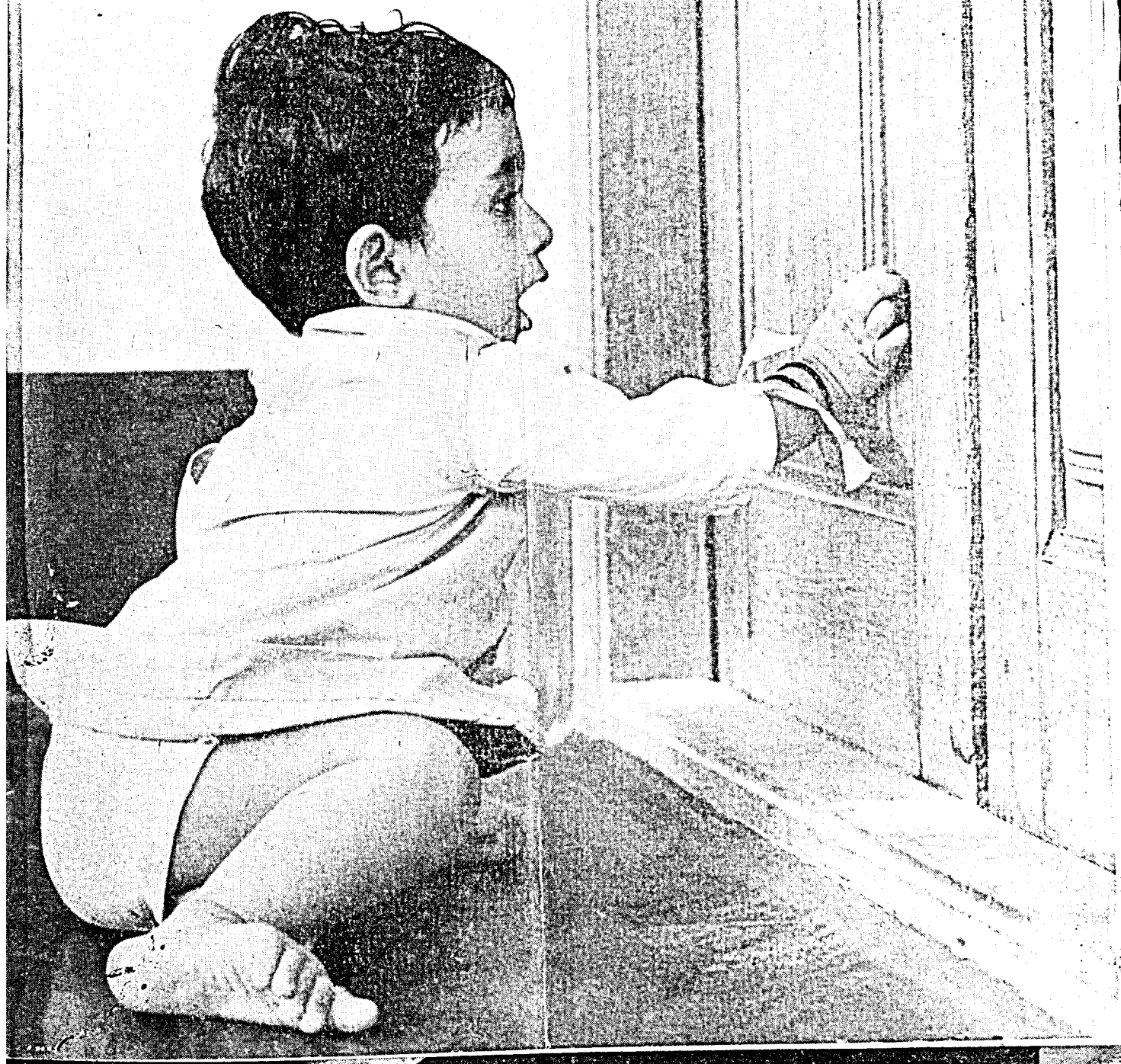


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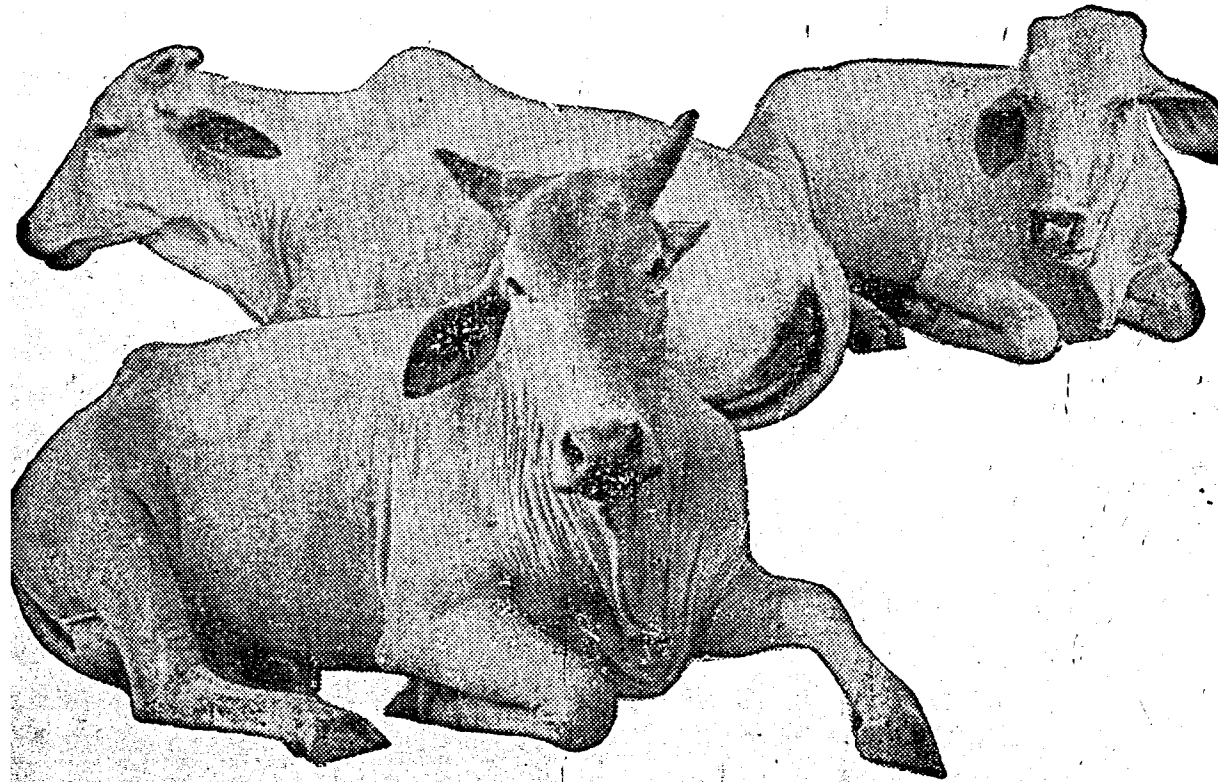


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LEST WE FORGET

We want a democratic socialist India where every citizen has an equal place, where full opportunity of work and growth will prevail, and where our vital impulses are directed to creative and co-operative endeavour.

— Indira Gandhi

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Campus Culprits

Editorial

LATEST in a chain of incidents of violence on the University Campuses is the July 23 student riot in Delhi University. Some 200 students of the Capital's highest seat of learning are reported to have stormed the Vice-Chancellor's office, trading blows with the police in the process and threatening much worse if their demand for the unconditional promotion of those who had failed in the B. A. First Year examination was not conceded. This student tyranny intended to dragoon the University authorities into conceding a demand which, on the very face of it, is unabashed and immoral is a sad reflection on the quality of our college-going youth and is linked to the general and progressive degeneration of the student community as a whole. Earlier, elsewhere in the country, students demanded with equal ferocity an equally irreconcilable right to copy while writing their examination papers. In fact, quite often the invigilators have been manhandled and some of them even done to death in vindication of this right. It has become a fashion to back up such ridiculous demands by brute force and vandalism, at times with outside patronage. The humiliation which the last Vice-Chancellor of Delhi University was subjected to and the reign of terror unleashed by student violence in Bengal, U. P., Madhya Pradesh and other States is still agonisingly fresh in our minds.

The tendency to demand the right to use public transport systems without purchasing tickets and to damage university property, including costly laboratory equipment, at the slightest provocation, is an unfortunate manifestation of an inner decadence. Visit any place of public entertainment—cinema houses, restaurants, discotheques—you will find young boys and girls outnumbering the rest of the others. And, these very youngmen, who squander the money they never earned themselves, demand the right to travel without ticket in buses, streetcars and trains. Little realising that they are living in a highly competitive world where competition will become keener with each passing day, they delight themselves in staying away from classes, disrupting the teaching schedule and, when faced with examinations, want to be promoted without having qualified for promotion. Those who fail and stir up trouble on the pretext that justice was denied them conveniently ignore that the less articulate among them who considered learning as their primary concern did clear the hurdle successfully, facing the same odds, helped albeit only by their dedication to study and the realisation of their responsibility towards those who toil and sweat to see them through the early years of their life.

The students in post-Independence India make a costly mistake when they ignore that their predecessors neither had avenues of study nor the incentives and not even the prospects which national freedom and economic development have now thrown up. The scores of ramifications in humanities and sciences now available as optional subjects, the large number of

public and private scholarships now at hand, and the innumerable institutional facilities and opportunities for overseas studies at the expense of the State were beyond the wildest dreams of those who were in the universities when India was not yet free. And yet, out of that desperate scene emerged great men like C. V. Raman, Radhakrishnan, C. R. Das, Jagdish Bose.....It was the single-minded devotion of the pre-Independence generation to learning that made available to the country, when it became free, men of talent in different walks of life.

Excellence and achievement are largely a matter of an individual's own doggedness, determination and perseverance. This generation of students which revels in creating chaos, sabotaging established institutions and paralysing the higher institutions of learning is obviously a very inferior specimen of Indian citizenship and a very dismal index of the nation's future. It is tragic that discipline has become a major casualty in Independent India. It is a matter for the nation's leaders to ponder as to why a decent, healthy university degenerates into a madhouse of latent law-breakers and social tyrants.

Campus rioting in the western world is a luxury which those nations can probably afford. But in our country where the nation as a whole and each family as a unit still have to struggle to reach a desirable minimum in life, this phenomenon can only be termed as a journey backward into the wilderness. One may argue that cheap paperbacks, pop culture and "mod" living—luxuries imported from the West—are responsible for the disintegration of the psyche of the Indian youth. No one can deny that social decay is inherent in premature acceptance of things, values and ways of living that are entirely discordant either with the needs of our society or the requirements of life.

It is legitimate, therefore, to inquire if diminution of the most formative influences—those of the parents and the teacher—has something to do with this unfortunate development. The erosion of the classicism of the image of parents and teachers and the loosening of the bonds between them and their trust have under-nourished the modern youth. The glamourisation attached to the defiance of law and order has injected poison in the body and mind of our young people who are the most unfortunate victims of their own follies. For, they stand half way between achievement personified by their elders and the abysmal gloom signified by the loss of direction in their growth. A free society though we are, we cannot forever allow the seeds of the future to be sown in barren soil and in inhospitable climate. If we cannot firmly promise a better life to our progeny we have no right to let them plunge into the dark alley of life without so much as showing them the light and a warning signal.

WELL ORGANISED TRANSPORT SYSTEM IS A VITAL SECTOR OF THE NATIONAL ECONOMY

R. VENKATARAMAN

INDUSTRY and transport are the two pillars of progress. The one without the other is bound to languish and die. Wide distribution of goods through a well organised transport system not only satisfies but creates demand and thereby stimulates production and growth. It is a vital sector of the national economy. In developing countries road transport develops faster and caters to remoter areas unserved by any other mode of communication.

There is obvious need for giving adequate priority to the development of roads and road transport. There can be no two opinions on this. While it is true that the road transport industry has suffered from certain handicaps, such as lack of adequate road communications, restrictive regulatory policies, etc., it is, nevertheless, true that considerable progress has been made under the Five Year Plans in the development of roads and the road transport system in India. Road transport has grown over the years considerably faster than the national economy as a whole and much faster than other means of transport. This is in keeping with the trend all over the world.

The total length of roads in India has increased from 400,000 km at the end of 1950-51 to about 960,000 km at the end of 1968-69. During the same period surfaced roads increased from 157,000 km. to 325,000 km. The increase in the number of motor vehicles of all categories increased from about 300,000 in 1950-51 to about 1.44 million in 1968-69, while the number of commercial vehicles, including buses and trucks, increased from 116,000 to 386,000. The total goods traffic carried by road transport is estimated to have increased from 6 billion tonne km in 1950-51 to about 40 billion tonne km in 1968-69, and passenger traffic from about 23 billion passenger km to about 98 billion passenger km. It is significant that while there has been expansion in both rail and road traffic over the years, traffic by road has increased considerably faster than by rail. Thus, the share of road transport in total goods traffic carried by rail and road together has increased from about 11 per cent in 1950-51 to about 24 per cent in 1968-69, and in passenger traffic from 26 per cent to 48 per cent. This is an encouraging record of achievement for the industry and reflects its inherent strength and vitality.

Edited version of a speech delivered at the Annual General Meeting of the Indian Roads and Transport Development Association, June 1970.

The pace of expansion of road transport is expected to continue and, in fact, increase during the Fourth Plan period. The total goods traffic by road transport is expected to more than double itself from about 40 billion tonne-km in 1968-69 to 84 billion-tonne km in 1973-74. Similarly, passenger traffic is expected to increase from about 98 billion passenger-km to about 141 billion passenger-km. In order to cater for the estimated increase in traffic, it is reckoned that the number of trucks on the road will need to be increased from about 300,000 in 1968-69 to about 470,000 at the end of 1973-74. The number of buses will need to be increased from about 85,000 to 115,000.

Adequate Outlay

There is a feeling that the outlay for road development is inadequate. No doubt, on the basis of the need for improvement of the road system, it was estimated that we would require an investment of Rs 1,600 crore for the development of roads during the Fourth Plan period. However, looking at the availability of resources and the relative priorities, the Planning Commission was able to allot Rs 871 crore for roads in the Fourth Plan. Considering that the Third Plan allocation for road development was only Rs 438 crore, the allocation of Rs 871 crore in the Fourth Plan cannot be considered very low. It is, however, true that the allotment of Rs 35 crore for the Central roads programme in the first year of the Fourth Plan was rather low. This was necessary because of the large transfer of funds which the Central Government had to make during the year to the States in pursuance of the Finance Commission's recommendations, and also to meet the overall gaps in the resources of certain States.

The position has improved to some extent in the current year when a provision of about Rs 45 crore has been made for the Central roads programme. The development of roads, other than national highways, is the responsibility of the State Governments. It often happens that when States have more urgent demands, they are inclined to cut down the provision for roads. The State Governments have, therefore, to ensure that the allocation made for road development is actually spent during the Plan period.

It is also necessary to ensure that the funds allocated in the Plan are utilised in a proper way. The Planning Commission has asked the States to ensure that investments on road development programmes proceed accord-

ing to a proper scheme of priorities. Since the resources are limited, it is necessary first to improve the functional efficiency by completing missing links, providing bridges on important river crossings and replacing existing sub-standard structures. In addition to this, supplementary facilities should be developed by widening roads, providing bypasses, etc. The programme of expansion of the road network will come next. In undertaking such expansion, due regard has to be paid to the requirements of roads in backward and underdeveloped areas, in newly growing industrial complexes, mining areas and in metropolitan areas and their environs. To take proper advantage of the "green revolution", the Fourth Plan lays special emphasis on the construction of rural roads and the linking of villages with market towns. It has been suggested that the State Governments should set apart about 25 per cent of the total outlay on the development of rural roads. Apart from outlays provided in the Plan, it is expected that local resources will also be mobilised for the construction of roads.

Policies Liberalised

Restrictive policies no doubt hinder the development of road transport. There has been, in recent years, considerable liberalisation of road transport policies. Public carrier permits are now issued with State-wide validity in almost all the States. For the operation of road transport on inter-State routes, an increasing number of reciprocal agreements is being arrived at between contiguous States and also among non-contiguous States. At the beginning of last year there were 30 such agreements between contiguous States for the operation of goods vehicles on inter-State routes and 34 agreements among non-contiguous States. A special Zone Agreement is in operation in five States in the South by virtue of which a certain number of goods vehicles are allowed to operate throughout the Zone without the need for countersignatures by other States. Proposals for enlarging the Zone and for similar schemes for other zones are being considered. The question of relaxing load restrictions on public carriers in different States and for the enforcement of uniform regulations as far as possible, are also being actively pursued.

Provision of adequate finance for the road transport industry is another factor which affects its development. Certain measures have recently been taken to increase credit facilities to road transport operators. A number of banks have schemes for granting loans to the operators. The State Bank of India advances loans to transport operators for buying vehicles, provided that the investment of an operator is less than Rs 7.5 lakh.

Motor Vehicles Taxation

There is the question of motor vehicles taxation, which is mainly the concern of State Governments, which are under continuous pressure for raising more resources for Plan expenditures. They have also to reckon with constantly increasing costs. They are, therefore, necessarily influenced by these considerations in deciding whether they can forego any part of the revenue from the tax on motor vehicles. But no prudent State Government will levy a burden which will hamper not only its economic growth but place a heavier burden on any one sector.

As far as the levy of octroi is concerned, there are only seven States which levy any octroi. The Central Government, as well as the State Governments, are conscious of the need for abolishing octrois, but this will depend on finding a suitable alternative source of revenue. Octroi, which is at present one of the major sources of revenue for the local bodies accounts for an estimated Rs 70 crore per year. It is, therefore, necessary for the local bodies to find alternative sources of revenue before they give up octroi. Mysore and Rajasthan have agreed in principle to abolish octroi. The Government of Rajasthan has already introduced a Bill in the State Legislature to impose a general turnover tax in lieu of octroi. The Governments of Madhya Pradesh, Maharashtra and Uttar Pradesh are also actively considering the question of abolishing octroi.

Manufacturing Capacity

The manufacturing capacity of commercial vehicles in the country, including buses and heavy and small trucks, is adequate to meet the needs of the Fourth Plan period. Besides, the capacity can be increased to meet any increase in the demand for such vehicles. The production of commercial vehicles has been low in recent years as compared to the installed capacity. This is due to a slump in demand as a result of general recession in the economy. The demand is, however, picking up and it is expected that with the development of the economy during the Fourth Five Year Plan, both the demand and production of commercial vehicles will reach the targets envisaged in the Plan.

The need for adequate statistics with regard to the type of traffic handled by the road transport industry, the number and types of vehicles operating in different areas and on different roads, length of haulage, operating costs, etc., has been emphasised in the past. There are inherent difficulties in collecting this information on a national level. At the same time, it is obvious that actual information of this kind will be of immense value to the industry, to the administration and to planners.

In a country of India's size, distance and dimensions with several areas yet to be adequately served by quick and efficient transport and with the rural prosperity which is beginning to emerge, the road transport industry has a vast scope for development. The industry is poised to take advantage of the situation and is capable of growing rapidly in volume and efficiency.

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INCREASED AGRICULTURAL PRODUCTION NO ANSWER TO PROBLEM OF MALNUTRITION

FROM a cursory look at such popular publications as '5-Day Diets' one notices that based on moderate activity, an adult human being requires an adequate quantity of daily maintenance calories in keeping with his or her weight and age interval. The weight would obviously depend on the height and body frame. Thus, the daily maintenance calories required would approximately amount to :

	Weight in Kg.	18-35 years	35-55 years	55-75 years
Woman	50	1,850	1,650	1,400
	55	2,000	1,750	1,550
	75	2,550	2,300	1,950
Man	50	2,200	1,950	1,650
	55	2,400	2,150	1,850
	75	3,100	2,800	2,400

A person leading a very active life would need more calories than one with sedentary habits. The requirement of protein per day is approximately one gram per kg. of body-weight on this basis, and assuming that the average body weight of an Indian is between 50-55 kgs., the protein requirement of an Indian would be between 50-55 grams per day. The nutritionists have, therefore, prescribed what is known as balanced diet which would provide the daily maintenance calories and an adequate quantity of protein.

In view of the above, it would be interesting to examine to what extent, if at all, the increase in the production of foodgrains has met the nutritional needs of our people. There is no doubt that the transformation of India's agriculture from frightening shortages, only a few years ago, to near-abundance in certain foodgrains today is one of the most amazing success stories of recent times. The new strategy for agricultural development undertaken in 1966-67 pushed up the production of foodgrains in 1967-68 to the record level of 95.0 million tonnes, which

A. K. BHATTACHARYYA

exceeded the previous year's production by about 21 million tonnes. In 1968-69, due to an extension in the area under High-Yielding Varieties, foodgrains production reached 94.0 million tonnes, despite unfavourable weather conditions. Again, in 1969-70, it is expected that foodgrains production will touch the 100.0 million tonne mark.

A remarkable feature of India's agricultural development has been the great change in wheat production. In 1967-68, wheat production amounted to 16.5 million tonnes, as against the annual average of 11.0 million tonnes during the preceding five years. In 1968-69, the production of wheat rose to a new record level of 18.7 million tonnes.

At this point, it is necessary to examine the pattern of the net availability of cereals and pulses in the last few years, which is set out in the table on next page.

From 1960 onwards, excluding the two drought years, 1965-66 and 1966-67, the per capita net avail-

ability of cereals per day has ranged between 381.5 grams in 1963 to 413.9 grams in 1965. In the case of pulses, the figure has come down from 65.2 grams in 1960 to 216.5 grams in 1969. The per capita net availability of total cereals and pulses has ranged between 447.2 grams per day in 1960 and 438.0 grams in 1969 barring the two drought years when it went down to an average of 397.9 grams a day. Thus, if we work out the mean and variance of the per capita net availability, we get 454 grams as the mean with a standard deviation of 0.39. In other words, per capita net availability of total cereals and pulses per day has ranged between 444.5 grams and 466.6 grams.

The per capita availability of sugar has fluctuated from 0.46 ozs. per day in 1960 to 0.41 ozs. per day in 1968. (One ounce=28.35 grams). In 1962, the per capita availability rose to 0.55 ozs. per day. The per capita availability of fish per day is approximately 23 ozs., and the position has remained static for a very long period. The per capita availability of milk per day is 3.8 ozs which has not improved very much during the last few years. Similarly, per capita availability of edible oils and vanaspati per day was 0.25 ozs. and 0.08 ozs. respectively during 1968.

Demographic Constraints

An analysis of India's present population, size and growth is revealing indeed. From the demographic projections so far made, it would appear that the present rate of population growth of 2.5 per cent will continue for some time. At the same time the death rate will decline, due to an improvement in medical science. Thus, in 1970, with 2.5 per cent annual growth rate the population stands around 546 million. The growth rate of population is expected to fall at 2 per cent in 1979, under the medium

Should human nutrition be one of the principal goals of economic development? Are we placing sufficient accent on the qualitative aspects of nutrition and diet in our project-planning? Is the strategy of development-planning fulfilling 'merit wants'? Is the food situation in the country today satisfactory from the nutritional point of view? Are millions of people in India suffering from malnutrition, despite the fact that India today possesses scientific knowledge and capacity to increase the production of food? These are some of the questions relevant to a discussion of the economic and demographic constraints on India's nutrition problems.

projection and below 2 per cent to 1.8 per cent in 1980.

The problem of increase in population is linked up with the question of per capita income. Assuming that the pattern of rural-urban relationship of people which was existing in 1961 census population also holds good in 1967-68, we would find that in 1961 nearly 18 per cent of the total population was urban and 82 per cent of the total population were rural. According to the Expert Committee's population Projections Report, the percentage of the urban population in 1967-68 might be of the order of 19 per cent and the percentage of rural population would, therefore, be of the order of 81 percent. Thus, out of a total population of 511.308 million in 1967-68 the rural population constituted 81 per cent and the balance of 19 per cent was the urban population.

National Income

The national income during 1967-68 was Rs 27,922 crore at current prices and Rs 16,525 crore at 1960-61 prices. Agriculture, forestry and fishing constitute 45.7 per cent of the total national income and if we, however, roughly assume that the national income originating from agriculture was the income of the rural population then the per capita income of the rural population in India during 1967-68 was as follows

	At current prices	At 1960-61 prices
Yearly Income	Rs 308.10	Rs 182.30
Daily Income	0.84 P.	0.50

Likewise the per capita income of urban population in India during 1967-68 was

	At current prices	At 1960-61 prices
Yearly income	Rs 1,560.60	Rs 923.69
Daily income	Rs 4.28	Rs 2.53

The Nutrition Gap

The crux of the problem is how much money is needed to buy the balanced diet for a normal adult? Mr. W. R. Aykroyd, Ex-Director, Nutritional Research Laboratory, Hyderabad, in his book entitled 'The Nutritive Value of Indian Foods and the Planning of Satis-

Estimates of Annual Production of Foodgrains in India and Net Availability of Cereals and Pulses (in million tonnes).

Year	All India Production of Foodgrains	Net Availability of Cereals	Net Availability of Pulses	Total Availability of Cereals and Pulses
1964-65	89.36	69.25	8.80	78.05
1965-66	72.03	73.71	10.86	84.57
1966-67	74.23	64.65	8.55	73.20
1967-68	95.05	66.60	7.30	73.90
1968-69	94.01	76.28	10.58	86.86
1969-70	100.00	76.76	9.12	85.88

Net Availability = Net Production + Net Import + Change in Govt. Stocks.
Net Production = 87.5% of the Gross Production.

factory Diets' has drawn up the composition of a balanced diet suitable for a normal adult male (adequate for the maintenance of good health), as follows:—

Class of food	Quantity/Gms
Cereals	400
Pulses, nuts and oilseeds	85
Green leafy vegetables	114
Root vegetables	85
Other vegetables	85
Fruits	85
Milk and milk products	284
Sugar and Jaggery	57
Vegetable oil, ghee, etc.	57
Fish and meat	85
Eggs (one egg)	40

The costs of this balanced diet at the price levels of 1961 and 1967 are Rs 1.23 and Rs 2.30 respectively; while the per capita daily income of nearly 81 per cent of the population in India during the period was only Re 0.50 and Re 0.84 respectively.

A second composition of a balanced diet as printed in a publication of the Indian Council of Medical Research entitled 'Menus for Low-Cost Balanced Diets and School Lunch Programmes'—suitable for North India is as follows:—

Class of food	Quantity/Gms
Cereals	425
Pulses	85
Green leafy vegetables	140
Other vegetables	115
Oil	30
Jaggery	55
Milk	115
Fruits	35

The composition is estimated to provide 2,500 calories and 65 grams of protein, while an optimum diet, according to the Nutrition Advisory Committee is one that provides 3,000 calories and 80 grams of protein,

besides supplying all the other nutrients in liberal amounts.

It would be interesting to know that the costs of the aforesaid menu at the price levels of 1961 and 1967 stand at Re 0.61 and Rs 1.39 respectively.

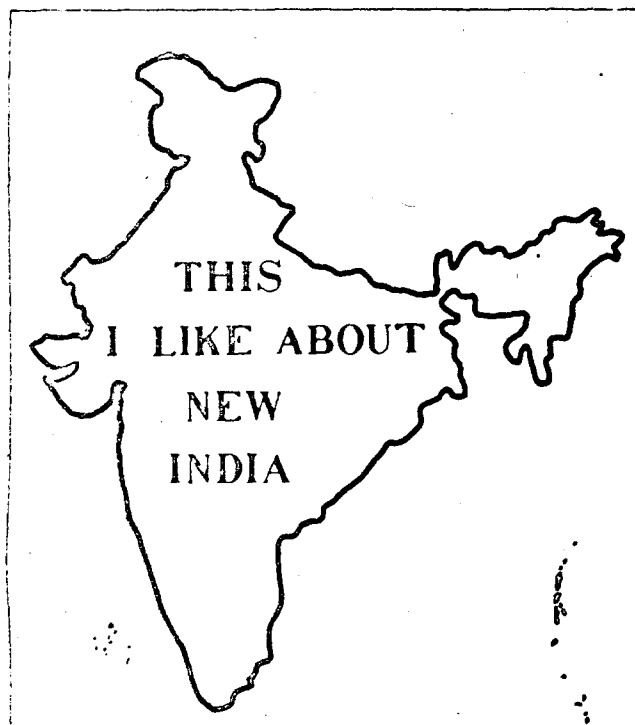
The Nutrition Research Laboratories, Hyderabad, has printed another pamphlet entitled 'Menus for Low-Cost Balanced Diets and School Lunch Programmes'—suitable for South India. The composition of the balanced diet in this pamphlet is as follows:—

Class of food	Quantity/Gms
Cereals	425
Pulses or Fish	71
Vegetables-leafy	142
Vegetables-non-leafy	113
Oil	28
Jaggery	57
Milk	113
Fruits	57

The costs of the aforesaid diet at the price levels of 1961 and 1967 was Re 0.76 and Rs 1.26 respectively.

It is now clear that nearly 81 per cent of the population of India have not got the means to take any form of balanced diet although a big chunk of their earning is spent on food.

The conclusion, although poignant but inescapable, is that malnutrition is rife in spite of India's marvellous agricultural achievement in recent years. A balanced diet is still beyond the reach of millions of Indians. The economic planners, the scientists, the nutritionists and the enlightened farmers, still have miles to go before the nutrition gap can be bridged.



K. P. S. MENON

Cultural Efflorescence

ONCE, slightly inebriated, Mr. K. V. Novikov, the first Soviet Ambassador to India, let out his impressions of New Delhi. "Where", he asked Gen. Cariappa, then our Commander-in-Chief, "is your national theatre, your ballet, your opera house? Compared to Moscow, Delhi is simply a big village".

This was said soon after we attained Independence. In 1952, when I was posted to Moscow, I could not help thinking that there was some truth in it. In Moscow there were about thirty theatres of all kinds, each keeping up the highest standards of excellence; and every day thirty thousand Muscovites went to a play, a ballet, an opera or a circus. In Delhi we had the Birla temple, but it was not exactly a substitute for the Bolshoi theatre.

Even today Delhi is lagging behind Moscow, but it had made great leeway during the last two decades. Many an institution has sprung up exhibiting and enriching our traditional dances and music and exploring new avenues. Thanks to the vision of Jawaharlal Nehru, three Academies for the promotion of literature, painting and music, dance and drama have been established. Troupes from some part of India or the other are always to be seen in the capital; and even an all-night performance of the Kathakali from Kerala, in traditional style, attracts a large and enthusiastic audience. In Delhi and Moscow there is no night life as there is in more sophisticated capitals, but this is more than

compensated by the richness and variety of the cultural entertainment available throughout the year.

What has happened in Delhi is also happening in other cities and States. Even Kerala, "the problem state", and Bengal, where the problems are so acute that the question has been asked, 'Will India survive Calcutta?' are pulsating with a cultural life, new, rich, abundant and (contrary to the barren exuberance of mere politicking) truly creative.

This cultural efflorescence, judiciously though parsimoniously fostered by the Government, without any thought of regulating and, still less, regimenting it, is what I like best about New India.

M. KRISHNAN

Talent Finds a Broader Horizon

WHAT I like specially about India after 1947 is that the scope for talent, never non-existent in our long history, has found new and more direct channels and a broader horizon. In the old days a graphic artist, and to a lesser extent a musician or a writer, were largely dependent on patrons and cliques; even the higher classes of public entertainers (play actors and dancers, for example, as distinct from snake-charmers and necromancers) had to win the approval of a patron or a set of self-appointed critics. The virtuoso or skilled individualist had to please not a public so much as some high and mighty person or persons, whose critical faculty may not always have been informed or sensitive.

I salute the liberation of the arts and even of technology and inventiveness from the narrow confines of patronage. Of course, at no time and nowhere in the world has recognition come to those who are specially gifted or trained as a matter of course—the number of great artists to whom fame came posthumously, after a life of bitterness and want, and the probably greater and quite unknown number of those to whom it never came at all, will serve to disprove the comfortable thought that virtu will find its own reward. But isn't it heartening and democratic to realise that nowadays it is the impercipient of the many, and not only the few, that decides the oftentimes tenuous and sometimes precarious course of Indians with faith in their skills?

Naturally, in a few peculiar arts, this broadening of the scope of the exponent has done no good to the art, for instance the highly evolved culinary genius of various regions of the country. But the fact remains that, by and large, the scope of the artist and even the craftsman or technologist has expanded, and has been saved from a new form of regimentation.

T. KASI NATH

A Golden Revelation

HE must be a cynic indeed who speaks disparagingly of the progress India has made on the food front, particularly during the past two years. A drive beyond the Delhi municipal limits will convince anyone that the rural landscape has changed beyond recognition. What was once a barren land, devoid of life, is today humming with new life. One can see men and women winnowing and threshing corn using farm animals like oxen and camels, and the more prosperous among the farmers using a tractor. Gloom and despondency has given place to optimism and joy. The fields which were green till recently, are now glittering with golden corn which would gladden the hearts of even the worst critics. The whole picture is one of prosperity and plenty.

Village women who used to object to being photographed, now posed merrily before our cameras, saying that the photographs could be seen in the 'Krishi Darshan' programme on the television. Obviously, the bi-weekly T.V. programmes on agriculture are popular with the farmers who have adopted scientific methods of farming and are now raising three crops a year.

As we finished taking photographs, Chaudhury Chandgi Ram, a progressive farmer of Haryana, took us to his house in his tractor. It was a pucca two-storeyed building with a garden in front. There was a refrigerator and a TV set in a beautifully furnished and airconditioned room. A scooter was parked in the corridor on the farther side. As we were taking tea, his little daughter burst into the room playing with a transistor. His eldest son was answering a telephone call. Chaudhry Chandgi Ram was able to achieve all these within a very short period, because he kept an open mind and was quick to take advantage of the guidance given to farmers over the radio and on TV.

"Do you expect a doubling of the yield this year?" I asked. "What? Double than last year's? I will give up farming if the yield is not three times this time," replied Chandgi Ram. Whether you call this a green revolution or a wheat revolution is not the point. For us it was a golden revelation.

SANTA GUPTA

Phenomenal Change

I was brought up in a remote Bengal village in an easy-going, sleepy atmosphere. As I recall today, the very first thing that comes to my mind is, interestingly enough, a sound—the long-resounding, ear-splitting, screeching of bullock cart wheels. When

I was a child, how often had I seen my friends joyfully riding a bullock cart—whose wheels creaked and squeaked as they babbled and laughed—for going from place to place. I have ridden a bullock cart, too, and seen a cartman pulling the tail of the pair of unwilling, often emaciated, bullocks—with a chuckle. Sometimes he had to get down to tug and pull the wheels stuck in mire, panting in the process.

When I came to Delhi about a decade ago, I was thrilled to see the scene change. Here, I was almost lost in a sea—nay, ocean—of cycles, and I recalled what Mr Nehru had once said, that we were in "cycle age".

But, today, when I look out of my window, and compare the scene mentally with that of yesteryears, I am struck by the phenomenal change. Not only that the roads are far cleaner, wider and better maintained, but there is now a conscious effort to make the roads safer. Big buses roar past, crowded with passengers. For school children there are neat omnibuses with the distinguishing inscription "school bus", in which children, dressed neatly in sharp contrast to my childhood days, travel safely to school. And, there are scooters, running cheek by jowl, with private cars and taxis. Many of them, I find with pride, are "Made in India". They certainly speak of prosperity and of industrialisation—that is the hallmark of progress.

M. K. BALACHANDRAN

Abolition Of Untouchability

ONE good thing that New India has done to us is the abolition of 'untouchability', which was a blot on Indian Society. By eradicating this social evil, New India has taken the first step towards accomplishing a casteless society. I am personally happy about it because I was a victim of this uncivilised practice.

When I was a young boy of eleven, one of our neighbours was an officer who was a high caste Hindu. On holidays we used to play with his children who belonged to our age group; but we had strict instructions not to 'touch' them! We had to use sticks when we played the "touch and run" game! Again, when we were invited to parties at his house we were given "equal, but separate" seats. This treatment was given to us even in temples.

I used to feel surprised at this discrimination based on caste and even developed a sort of inferiority complex. It was with soothing relief, therefore, that I heard about the abolition of untouchability in New India. I am sure that this social reform has instilled a feeling of equality and self-confidence in the minds of the so-called 'low caste' citizens of the country.

EMPLOYMENT PATTERN IN PUBLIC AND PRIVATE SECTORS

USHA DAR

THE total magnitude of employment in a country is a consequence of the development policies followed by it. The trends in employment are influenced by changes in the economic structure as well as by the rate of development. In a country having a mixed economy the total employment generated is a composite result of the relative roles in development assigned to the public and private sectors and the policies followed by the individual sectors.

In India the general policy for the public and private sectors in the field of industrial development was defined by the Industrial Policy Resolutions of 1948 and 1956, and the relationship that was expected to emerge between the public and the private sectors was further spelt out in the successive Five Year Plans.

In 1961 the total employment generated by the public and the private sectors was 120.90 lakh and rose steadily to 166.06 lakh in 1969. In 1961, the share of the public sector in total employment was 70.50 lakh and the private sector accounted for 50.40 lakh. In 1969, the public sector accounted for 100.26 lakh and the private sector was responsible for 66.00 lakh. This means that the employment generated by the public sector in 1969 was 142.2% of the employment generated by it in 1961, while the employment in the private sector in 1969 was only 110.4% of the employment in 1961. Thus, while the employment generated by both the public and the private sectors had increased in 1969, the employment generated by the public sector increased faster than the employment generated by the private sector. Speaking in relative terms, in 1961 the share of the public sector in total employment was 58.3%. In 1969 the share of the public sector in total employment increased to 60%, while the share of the private sector in total employment declined to 40%.

If we consider the employment pattern according to industry, we find that in 1961 the most important source of employment in the public sector was services which accounted for 52.8% of total employment. Next in importance was transport, storage and communications, which accounted for 24.5%. This was followed by construction, with a share of 8.6%, and manufacturing 5.2%. The other 9.9% were accounted for by agriculture, livestock, forestry and fishing; mining and quarrying; electricity, gas, water and sanitary services; and trade and commerce.

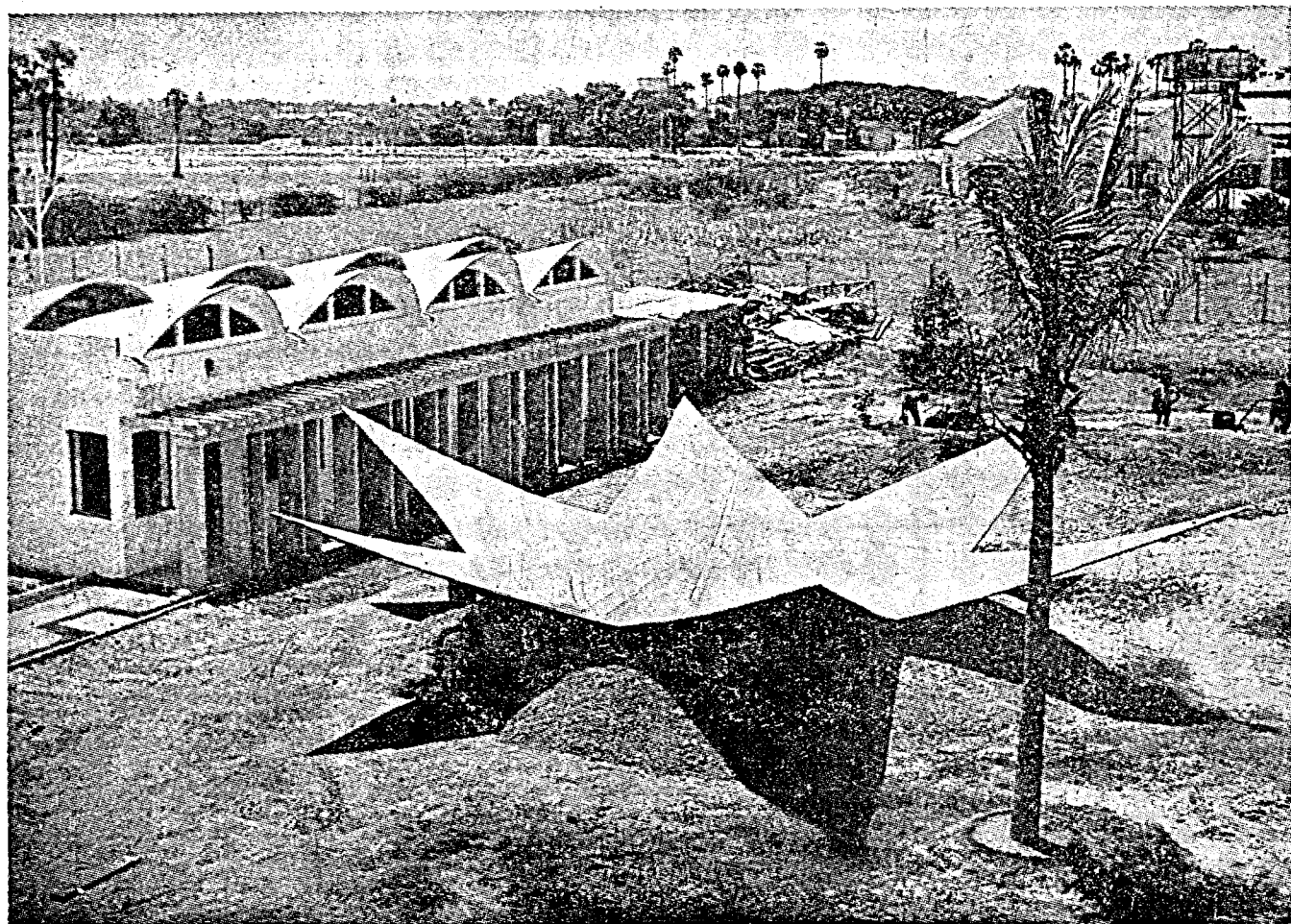
In 1969, services in the public sector not only continued to be the largest single source of employment, but increased in importance accounting for 53.2% of the total employment in the public sector. Transport, storage and communications increased in absolute importance, the employment generated in 1969 having increased by 7.67 lakh over 1961. It, however, decreased in relative importance being responsible for only 21.53% of the total employment in the public sector, as compared to 24.5% in 1961. The other sectors which increased in relative importance over 1961 were manufacturing, electricity, gas, water and sanitary services and trade and commerce; agriculture, livestock, forestry and fishery. The sectors which declined relatively in 1969 as sources of employment were mining, quarrying and construction.

In 1961, manufacturing was the most important source of employment in the private sector, accounting for 59.9% of total employment. Next in importance was agriculture, livestock, forestry and fishing, which accounted for 13.9%; followed by mining and quarrying which was responsible for 10.9% of the employment. The remaining 15.3% of employment in the private sector was accounted for by construction, electricity, gas, water, and sanitary services; trade and commerce; transport, storage and communications; and services.

In 1969, manufacturing still continued to be the largest single source of employment in the private sector. In absolute terms the employment generated by manufacturing increased from 30.2 lakh in 1961 to 37.7 lakh in 1969, but in relative terms the importance of manufacturing declined from 59.9% in 1961 to 57.1% in 1969. Agriculture, livestock, forestry and fishing contributed more towards employment in absolute terms, but declined in relative importance to 12.27%. In absolute terms there was no change in electricity, gas, water and sanitary services. There was a decline in absolute as well as relative terms in mining and quarrying and construction. There was, however, an increase in absolute as well as relative terms in trade and commerce; transport, storage and communications; and services.

The above analysis shows that, between 1961 and 1969, the total employment generated by both the public and the private sectors had increased. Secondly, the employment generated individually by the public and private sectors also increased. Thirdly, the

turn to PAGE 14



India's first institution of its kind also boasts
of a unique architectural style

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TOOLS

A YOJANA STAFF REPORT

S. V. RAGHAVAN

Our Madras Correspondent

IN Guindy, near Madras, has sprung up India's first institute of plastics engineering and tools which also marks a breakthrough in architectural design and layout. The building of the Central Institute of Plastics Engineering & Tools, inaugurated on July 25, stands in refreshing contrast to the mundane landscape around it. Bold and innovative, its architectural excellence is going to blaze a new trail in raising industrial houses inasmuch as its output is going to boost the plastics industry. Though a new arrival on the industrial scene, plastics have invaded every sphere of life. In India, plastic consumption has risen from 10,800 tonnes in 1960 to 36,270 tonnes in 1965. The annual increase has been as high as 23 per cent. In 1969, India's own production was 90,000 tonnes. The plastics industry has been in dire need of dyes and moulds which

this Institute will be able to supply. It will also develop close liaison with small scale industries besides offering its consultancy services and training facilities for those in the industry.

The 1.25-million rupee structure spans an eight-acre site and has been set up by the Union Ministry of Petroleum and Chemicals, with assistance from the United Nations Development Programme with the International Labour Organisation as the executing agency. The cost includes contributions from the UNDP in the shape of experts and specialised machines for the tool room and moulding.

Training Programme

First of its kind in the country, the Institute provides consultancy, mould and machine development, and training for personnel in

plastics industries. The training programme, the first of which began as early as the end of January 1969 in temporary buildings, now covers mould-making, mould design and mould polishing and is product-oriented. With an intake capacity of 80 trainees, the Institute presently has 55 trainees, sponsored by 35 industries from Bangalore, Baroda, Bombay, Calcutta, Delhi, Madras and Kerala. On the staff are four foreign specialists from industries in their respective countries. No tuition fees are charged, the programme being handsomely subsidised by Government; hostel fees are, however, collected at subsidised rates.

The CIPET also produces moulds to order, which conform to international standards and which have hitherto been imported. To date the Institute has produced eight moulds for plastic pieces and has on hand orders for another 20. Assis-

The building of the Central Institute of Plastics Engineering & Tools in Guindy, near Madras, is unorthodox in conception and design. Picture at left shows the power house sub-station of the Institute with its conoidal shell-roof and paraboloid cover for the wall. The design achieves functional economy combined with aesthetics. The sunken Visitors' Lounge, below, is no invitation to boredom, providing, as it does, a floor view of the goings around in the foyer.



tance has also been given to State Governments to set up tool rooms to make moulds for small industries. The Institute's own tool room is reputed to be the best in the country.

Sunken Lounge

Apart from the training programme of a sophisticated nature, what is striking about the Institute is its building. Right from the main gateway of a brick drum through a landscaped driveway down the main building and its interior, the Institute shows up as something not seen elsewhere in the country so far. The entrance foyer with its sunken Visitors' Lounge, statuesque staircase and a sunken fountain, a number of murals with religious, folk and historic themes executed by well-known artists in modern style, the sunken tea pavilion and an elevated library-cum-reading room speak of an unusual combination of aesthetics and elegance with utility and economy.

The circular library "hangs" below the overhead water tank, over six metres above the ground level and the conoidal shell-roofed sub-station for the power house are among the interesting parts of the Institute.

The facade itself is a careful composition of flowing fibre glass in black hyperbolic paraboloid surfaces.

FIVE-FOLD RISE IN CONSUMPTION OF PETROLEUM PRODUCTS

The actual consumption of petroleum products was 17.335 million tonnes in 1969 as against 3.125 million tonnes in 1949. The per capita consumption of petroleum products too rose to 26.3 kgs in 1968 from 8.4 kgs in 1950. The highest per capita consumption was recorded at 109.3 kgs in the Union Territory of Delhi, whereas it was 70.8 kgs in Maharashtra and 64 kgs in Gujarat.

Absence of a viable agricultural sector and an unnecessary dependence on a western-patterned industrial economy are mainly responsible

UNEMPLOYMENT: CAUSES AND CURE

PETER ALVARES

EMPLOYMENT, with gainful opportunities, is the function of the economy; conversely un-employment, accompanied by traditional inhibitions and social immobility, is evidence of its malfunction.

Every modern and planned economy has a three-fold responsibility to the community, namely of providing goods and services, a purchasing power commensurate with a constant increase in the standards of living and employment opportunities to enable its members to acquire this purchasing power in sufficient measure. A modern economy is a complex of these three functions which are inter-related in their purpose and structure. The provision of employment cannot, therefore, be un-related in purpose and structure, for they are complementary to each other. In a developing economy the issue of the structure of the economy is more intimately related to its productive aspect, in contradistinction to that of affluent economies where automation has largely taken over the function of production. It is for this reason that the developing world is so employment-conscious, or rather unemployment conscious; for, with unemployment on the increase the malfunction of the economy begins to be noticed and its structure questioned.

The nature of the un-employment crisis can be considered from various angles, like its dimensions, regional and social character, and its effects upon the economy. About its dimensions there are no firm estimates. According to some estimates the Fourth Plan was to have started (on 1.4.69) with a backlog of 1,60,00,000 unemployed and new additions to the labour force during the Fourth Plan are expected to be about 2,30,00,000, in all amounting to 3,90,00,000 by the end of the Fourth Plan for whom employment will have to be found. This obviously does not take into account under-employment in the country, which is in a sense a more serious problem than un-employment.

In India the test of gainful employment is that it should provide social and geographical mobility for the millions. The test of a successful policy will only become apparent when the present proportion of employment which is 72 per cent for agriculture, 11.7 per cent for industry and 16 per cent for services is altered through a purposeful re-structuring to approximate to that of the developed countries, namely, 22.9 per cent, 36 per cent and 41.1 per cent respectively.

Like the challenges posed by the population problem, development has created its own expectations as witnessed in the rush for jobs and the demand for a higher standard of living, and the number of those who offered themselves for employment during the decade (1951-61) increased by 67.6 per cent as against the population increase of 21.3 per cent.

All estimates have a tendency to err on the side of understatement. The Programme Evaluation Organisation of the Planning Commission states that urban un-employment may be about 10,00,000. In regard to rural un-employment its estimate is about 60,00,000. This is obviously an under-statement, for the figures provided by the Reserve Bank of India Bulletin for February 1970 state that the total un-employed on the live registers of the Employment Exchanges were 34,00,000, and that the number of those placed in employment in January was 31,000 only. There is thus a backlog in the estimates of the Employment Exchanges of over 30,00,000 alone. Another approach to assess its dimension is the estimate that 8 to 12 per cent of persons with education of matriculation and below graduation were un-employed during 1962. During the crisis caused by the revelation of the number of un-employed engineers last year it was estimated that by 1974 the number of un-employed engineering graduates would be 84,000.

The estimates of under-employment are even more heart-rending. Here again, as in the case of urban un-employment, the absence of statistics exposes Government's lack of seriousness over this problem. The first approach to an assessment is a surmise. With 120 lakh out of a total of 720 lakh rural households being landless, the occupation of the farmer can be at best only casual and fitful. Naturally, not all of them are un-employed, but by the nature of their insecurity there is endemic un-employment and under-employment. A further aggravating feature is that with land

being resumed for personal cultivation in a larger measure than before, a lesser number than those who were formerly occupied now find employment. Because of fragmentation the per capita cultivable area having gone down from 0.47 hectares in 1956 to 0.42 in 1962, the problem is of finding jobs for those who own insufficient land, let alone for those who are landless.

The following points emerge from statistics submitted by PEO:

- Urban unemployment is comparatively high in West Bengal, Kerala, Tamilnadu and Maharashtra.
- Among the agricultural population which dominates the rural community, over 20 per cent depend mainly on agricultural labour in Andhra, Tamilnadu, Mysore, Maharashtra, Punjab, Orissa, West Bengal and Assam.
- While a majority of the employed persons work for more than 42 hours a week in almost all the States, the number working 42 hours or less is considerable and exceeds 25 per cent in Andhra Pradesh, Tamilnadu, Mysore, Kerala, Orissa, Assam, Manipur and Tripura. In fact as many as 24 per cent in Manipur and 10 to 20 per cent in Orissa and the Southern States work for only 28 hours or less. Of these nearly 10 per cent in Manipur, 7 per cent in Tamilnadu and 5 per cent in Kerala work less than 14 hours per week and may be regarded as acutely unemployed.
- Data on rural unemployment have not been tabulated. The dimensions of unemployment and under-employment can thus be estimated in their total spread, volume and region. The social breakdown caste-wise is not available, but it is obvious that the socially and economically privileged have the better of the opportunities that the country has to offer in a very limited way.

No assessment of the problem of unemployment would be complete if the order of employment is not understood. The Economic Survey for 1969-70 states that the total employed (paid employment) is about 1,66,00,000, divided into the Public Sector=1,00,27,000 and the Private Sector=66,00,000. The breakdown is shown in the table given below:

	(in lakhs)							
	Agriculture	Mining	Manufacture	Construction	Electricity & Sanitation	Trade & Commerce	Transport	Services
Public Sector	2.61	1.74	7.57	7.88	3.69	1.84	21.59	53.34
Private Sector	8.1	4.2	37.7	1.5	0.4	3.7	1.1	9.2

Note: These statistics are of establishments employing more than 10 workers. It should be borne in mind that statistics of urban employment are of those who are mainly wage earners; and of the under-employed in the rural areas who are principally self-employed.

Unemployment has its own frustrations. It has been revealed that in 1961, 16.7 per cent of the post-graduate scientists and 39.6 per cent graduate

scientists were engaged in non-technical work. This obviously results in a great wastage of knowledge and talent and is due to lack of gainful employment opportunities; it is as serious a problem as either un-employment or under-employment.

It would be necessary to state the rate of progress in employment as claimed by Government. The Budget papers state that trends in the organised sector indicate an increase of 1.9 per cent in total employment in 1968-69. Employment in the Private Sector which had fallen off in the previous two years has registered an increase of 1.3 per cent in 1968-69. Employment in the Public Sector had increased by 2.7 per cent in 1966-67 and 1.7 per cent in 1967-68. In 1968-69 the increase was 2.3 per cent.

Causes And Remedies

It should now be possible to make a passing reference to the causes of unemployment and under-employment and their remedies. The causes and their social consequences are manifold; and in the case of India, which is a developing country with a population problem, the issues are compounded. Since in any Asian country the vast majority resides in the villages the neglect of agriculture has resulted in lack of employment, inadequate food intake and in general frustration. India suffers from the twin handicaps of unemployment and low production. The obvious consequence of this state of affairs is a flight to the urban areas. The ECAFE bulletin for December 1959 states that "the urban growth in under-developed areas is not a function of the expansion of the industrial base but an expression of the severity of the agrarian crisis". The 1961 figures of urban growth in India show that urbanisation has taken place twice as fast as population growth; while the yearly compound percentage rate of growth of population in the country was 2 per cent between 1951-61, for the cities over 10,000 it was 3.9 per cent. Since 1961 the rate of growth has been much faster. It may be stated that the growth of cities is not as a result of a 'pull' because of prospects of a high standard of living but because of the 'push' of increasing poverty and insecurity in the rural areas.

In the scheme of providing jobs for an increasing number of people the viability of the agricultural sector plays a vital role. The Planning Commission has assessed that the optimum agricultural population should not be more than 40 per cent of the total of 76 per cent of the country's population now residing in the villages, and that the remaining 30 per cent should be absorbed in ancillary and subsidiary industrial employment, the optimum agricultural population in America being 9 per cent and in Japan 12 per cent. Unfortunately the neglect of agriculture and failure to develop the ancillary base of agro-industries has thrown back the surplus 30 per cent either on the agricultural economy which cannot sustain it or into the slums of the big cities. If, therefore, the tempo of economic development is the basis on which employment can be planned, then it is obvious that this could not have been possible, for during the past years the growth rate was sluggish. The annual growth rate of the economy which aver-

aged 2.8 per cent during the period of the Third Plan (1960/61-65/66) was only 3 per cent in 1968-69. This compares unfavourably with the previous five years during which the growth rate remained low because of severe drought in 1965-66 when the national income declined by 5.7 per cent. The growth rate in 1966-67 was only 0.8 per cent. These statistics only substantiate the slow tempo of growth of the economy which has to provide employment on an unprecedented scale to its population.

In the industrial sector also the expectations of employment potential have been denied. There is a natural expectation that the major industries provide for employment, but here also the newer industries are either automated or capital-intensive. The employment multiplier ratio of these industries is very low. Industries which are set up with foreign collaboration or are turn-key affairs have no employment-multiplier ratio for the simple reason that their multiplier ratio is in the country of their manufacture. It is not until such industries are entirely manufactured in the country, with increasing 'import substitution', that employment in their sector can grow. No detailed study has yet been conducted of the employment that each type of industry offers so that an unemployment-conscious nation could look for available remedies to employ the young men. The National Council of Applied Economic Research has, however, made one study in the automobile industry in the country and has come to the conclusion that for every person employed in the motor vehicle manufacturing activity additional employment is created for about 100 persons in the rest of the country.

Cottage Industries

Almost 70 per cent of the workers surveyed in this connection reported employment in cottage industry whereas relatively few reported employment in the intermediate sizes of enterprise. This is a noteworthy feature.

Because of the realisation that the problem of unemployment and under-employment must be tackled at the rural level, a provision for a Works Programme has been made in the Fourth Plan. There are three distinct schemes, namely the scheme of Rs 115 crore for small farmers that could generate employment opportunities to the extent of 320 million man-days per year; the dairy development programme which is expected to provide restricted, but necessary, connected activity to 27,000 persons; the area development programme of Rs 15 crore in the first instance with an annual potential of 37,200 man-years; a rural works programme of Rs 100 crore that would provide in the relevant season employment for 25,000 to 30,000 persons (Budget papers). In these instances though there is no employment-multiplier essential employment is provided. And if care is taken to ensure that some form of permanent assets are created through the investment of such large sums it is possible that some form of permanent potential will be created, even if in a limited manner.

In conclusion, two causes stand out as primarily responsible for the state of unemployment and under-

employment; their elimination is also the remedy for these ills. They are the absence of a viable agricultural sector and an unnecessary dependence upon a western-patterned industrial economy. A viable agricultural Sector will not only provide the base for economic growth, but because of ancillary industries that it can generate, like rural housing, tube-well and tractor repair industry, etc. it can foster creativeness and entrepreneurship.

In regard to the industrial sector, the labour-intensive industries must be encouraged in the Public sector with a view to providing for employment-multiplier ratio. This orientation again will help foster skills that are now confined to the urban areas and will, in course of time, bring the benefits of a technological civilisation to the countryside. Finally investment on research can help provide for the entrepreneur prototypes of consumer goods which the country needs so urgently.

Courtesy: Indian Railwaymen

10,000 More Jobs for Calcutta Citizens

The Calcutta Metropolitan Development Authority hopes to create 10,000 new jobs, including jobs for engineers, as a result of the implementation of its long-term development plans. A sum of Rs 150 crore has been provided in the Fourth Plan for the purpose. The allocation under different heads are: Rs 31.45 crore for traffic and transportation, Rs 28.93 crore for sewerage and drainage, Rs 28.57 crore for water supply, Rs 25.91 crore for bustee improvement and housing, Rs 16.62 crore for hospitals and education, Rs 9.28 crore for special works, Rs 6 crore for housing for low and middle income groups, and Rs 2.61 crore for garbage disposal. A sum of Rs 21.82 crore will be spent this year.

Employment Pattern in Public and Private Sectors from Page 9

employment generated by the public sector increased faster than the employment generated by the private sector, and, therefore, the relative share of the public sector in the generation of total employment showed an increase. Finally, industry-wise, in absolute terms, there was an increase in employment in all spheres in the public sector, while in the private sector, there was a decrease in the volume of employment in the fields of mining and quarrying and construction. In relative terms, in the public sector there has been a decrease in the importance of mining and quarrying, and trade and commerce as sources of employment. All other sectors have increased in importance since 1961. In the private sector there has been an increase in the relative importance of mining and quarrying, and construction as sources of employment; all other sectors have declined in relative importance.

FIRST YEAR OF BANK NATIONALISATION

Fourteen major Indian banks were nationalised on July 19, last year. An ordinance renationalising them was promulgated on February 14 this year, following a Supreme Court decision to set aside their nationalisation.

BALANCE SHEET OF PERFORMANCE

THE deposits of the public sector banks, excluding inter-bank deposits, have gone up from Rs 3,874.3 crore to Rs 4,360.5 crore during the period from July 1969 to June 1970. The increase was Rs 486.2 crore as against Rs 441.9 crore during the corresponding period in the previous year. Of this, the State Bank of India and its seven subsidiary banks accounted for Rs 188.3 crore, while the other nationalised banks accounted for Rs 297.9 crore.

During the last 11 months, 1,456 new branches were opened, at an average of 127 branches per month, as against 48 in 1968 and 40 in the

	No. of bank offices on 18.7.69	No. of offices opened since 19.7.1969 up to 30.6.1970	Offices opened per month since nationalisation	Monthly average of new offices opened in 1968
State Bank of India Group	2,465	413	36	14
14 Nationalised banks	4,168	1,043	91	34
Total for public sector banks	6,633	1,456	127	48

first half of 1969. About 230 new offices were opened in June this year. The above Table shows the rate of Branch expansion.

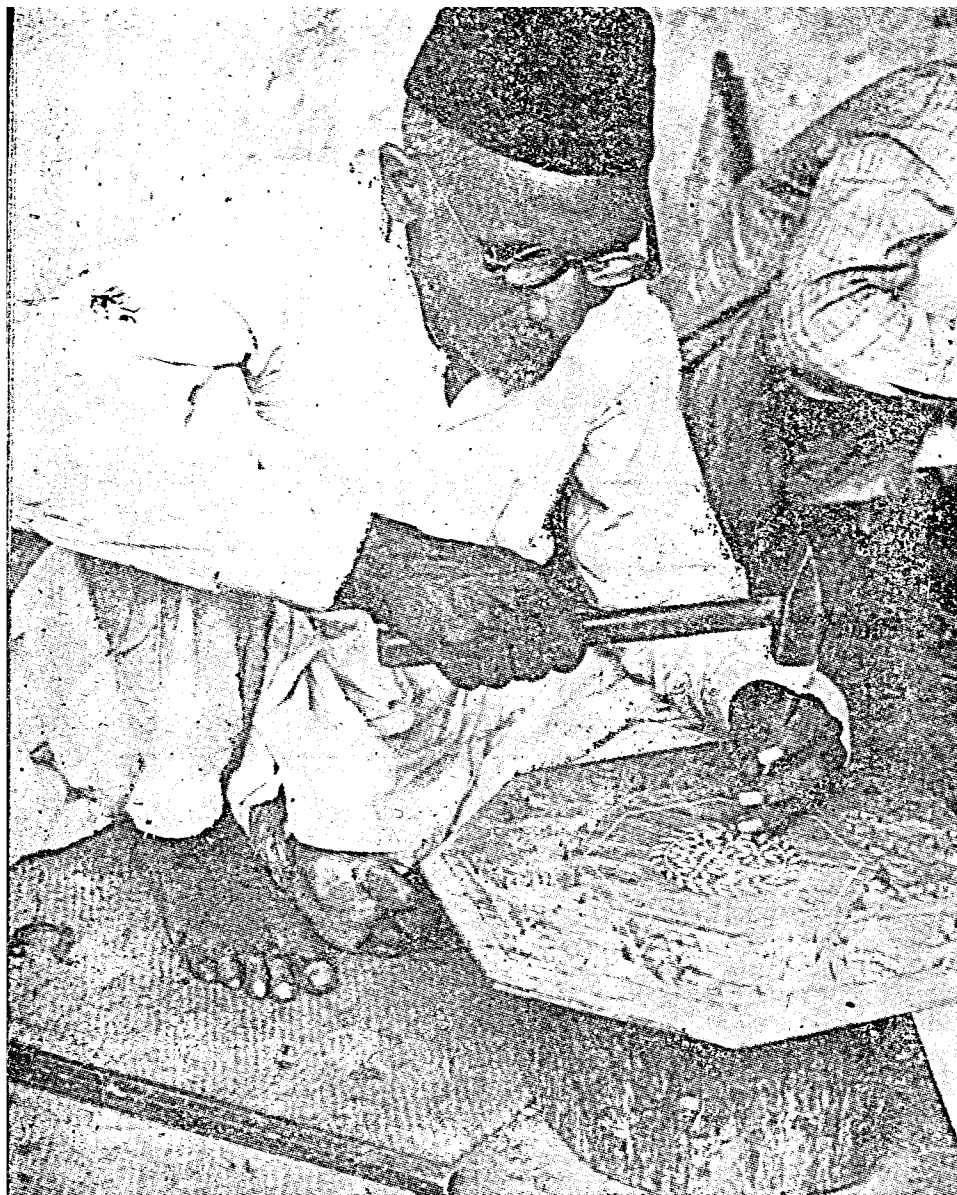
Nearly two-thirds of the new offices opened since nationalisation

were in rural centres with a population of less than 10,000. The proportion of rural branches had gone up to 30 per cent in June 1970, as against 23 per cent at the time of nationalisation last year.

ADVANCES BY NATIONALISED BANKS TO AGRICULTURE AND OTHER NEGLECTED SECTORS

(Rupees in crore)

	End of June 1969	End of March 1970	Monthly increase during June 1969 to March 1970	Monthly increase during June 1968 to June 1969
Direct Finance to Agriculture (excluding Plantation) : No. of accounts	1,34,849	2,97,670	18,091	9,326
Amount	26.96	80.71	5.97	1.86
Small-scale Industry : No. of accounts	36,301	57,800	2,389	1,202
Amount	148.45	198.74	5.59	4.03
Road Transport Operators : No. of accounts	2,527	8,925	711	177
Amount	6.69	16.41	1.08	0.31
Retail Trade and Small Business : No. of accounts	28,037	70,607	4,730	N.A
Amount	19.22	40.78	2.39	N.A
Self-employed Persons : No. of accounts	422	22,030	2,401	N.A
Amount	0.33	6.51	0.69	N.A
Education : No. of accounts	594	4,034	382	N.A
Amount	0.46	1.83	0.15	N.A
TOTAL : No. of accounts	2,02,730	4,61,066	28,704	—
Amount	202.11	344.98	15.87	—



OLD ART IN A NEW WORLD

WOOD CARVINGS
EARN
FOREIGN EXCHANGE

India's tradition in handicrafts is as old as the country's history. For centuries, a select, but obscure, band of artisans have been working with ancient tools to create things of beauty that are a joy for ever. Famed throughout the world, a variety of objects in ivory and iron, brass and bronze, wood and other materials have been adorning homes in many parts of the world.

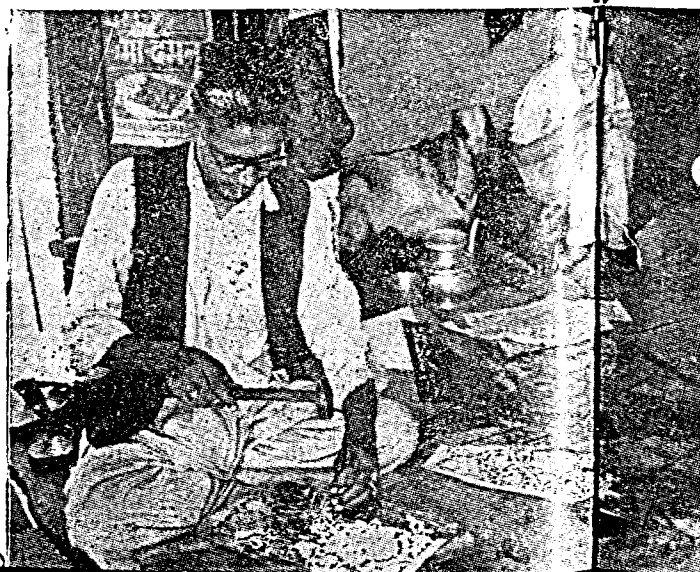
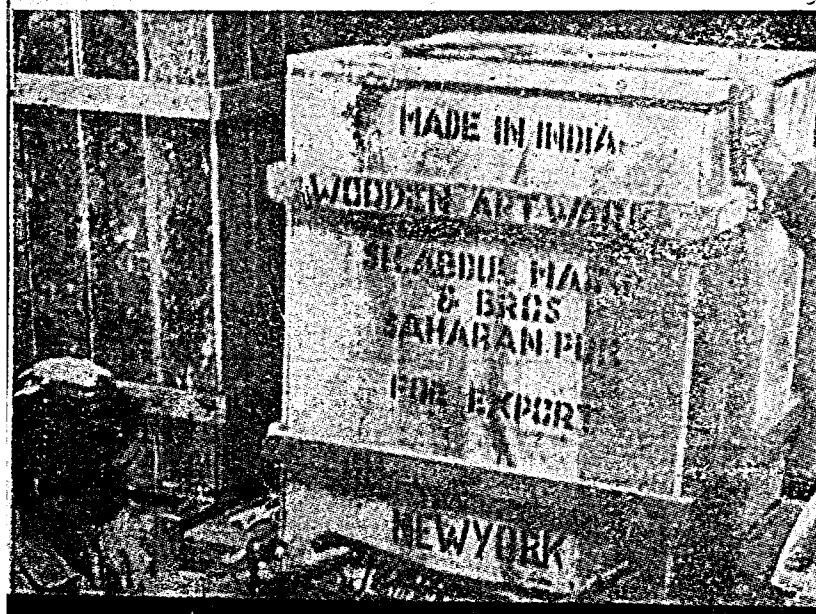
In this age of big industries, the old world artisans are playing a significant role in fighting the war for India's economic survival and supremacy. Working in almost the same conditions as did their ancestors, and with tools that have survived the ravages of time, they are earning valuable foreign exchange for the country. The United States, which is one of the most important foreign markets for Indian handicrafts, imported nearly Rs 13 crore worth of handicrafts last year.

Among the 42 major categories of Indian handicrafts that have a world market, one of the most popular are the delicate and beautiful woodcarvings of Saharanpur: exquisite fireplace screens, hall stands, stationery cabinets, jewellery boxes, tea and coffee trays, lamp stands and numerous utility articles. Made from the wood of the "Sissoo" tree and decorated with intricate patterns, inlaid or overlaid with silver, brass or copper, these articles represent the best in the woodcarver's art.

The woodcarvers of Saharanpur have an ancient tradition handed down from father to son; their skills learnt and developed in their homes. For this reason the old and the young work together.

A veteran works with intense concentration on a table-top in laying the intricate design with ivory. A woodcarver at work (below right) while his young son looks on intently, thinking of the time when it will be his turn to carry on the good work. Everything is done by hand, including the difficult job of carving the design on the wood (far right). The finished goods (below left) are now packed and ready for shipment to all parts of the world. Crates being marked for despatch to the U.S.

PHOTOGRAPHS: R. N. KHANNA



PERFORMANCE OF PUBLIC SECTOR PROJECTS

S. K. GOYAL

A large number of public sector undertakings have been established all over India. A major share of the country's financial resources is tied up in these plants. Unfortunately, most of them are either suffering loss or earning lesser profit when compared to similar private sector projects. People have reconciled to the belief that nothing in the public sector can earn profit. The publication of the annual balance-sheet, generally, is not a happy occasion for the management because they have to search for excuses in order to explain the losses. On the other hand, the Government finds itself in an uncomfortable position in defending the poor record of the management. The wisdom of having such projects in the public sector is often questioned. It is hardly appreciated that the balance-sheet of a public sector project gives its apparent performance which may be far away from its true performance.

enterprise, which must have profits to survive. On the other hand, profit is the secondary basis for evaluating a public enterprise. The general welfare, as collectively and effectively expressed, is the primary basis for evaluating public activities with economy in terms of cost and income.

The usual method of determining the ratio related to profitability is misleading, if applied to a public enterprise. Profitability as applied to a private sector enterprise is defined as:

$$\text{Profitability ratio} = \frac{\text{Profit}}{\text{Total assets}} = \frac{\text{Revenue} - \text{Costs}}{\text{Total assets}}$$

For public sector projects we will have the following criterion:

$$\text{True profitability ratio} = \frac{\text{Benefits to Society} - \text{Cost to Society}}{\text{Total assets}}$$

judge on financial statements, then we must keep in mind that we are trying to compare two fundamentally different things. In order to have a fair comparison we must have consistency in the numerical figures for costs and benefits.

Cost-Benefit Analysis

To bring consistency to an economic appraisal of a public sector enterprise, cost-benefit analysis is the only resort. Cost-benefit analysis is the technique used for comparing and testing the soundness of proposed activities in the public sector. Generally it is applied to proposed expenditure in the public sector but it can be applied for assessing the current true performance of an existing public sector project, after a little modification.

In cost-benefit analysis our main objective is to determine social costs and social benefits. Social costs may

Cost-Benefit Analysis Will Show Correct Situation

The performance of an industrial enterprise is generally evaluated on the basis of the profitability ratio. The reason is that it is simple conceptually and appeals to common-sense. This criterion can be applied to a private enterprise whose objectives are different from that of the Government. This fundamental difference of objectives of the two sectors has been over-looked in India for long. The public has not been provided with sufficient information and publicity material. The result is that a public sector project stands for a badly managed, loss-making project.

The standards by which a public enterprise must be evaluated are markedly different from those that apply in the evaluation of a private

An industrialist tries to maximise the ratio of profitability. In his case the benefits and costs represent real monetary costs. On the other hand, the primary objective of a Government and all its agencies, is the general welfare of its citizens. So we must consider *social costs* and *social benefits* of any public enterprise if we want to know its real performance.

As the objectives of private and public enterprise have a fundamental difference, the profitability ratios for similar projects in the two sectors of economy will be different. It is likely to be higher for the private sector.

This inconsistency of objectives makes it impossible to compare the performance of two similar projects managed by different sectors of the national economy. If we try to

be defined as the sum total of costs involved as the result of an economic action. Private costs are those which affect the decision of its performers. For example, the private costs are: labour cost, material cost, land and capital cost. All of these, of course, also represent 'opportunity costs' to society at large. Over and above them, however, may be the additional external cost, e.g. pollution of river water by discharge from an oil refinery.

Similarly benefits are reflected in the amounts paid by customers for goods produced but, in addition, favourable externalities might also accrue to the society. The example of external benefits are: creating more employment opportunities, developing an economically

backward area, and social control over important industries.

The external benefit of creating more employment opportunities needs a little clarification. It is an undisputed fact that public sector projects have lower labour productivity as compared to private sector projects. Most of the public sector projects are overstaffed. Quite often critics have been very unkind because they did not give due consideration to the plight of millions of unemployed. At present India has got over 20 million unemployed and the society (which means mainly Government) has got a responsibility to provide them with jobs. With such an acute unemployment problem facing the country, one begins to wonder if it is wise to give too much importance to labour productivity. What we actually need is improvement in the productivity of land and machines which are scarcer resources in India. As a matter of fact, public sector projects are minimising the unemployment problem in the country. Any payments to such extra staff is in true sense a social benefit and not cost.

Such external benefits to the society are not reflected in the conventional profitability ratio. If profit would have been the primary objective, then many of the public sector projects would not have been located at their present sites.

Public Confidence

The cost-benefit analysis of an existing project will normally consist of the following stages: In the first place, the list of current benefits and costs should be compiled. This may seem straight-forward, but in practice it raises a number of fundamental issues. As benefits we should have those goods and services produced which are sold in the market: current costs associated with the project must, of course, be subtracted.

Secondly, the list of benefits and costs, direct or indirect, must be reduced to monetary value so as to arrive at current net benefits of the project. Of course, many problems will arise in placing a monetary value, especially if the scale of the project is so large as to have marked effects on the prevailing market prices.

Once the net benefits are known we can find the true profitability ratio of the public enterprise. This figure can be compared with similar private sector projects in the country. It is wrong to compare the profitability ratio of a public enterprise with a similar public enterprise overseas, even if based on modified profitability ratio. The profit-earning capacity of similar projects located in different countries may be widely different. The social conditions, market competition, strength of labour unions, raw material supply etc. may be so different as to render any comparison meaningless.

The misconception about the apparent poor performance of public sector projects is due to the inability of the management of such enterprise in determining the true profitability ratio. The people will have more confidence in the soundness of public sector projects if true performance figures are available to them. The true performance of public sector projects is certainly better than what is actually given by a balance-sheet. If the true performance of a public sector project is significantly less than that of similar private sector projects then it is high time that something is done about it. The reasons for poor performance should be investigated and remedial action taken. There is a lack of confidence in the public mind regarding the public sector projects; the management should try to win public confidence.

Cooperative Credit for Agriculture

The progress of advances made by credit cooperatives in the field of agriculture has been very fast. The short-term credit rose from Rs 394.18 crore in 1967-68 to Rs 447.32 crore in 1968-69, medium-term credit from Rs 35.02 crore to Rs 37.92 crore, and long-term credit from Rs 94.71 crore to Rs 129.10 crore. The 1968-69 figures are provisional.

In 1969-70 cooperatives are estimated to have provided Rs 500 crore as short and medium-term loans and Rs 140 crore as long-term loans. These figures are likely to go up to Rs 700 to 800 crore and Rs 170 crore respectively by 1973-74.

BARAUNI OIL REFINERY

ONCE A "SICK CHILD", NOW A "RISING STAR"

The Barauni Refinery's profits for 1969-70 have touched a new high and it is likely to earn nearly Rs 2 crore after meeting all expenses. This was an encouraging development when compared with the loss of Rs 1.10 crore in 1965-66.

The Refinery is expected to raise its profits to Rs 3 crore in the current financial year, provided the price paid for crude oil was not raised but kept to the present level. The total profits for the Refineries Division during 1969-70 are likely to go up to Rs 10 crore. The Refinery, once described as a "Sick Child", could now be called a "Rising Star".

Plans were being finalised to supply imported crude to run the third million tonne unit of the refinery.

Production

The Kerosene Treating Unit of the Barauni Refinery had a record production of well over 31,000 tonnes last month. Earlier, this unit had created an all-time record by running continuously for over one year.

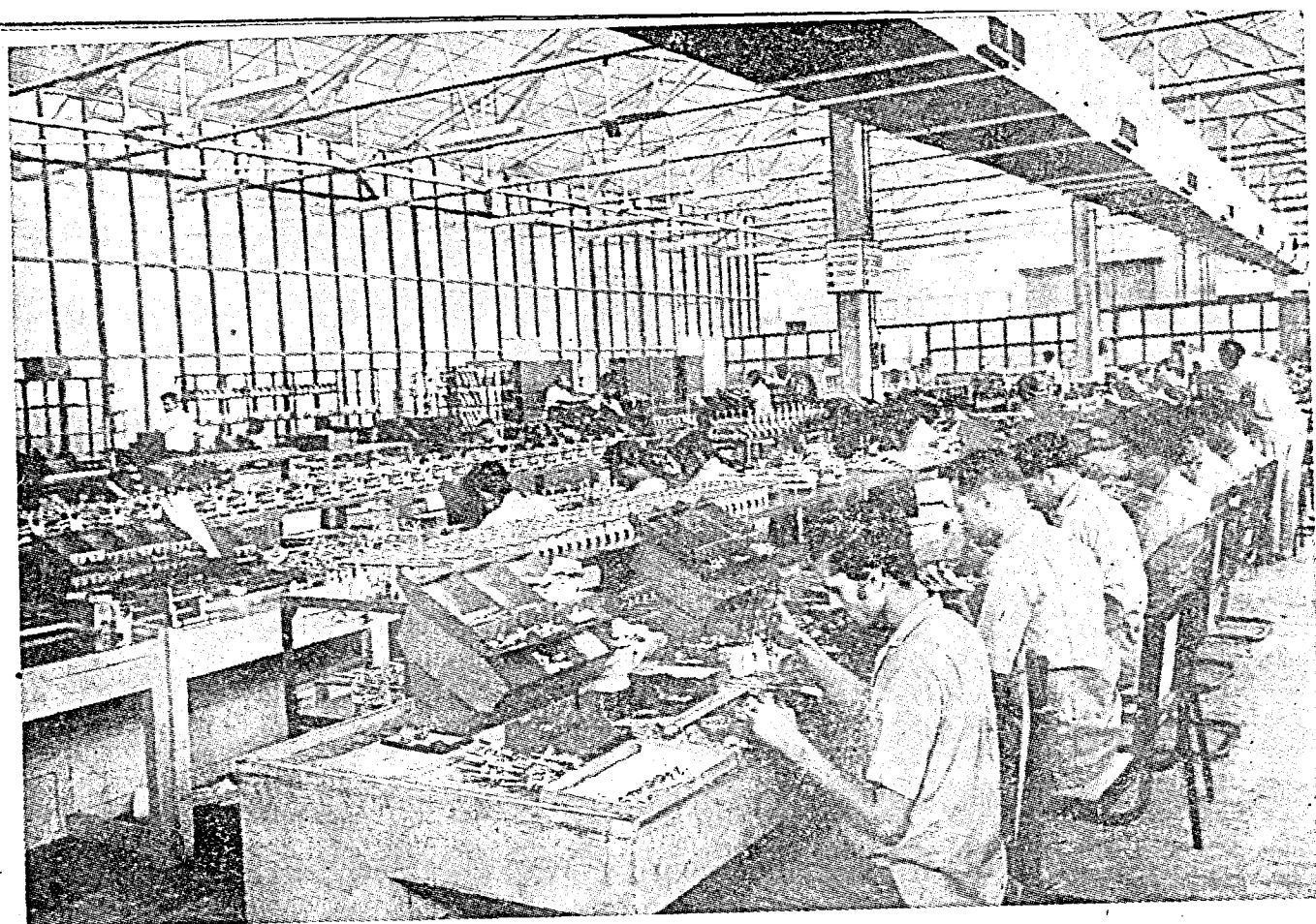
The Unit also treated 236,000 tonnes of Kerosene and allied products as against 204,000 tonnes done during the corresponding period last year. There has been nearly 40 per cent increase in production this year.

The total tonnage of crude processed during 1969-70 was about 2.088 million making an 18 per cent increase over last year's figure of about 1.76 million tonnes.

The Coking Unit, which is designed to process 600,000 tonnes of feedstock, exceeded its capacity by 87,000 tonnes.

The lubricating oil complex produced about 32,000 tonnes of base lube oil. The production in this unit during the corresponding period last year was not very encouraging due to the lower off-take of its products.

The despatch of finished products from the Barauni Refineries also scored manifold increases during the year under review. A total of nearly 1.97 million tonnes of finished products were despatched through rail, road and pipelines against over 1.57 million tonnes despatched during 1968-69,—an increase by nearly 25 per cent in the year under review. The Government earned about Rs 80 crore by way of excise duties in 1969-70 from the produce of Barauni Refinery alone.



A view of the assembly shop in the Hindustan Teleprinters Ltd., Madras, where a large number of minor parts are assembled for the teleprinters produced at the factory.

5,000 TELEPRINTERS A YEAR

Hindustan Teleprinters Keeps Pace with the Nation's Progress

AN Indian teleprinter in every country is the ambition of the Hindustan Teleprinters Ltd., a public sector unit in Guindy near Madras. The ambition is within sight of fulfilment. The Ceylonese Government has installed a Hindustan teleprinter at the Kattunayake International Airport.

Kuwait has ordered teleprinters and equipment worth Rs 21 lakh. The order was won through a global tender in which its Italian collaborators, Olivetti, were also the bidders not only for its competitive cost, but also for the quality and efficiency of the equipment. Another interesting feature of the deal is that for the first time an Arabic machine has been designed and offered for supply.

A YOJANA REPORT

Another tender for the supply of teleprinters and ancillary equipment, valued at Rs 22 lakh, to the Iranian State Railways is awaiting decision. In addition, the factory has also been supplying equipment to Nepal.

It is significant that these foreign orders had been executed without cutting into indigenous needs. By 1968-69, the factory attained its annual targetted production of 5,000 teleprinters of all types, even marginally exceeding the target by 10 units. HTL has been meeting the needs of the Indian consumers right from the beginning of its operation

in 1961-62. The country is now self-sufficient in respect of its teleprinter needs.

Way back in 1961, there were just 2,000 teleprinters in use in India, all of them of European or American origin. Most of these units were either in the Posts & Telegraph Department or with news agencies and a few with other departments of the Government. The public telegraph system at this time was operated on the slow speed Morse system with 'keys and sounders', with the teleprinters confined to a few major routes with heavy traffic. Except for a small experimental installation of twenty-five lines between Bombay and Ahmedabad, the telex system was practically non-existent in the country.

Since the inception of the factory, the HTL has supplied 14,000 teleprinters and a wide range of auxiliary items which have enabled large-scale telex expansion and modernisation of the telegraph network. As a result the number of telex lines has gone up from 25 to 6,500 covering 25 cities. Similarly the use of Morse circuits with keys and sounders has been replaced by teleprinters even in the remotest villages.

Apart from serving the Posts and Telegraph Department, the HTL is playing an ever increasing role in the development of essential services like civil aviation, meteorology, defence, railways, atomic energy and transmission of news and commerce. In most of these cases special engineering skill is called for. The availability of teleprinters has made possible point-to-point communication in police network and industrial units and in the collection and processing of data for computing operations as in the railways. With the growth of long distance co-axial networks and microwave transmissions, the possibilities of working switched telegraph networks for public services have also become feasible. At present high-speed telegraph equipment and special monitoring control consoles required for the Intelex exchange at the Satellite Earth Station, Arvi, are being made in this factory.

Price and Profit

The HTL deserves special mention not only for the fulfilment of its production targets but also for the continuous, uninterrupted functioning of its plant, manufacturing nearly 2,700 different components; quite a number of them tiny and high-precision. Credit is also due for keeping up a balance in production, on the one hand, and a corresponding reduction in the cost, on the other—a rather uncommon phenomenon in Indian industries. It has been able all these years to keep its machines working mainly because of the uninterrupted supply of raw materials. As a matter of fact, right from the beginning efforts have been made for import substitution. As a

TO KNOW INDIA READ YOJANA

A remarkable feat in import substitution has been achieved by this public sector undertaking. It has reduced the import content from ninety per cent to seven and a half per cent.

result, import content, once 90 per cent, has come down to a mere 7½ per cent, and is confined to certain types of special steel, metal types and ball-bearings.

Cost reduction has also been achieved. The price of a tape model teleprinter was scaled down from Rs 7,000 to Rs 6,200 on April 1, 1968, to Rs 5,900 on October 1, 1968 and further down to Rs. 5,600 on April 1, 1969. This represents a total reduction of 20 per cent on the price prevailing before April 1, 1968. Import substitution, improvement in production techniques and increase in the scale of production and marketing have contributed to this lowering of prices.

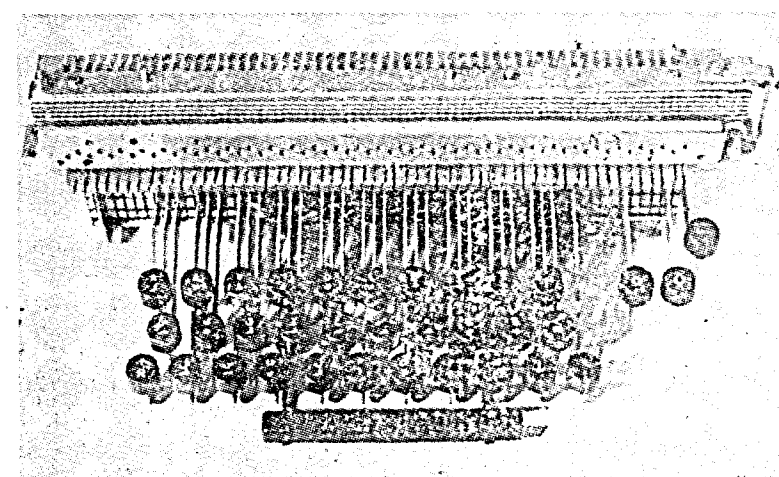
Spurt in Production

Spurt in production is testified by a nineteen-fold increase in the number of teleprinter units turned out by the factory. In 1961-62, the year of its birth, the HTL produced 270 machines. In a matter of eight years from 1968-69, it has reached an annual production level of 5,000 machines, consisting of 790 units of English tape model, 212 units of Devnagari tape model,

3,236 units of English page model, 337 units of Devnagari page model, 174 units of attachments, 127 units of printer reperforator and 134 units of auto transmitter. In the year 1968-69, the factory started manufacture of teleprinters with Devnagari keyboard. For the year 1969-70 the factory has already turned out 2,093 units.

The tax-payer will naturally ask what is the profit against all this performance. It is worthy of note that even here the HTL has done it with a difference. In the year 1968-69, it made a profit of Rs 62.26 lakh, after providing for taxes, which means it made a profit of 17.2 per cent on the capital employed. More than making a profit, the factory has been able to repay fully the loans which it had taken from the Government of India much ahead of the scheduled date, that is, 1973-74. It has paid a bonus of 20 per cent this year to its 1,000 workers. The HTL thus is a shining example of how the public sector can meet the internal needs, make a dent in the highly competitive overseas market and hold its own for quality and price.

The Hindustan Teleprinters Ltd., Madras, is also producing machines with Arabic keyboard for delivery to Kuwait. Picture shows the Arabic keyboard.



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Side Track

INDIA RANKS THIRD IN WORLD FISHING

There is nothing fishy about the fact that India is the third largest fish catching country in the world. Our catch last year weighed 480,000 tonnes against the world's total of four million tonnes.

China's 1.2 million tonnes and Japan's 490,000 tonnes of fish yields place these countries ahead of us on a long list of 36 major fish producing nations of the world. Three-fourths of the world's fish production last year came from nine countries of Asia and Far East. Africa and Latin America have so far adopted conservationist attitudes towards their fish potential.

India, Indonesia and Philippines have about a million hectares of fish ponds under pisciculture. An additional 8.2 million hectares can also be harnessed for fish cultivation. With complete mechanisation of fishing India can hope to multiply its fish yield a great deal. In the Fourth Plan, Rs 83.31 crore have been allocated for development of fisheries.

SOUTH AFRICA'S INDIAN GRADUATES

Despite the colour bar and the *apartheid*, Indian talent in South Africa is pushing forward with determination and success. At this year's graduation ceremony of the University College for Indians in Durban, Natal, 305 Indian students received degrees and diplomas. This record figure is up by 50 over the last year's total. For the first time post-graduate diplomas in Remedial Education were awarded this year. Six Indians received these diplomas.

RAJASTHAN'S SURFACE WATER

Rajasthan's surface water potential is large enough to irrigate 1.212 million hectares out of a total cultivable area of 26.664 million hectares. Though rainfall in Rajas-

than varies from 90 cms in Chambal basin to about 10 cms in the Thar desert region, the windswept State receives, on the whole, an average annual rainfall of 54 cms. However, the available run off is only one per cent of the total run off in the country.

However, irrigation from the Indus River basin, Gang Canal and the Bhakra system has made it possible to bring 484,800 hectares under cultivation in Ganganagar district alone.

WHAT CAUSES CANCER CELLS TO MULTIPLY

A major mystery in cancer research is how malignant cells manage to proliferate so wildly, even under the most crowded conditions.

A chemical substance has been isolated that leaks from cancer cells and makes normal living cells multiply rapidly as though they were cancerous.

Further studies may provide clues about the biological changes in cancer allowing runaway growth in and around malignant cells, and point the way toward a control agent.

Dr Harry Rubin, a molecular biologist at the University of California, has detected the substance in chick embryo cells four to five days after they had been infected with a cancer virus.

He believes the substance, called Overgrowth Stimulating Factor (OSF), may be involved in promoting the growth of blood vessels and connective tissue that permit malignant cells to support their undisciplined expansion.

There is also a possibility the substance could be responsible for the abnormal multiplication of cancer cells themselves.

Dr Rubin is now trying to isolate the substance and learn its chemical makeup which would be a big step towards the goal of an antidote.

THE AGE OF EARTH

It took the earth 100 million years to solidify into a globe from a



IGNORAMAN

Wants to Know
Whether
suffering adults
can relish
adult suffrage

cloud of gas and dust swirling around the sun, believes Soviet cosmologist, Victor Safronov.

Basing his conclusion on the astronomical data obtained from extensive observations of the movement of the planets around the sun, cosmologist Safronov calculated the time which was needed for the nucleus of the earth to collect, through the force of gravitation, all the solid particles around it.

The original body so formed at first was no larger than several hundred kilometres but over some five thousand million years ago space particles started collecting around it. Safronov's theory reinforces Otto Schmidt's earlier theory on the origin of planets postulated about thirty years ago.

A DUTCHMAN'S OPTIMISM

"Finally family planning is catching up in Holland, the most densely populated country of the world.

—I am glad that Holland finally ranks amongst the developing nations."

—Courtesy: The Netherlands

PRINTER'S DEVIL ?

Jaisalmer's ropes may prove to be shortlived.

—A headline in The Times of India



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BOOKS

Land Reforms in Andhra and Vidarbha

Implementation of Land Reforms in Andhra Pradesh by G. Parthasarthy and B. Prasada Rao. Published on behalf of the Department of Co-operation and Applied Economics, Andhra University, Waltair. Pages 393. Rs 20.

Land Reforms in Vidarbha, by K. R. Nanekar. Published by Oxford & I. B. H. Publishing House Co. Pages 335. Rs 20.

R. Santanam

After Independence, land reforms in India were introduced in two stages. The first set of laws abolished the middlemen's rights. The second set regulated the relations between the owner and the tenant, laid ceiling limits on holdings and sought to redistribute land to the tenant and the landless labour. The Research Programmes Committee of the Planning Commission sponsored a series of land reform studies, of which the first book under review is a report on one such study in Andhra Pradesh. It deals with three Acts, namely, the Andhra Pradesh (Telengana Area) Tenancy and Agricultural Lands Act, the Andhra Tenancy Act, 1956 and the Andhra Pradesh Ceiling on Agricultural Holdings Act, 1961.

The findings of the study are interesting though not so complimentary to the genius of legislation or its administration. The imbalance in the agrarian structure brings about a growth of a class of landless labour whose numbers are swelling due to demographic pressures and possibly due to gradual dispossession of small land holdings. This is the counter-part of the problem of tenancy; for, with traditional techniques and routine practices, the function of the big operator is

not different in character from that of the rentier; some form of 'personal cultivation' shade into concealed tenancy.

The pattern of distribution of ownership, under which a large number in rural areas are excluded from ownership, and many possess only small holdings, is bound to exert an upward pressure on rents. The higher the ratio of imbalance, the stronger will be this pressure. This situation calls for drastic action either to effect a redistribution of holdings, thereby radically altering the pattern of distribution of ownership, or alternatively to introduce measures which would set serious restrictions on resumptions, if tenancy legislation were to be successful.

Of the three Acts, the ceiling legislation does not set its goal clear; there are no targets. Exemptions are too many. There was considerable delay between the proposal and the enactment. The Telengana Tenancy Act did not meet with success where transfer of ownership rights to protected tenants was concerned, mainly because of loopholes in the Act. Secondly, supporting or ancillary measures to render this provision effective, like proper records, credit to the tenant, etc., were lacking. Some of the defects were, however, removed by amendments since 1954.

The Andhra Tenancy Act of 1956 which applied to the areas excluding Telengana, was virtually a piece of deception played on the tenants. It fixed rent and gave security of tenure for a period of six years but also allowed landlords to evict tenants with ease for even minor delays in payment of rent. Absence of records or written leases and a machinery to scrutinise these made the task of the courts difficult. The tenants who went to courts

failed *en masse*. They developed an apathy to the Act. The Government did not amend the Act to give protection to the tenants.

The study has brought out the fact that landed interests are very much entrenched in the administration of land reform laws. This could serve as a back-drop to appreciate the agitation that is going on in Agency tracts. The Report has followed a scientific methodology and it would be useful reading for both the administrator and the policy-maker.

Dr Nanekar's book also is a Report on a research study of land reforms sponsored by the Research Programmes Committee. It deals with land reforms laws passed since Independence and evaluates their working and impact, between 1950-51 and 1961-62, on the agrarian structure with 9 different land revenue systems in the Vidarbha region (31.66 per cent of the total area) of Maharashtra.

Some of the important findings of this enquiry belie expectations, which incidentally the Fourth Plan has noted. Feudal interests, though legally abolished, still persist and though intermediary rights were legally done away with, there still is concentration of land. Piece-meal legislation at long intervals had a deleterious effect and there were anticipatory malafide transactions. The Tenancy Acts also have been quite ineffective. In reality, they have done very little either in changing the tenancy practices or in reducing the insecurity of tenure, or in transferring land from owners to the tenants. Many of those who would have continued to be tenants in the absence of land reforms have been, in fact reduced to the status of labourers. Even the Tenancy Act of 1958 which was more radical than all the tenancy legislations in the past, has been so construed as to be disadvantageous to the tenants.

But mixed tenants seem to have fared better than pure tenants. The report offers this to substantiate that benefits accrue to those who already own some land. It would have been worthwhile to have gone deeper into this aspect. Small holders leasing in land are quite a number and their role in the implementation of land reforms is important enough for they have the unique advantage of looking at the laws

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from both the angles. I think no study on land reforms undertaken so far has devoted attention to this category.

The Report contains a few suggestions for policy orientation like a check on future legislation until present laws are properly enforced, gearing up the adminis-

trative machinery, educating the tenants and ensuring that land reform laws do not attract adverse constitutional provisions.

The book is well written. It would help the administrator to reflect. Some minor errors could have been avoided.

The Fertiliser Scene

Production and Consumption of Fertilisers: Annual Review: 1969-70, Published by the Fertiliser Association of India, 85, Sundarnagar, New Delhi-11. Pages 91. Rs 5.

This booklet is the eleventh annual publication of the Fertiliser Association of India reviewing the production and consumption of fertilisers in the country. It presents detailed information for the period 1964-65 to 1968-69 and the projected data for 1969-70. The appendices at the end of the Review further indicate the region-wise and State-wise distribution of fertilisers for the same period, with region-wise estimated data for 1969-70.

The important charts and tables incorporated in the booklet, showing the pattern of production and consumption of fertilisers, plant food consumption per unit area and achievements in high-yielding programmes in recent years, enable the reader get an overall view of the whole performance. Apart from supplying useful empirical data, the opening chapter of the booklet presents some important conclusions after an objective analysis of the data collected. Difficulties in selling due to oversupply of imported fertilisers, frequent interruption in power supply and labour strikes leading to gross under-utilisation of installed capacities in the units are mentioned as the major factors responsible for the recent setback in production.

Importance has also been laid on the timely availability of fertilisers to farmers and adequate promotional efforts.

The booklet, however, like all other empirical studies, suffers from some obvious limitations. It deals only with chemical fertilisers, without taking into account the use of organic manures, bonemeal and rock phosphate. The process of compilation of the available data too suffers from some drawbacks. The

quantity despatched to each State has been assumed to represent the State's consumption during the period. This assumption is highly arbitrary. The information used in the booklet has been collected from different ministries, institutions, and through questionnaires to manufacturers. The booklet, on the whole, is a good attempt at presenting diverse information in a uniform manner.

P. G.

Public Sector Yearbook

Commerce—Year Book of Public Sector 1970. Edited by Vadilal Dagli, Commerce (1935) Limited Bombay. Rs 25.

K. V. Natarajan

The Editor of this publication claims that the Yearbook is not only a pioneering venture but also provides the most comprehensive, authentic and complete study of the role of public sector in India. It is perhaps true that it is a pioneering study. However, the comprehensiveness of the study is open to doubt. For instance, the attempt to give a 'Who's Who' of the top executives in public sector undertakings is deficient in many respects. Probably, this is due to lack of ready information on the subject. The individual analysis of undertakings also leave much to be desired. Except for furnishing some basic data of selected undertakings, the profiles do not provide any insight into the strong points as well as the defects in the working of these institutions.

There is a useful bibliography at the end. The statistics on public sector undertakings will serve as ready reference. The price is fairly high taking into account the contents as well as the number of advertisements in it.

On Shikar

The Felines by M. D. Chaturvedi Young India Library, National Book Trust. Pages 76. Rs 3.

A. N. Prabhu

SHIKAR has always been richmen's sport. The realm of the animals, their habitat, feeding habits, size, shape, colour, behaviour and other details have always been of absorbing interest.

"The Felines", which probably forms the largest species in the animal kingdom, deals with the tiger, the lion, the leopard, the cheetah, the cat and the hyena.

The book is written in simple and clear style which will be of great interest to shikaris and lovers of animals.

The author of this book, a member of the Indian Forest Service, narrates incidents from his own experience. The book is, however, based on articles written earlier, and as such suffers from incoherence and repetitions at several places.

He has however, given important information regarding the reckless killing of these animals by the Maharajas and the officers of the East India Company. There are virtually no tigers left in areas which were once their abode. The lion has nearly vanished from the Indian forests except for about 300 in the Gir forests in Gujarat. The fast-running Cheetah has been annihilated, thanks to the indiscriminate shooting and felling of forests. During the last two centuries hundreds of shikaris set records in killing more than one hundred tigers. An Anglo-Indian judge had shot 350 tigers. Another shikari had shot one thousand in 30 years between 1832 and 1862. Maharaja Scindia of Gwalior shot 800 while another 600 were shot by his guests. The Cooch-Bihar Maharaja killed 365 during 37 years of shikar. Maharaja Surguja killed more than 1,200 and Maharajkumar of Vizianagaram killed 200....thus goes the depressing account of evastating shikar claiming the essence of Indian wild life.

The author suggests a ten-year ban on shooting animals of any kind to help preserve whatever wild life is left in our jungles.

This is Tamil Nadu

Tamil Arasu, fortnightly journal published by the Government of Tamilnadu. Pages 45. Price : 35 paise

The journal under review is a new venture of the Government of Tamil Nadu. The fortnightly journal, published in English and Tamil replaces and incorporates a number of departmental publications. It aims at projecting a total image of the State. It covers developmental activities in the region and gives important and useful information about the land and its people. A number of illustrations vividly portray the growth of the State. In addition to covering industrial and agricultural projects, the publication has an entire chapter on places of tourist interest in the State.

The cartoons in the journal could have been better drawn. But, there is no doubt that these have a great deal of popular appeal.

An Eminent Ruler

Samudragupta by Lallanji Gopal, translated by O.P. Tandon. National Biography Series, National Book Trust. Pages 82. price Rs 2.

S. Prasad

This book, brought out by the National Book Trust deals with the life of an eminent ancient Indian. Samudragupta's eminence lies in bringing a large part of India under one sovereign rule, which strengthened its political unity. He was one of those ancient rulers who extended their empire without being expansionist. Brilliant as diplomats and valiant as fighters they became the subjects of a brilliant chapter in ancient Indian history. Of all, Samudragupta, who had learnt the lessons of war and peace specially well, from his illustrious father, Chandragupta I, was gifted with keen political acumen.

Like all publications on history, this book does not escape the dryness of the academic approach. However, the many-splendoured personality of Samudragupta, emerging out of the historical events, brightens up this publication.

OTHER BOOKS RECEIVED

Socio-Psychological Factors Influencing Industrial Entrepreneurship in Rural Areas by V. R. Gaikwad and R. N. Tripathy. Pages 140. Rs 6. *Local Government Institutions in Rural India: Some Aspects.* Edited by R. N. Haldipur and V. R. K. Paramahansa. Pages 246. Rs 30. *Regional Planning for Social Facilities* by Sudhir Wanmali. Pages 94. Rs 12. *Crop Loan System* by T. P. S. Chawdhari and J. N. Sharma. Pages 101. Rs 12. All Published by National Institute of Community Development, Hyderabad.

The Message of the Hebrew Prophets by Anjilvel V. Matthew. Published by Bharatiya Vidya Bhavan, Bombay. Pages 235. Rs 3.

Indian Industries Development and Location by Dr M. R. Chaudhri. Pages 230. Rs 16. *Works Organisation and Management* by S. K. Basu, K. C. Basu, N. K. Dutta. Pages 396. Rs 17. Both Published by Oxford & IBH publishing Co., Calcutta.

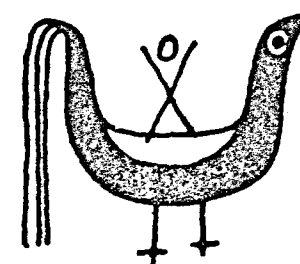
Business and the American Government by Karl Schriftgiesser. Pages 98. Rs 2. *The American Newspaper* by Alwin Silverman. Pages 77. Rs 2. *American Architecture* by Thomas H. Creighton. Pages 85. Rs 2. *Social Security in America* by William Llyod Mitchell. Pages 82. Rs 2. *Labour Unions in America* by John Herling. Pages 78. Rs 2. All published by Vora & Co. Publishers (P) Ltd., Bombay.

Development of Individual School Improvement Plans by D. S. Nigam. Published by National Council of Educational Research and Training, New Delhi. Pages 16.

The Exporting Mills. Published by Economic & Scientific Research Foundation, New Delhi. Pages 112. Rs 7.50.

A Healthy Personality for Your Child. Pages 92. 80 P. *Parental Care.* Pages 146. Re 1. *Your Child from 1 to 6.* Pages 152. Re 1. *Your Child from 6 to 12.* Pages 248. Re 1. All published by Vora & Co. Publishers (P) Ltd., Bombay. Originally published by U. S. Department of Health, Education & Welfare, Social Security Administration, Children's Bureau.

Case books in Production Management : *Wage Administration and Worker Productivity.* Pages 219. Rs 10.50. *Operations Planning and Control.* Pages 314. Rs 2. Both written by Arch. R. Dooley, Robert C. McGarrah, Jones E. McKenny, Richard S. Rosenbloom, C. Wickham Skimar, Philip H. Thurston. *Production Operating Decision in the total Business Strategy.* Pages 427. Rs 15. *Basic Problems, Concepts and Techniques.* Pages 738. Rs 16.50. Both written by Arch. R. Dooley, William K. Holstein, James L. McKenny, Richard S. Rosenbloom, C. Wickham Skinner, Philip H. Thurston. All published by Wiley Eastern Private Ltd., New Delhi.



QUOTATION BOX

The distinctive features of the new £20 bank note are: a) a promise by the Bank of England which is not worth the paper it is written on; b) a Saint recently banished from the canonical calendar for lack of historic authenticity; c) a heraldic female symbolic of a bygone naval and colonial supremacy; and d) a Shakespeare play about civil riots, juvenile delinquency and fornication with a girl below the age of legal consent. Is it really fair, Sir, to associate Her Majesty's portrait with such a package of unfortunate implications?

—A letter in *The Times*, London

I seem to be one of the sights which they (visitors to Delhi) include in their itinerary.

—Mrs Indira Gandhi

How could a generation have "the luxury of growing up in peace and security" while its fathers were being killed in World War II.

—From a letter in *Time Magazine*

A Hebrew post-holocaust term defines those who helped the Jews in the face of Nazism as 'righteous Gentiles' and the suggestion is, of course, that the normal condition of Gentiles is unrighteousness.

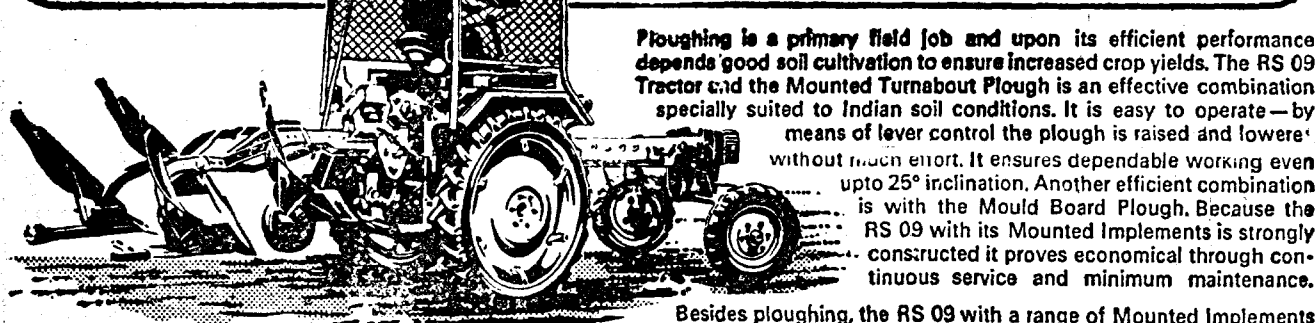
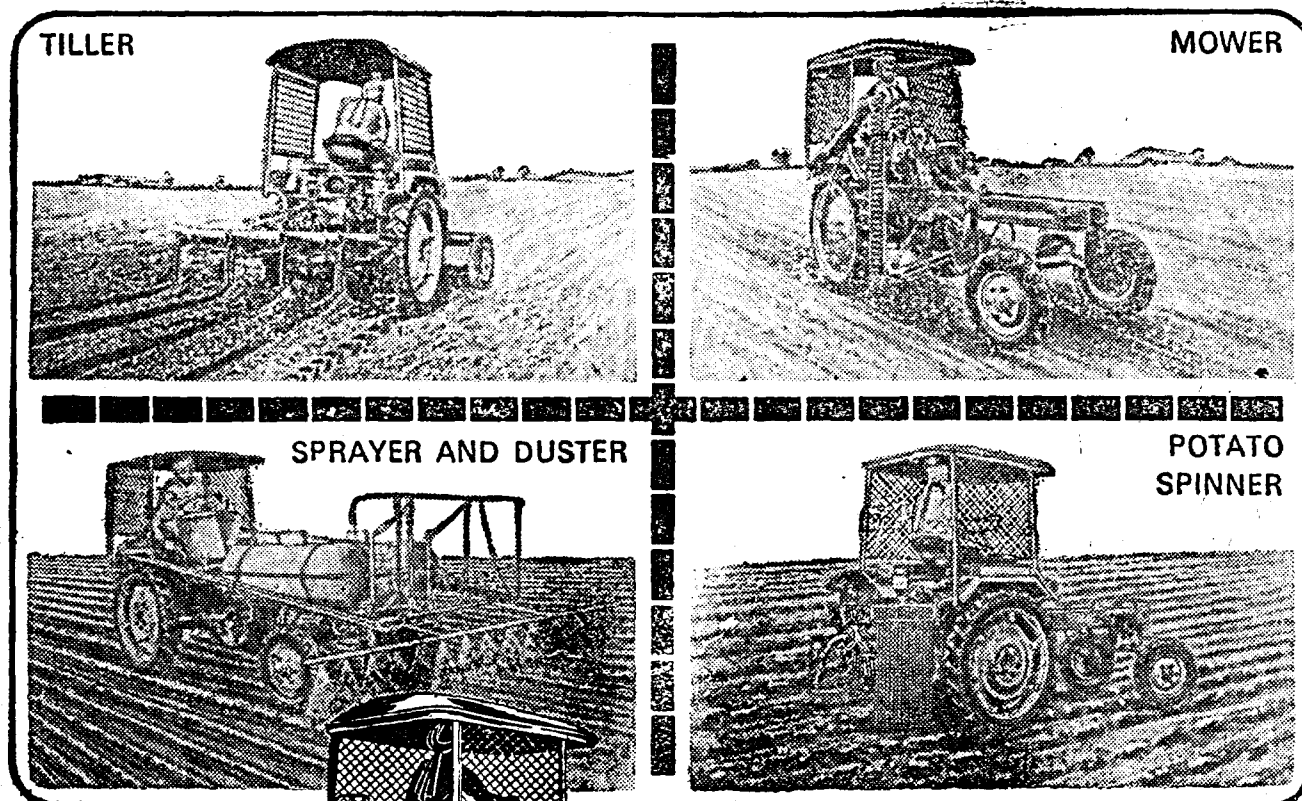
—Naomi Shepherd in *New Statesman*

The backdrop of the film jumps back and forth from Kashmir to the Western Ghats. The characters cover miles and miles on a bus during the day and yet seem to come back to the same place at night. The princess and her escort leave behind a jeep turned turtle in a ditch. Next morning the jeep is found in tip top condition, all through the efforts of one man although in a previous scene a bus load of people were not able to move it an inch.

—From the review of an Indian film in *The Times of India*

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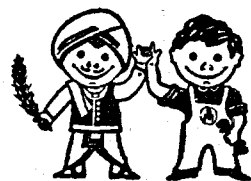
Ploughing is a primary field job and upon its efficient performance depends good soil cultivation to ensure increased crop yields. The RS 09 Tractor and the Mounted Turnabout Plough is an effective combination specially suited to Indian soil conditions. It is easy to operate—by means of lever control the plough is raised and lowered without much effort. It ensures dependable working even upto 25° inclination. Another efficient combination is with the Mould Board Plough. Because the RS 09 with its Mounted Implements is strongly constructed it proves economical through continuous service and minimum maintenance.

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Creative Unit-198

LETTERS

NEED FOR 'YOJANA' IN TELUGU

At present your fortnightly journal *Yojana* is being published in four Indian languages, besides English. I find no reason for this valuable mouthpiece of the Planning Commission not being published in Telugu. It must and should be published in Telugu for the reasons given below :

1. Telugu is spoken by nearly 55 million people in India, and it is the second biggest spoken language in this country, with a literacy rate of nearly 33% in Andhra Pradesh.
2. Only a small proportion of the people know English in the State and no Andhra can read the journal in any of the four Indian languages in which *Yojana* is published.

3. The Andhra Pradesh Government has introduced Telugu as the

medium of instruction in colleges for graduate-level teaching, and it is eventually going to replace English very soon in all spheres of life.

4. A journal like *Yojana* which deals with economic and development matters and also gives authentic information about the country's progress can contribute a great deal towards the understanding of these matters by the Telugu-knowing people of Andhra Pradesh.

5. There is no other journal in the State which can either be a substitute for *Yojana* or compete with it.

I am certain that *Yojana* in Telugu can accelerate the pace of Andhra's economic progress.

Andhra University, M. Atchireddy
Waltair

CALL FROM NICOBARS

The article "Car Nicobar Extends Her Hand" appearing in the June 28, 1970, issue of THIT-TAM (Tamil edition of *Yojana*) has attracted the attention of the

boys of this place and they would like to settle on that island. May I request you kindly to arrange to furnish more detailed information about the procedure to be followed the authority who is to be addressed for permission to settle on that island and whether settlement is open to all the citizens of India, irrespective of caste and creed?

I am aware that you may not have all the particulars with you. But that you can help us by either obtaining them from the concerned Secretariat or by requesting the concerned officer to furnish us, detailed pamphlet, if any, and other relevant information.

T. R. Srinivasan

Tirukkattupalli, Tamilnadu

—*Yojana* feels happy that the articles published in its columns arouse readers' interest. In a future issue we will publish a similar feature on Laccadive, Minicoy and Amindivi group of islands in the Arabian Sea.

—Chief Editor

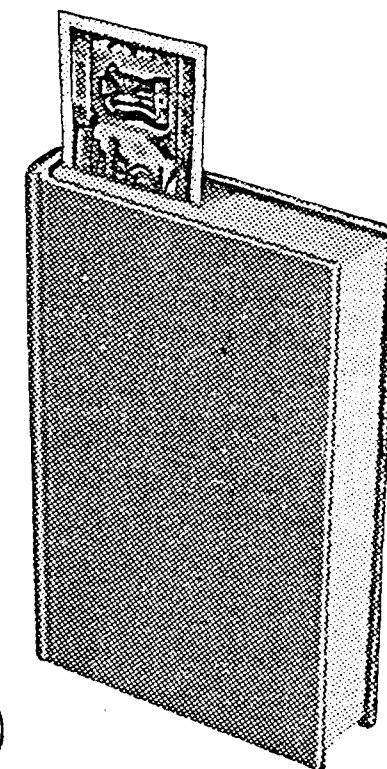
Bank of Maharashtra can help you with money. It has many schemes to help the small man. Its loans to finance higher education is one of them. The aid is timely, the terms easy.

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Asia's Largest Ropeway is in Darjeeling

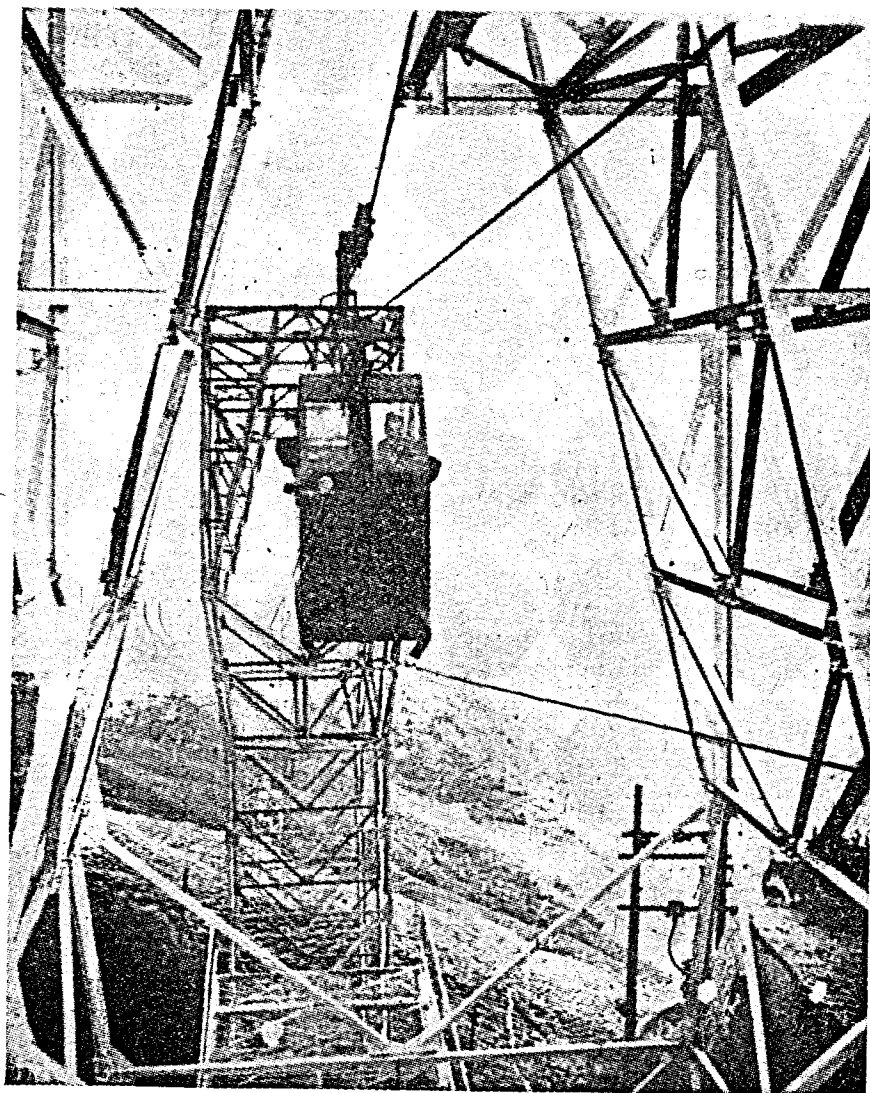
A. K. GANGULY

SITUATED at an altitude of 2133.6 metres above sea level and some 659.2 km north of Calcutta, Darjeeling boasts of India's first and Asia's largest bicable integrated ropeway to carry goods and passengers.

Commissioned by the Forest Department of the Government of West Bengal, a little over two years ago, the Darjeeling-Rangit Valley Ropeway holds a promise for the people of the Himalayan foothills. It has all the makings of a major tourist attraction.

Darjeeling suffers perennially from shortage of domestic fuel—wood and charcoal, which is brought from Siliguri (96 km. south) and neighbouring places. But the same wood which yields charcoal can be fruitfully utilised in the wood-based industries in and around Siliguri. Hence the need for better communications. The Darjeeling-Rangit Valley Ropeway is an answer to this problem.

The principal object of this ropeway is the transportation of products of the Goke forests near Singla (elevation 282.5 metres on the Sikkim border) in the Rangit Valley to North Point (altitude 2042.7 metres), 4.8 km. from Darjeeling. It also serves the tea estates, a principal foreign exchange earner, through intermediate stations *en route*. It provides tourists a thrilling 48-minute ride, involving a descent of about 1828.8 metres, over the emerald-green tea gardens, romantically landscaped valleys, and cascading smiling streams. Ultra-modern in design, the ropeway is of single track and is divided into four distinct sections: each section provides its own transport to avail itself of the intermediate traffic originating from the tea estates through which it traverses.



The glass-pannelled cabin of the Darjeeling-Rangit Valley Ropeway, which is a single track bicable jigback type.

About eight kilometres long and travelling at the rate of three metres per second (10.8 kilometres per hour), it carries 1.47 tonnes of goods or six passengers at a time. A round trip from North Point to Singla costs Rs 16 per passenger. Traffic is quite heavy during the peak season when the ropeway earns up to Rs 900 a day working on an eight-hour schedule. Undoubtedly it has opened to tourists places of rare scenic beauty in the magnificent Rangit Valley where there are prospects of good fishing and trekking.

There is a proposal to extend the ropeway up to Jorthan in Western Sikkim—which lies on the opposite bank of the Rangit River—another alluring spot for the tourists.

YOJANA August 9, 1970 Page 30

POWER-LOOM HAS HIT THE WEAVERS OF DEULGAON RAJA

A very interesting socio-economic study of the weavers' community in Deulgaon Raja (District Buldana), Maharashtra, has been brought out by the Planning Forum of Shri Vyankatesh College, Deulgaon Raja, under the guidance of Prof. Shivshankar Mishra and P. D. Deshpandey. The weavers' community is composed of Saalis and Koshtis. They number 680 out of a total population of 8,767. Though in social hierarchy both of them are rated as equal, each faction looks down upon the other.

A Planning Forum Survey

A sample of 100 families consisting of 25 Koshti and 75 Saali families was selected. The study, highlighted the fact that every family was well off till the powerloom came on the scene. But now they find it difficult to continue with the vocation. With 4 members in a family of 5 working 8 hours a day each, their earnings do not exceed Rs 18 per month. Indebtedness has increased. Even the cooperatives have fallen in the hands of the middlemen-cum-money-lenders. The city merchants have capitalised on their pecuniary condition. The wholesale merchants and the mill agents purchase the raw hand-loom products from the weavers' co-operative societies in bulk at very low prices—sometimes barely covering labour cost and, after processing the same in the most sophisticated plants in Bombay or Madras by dyeing and starching, sell it almost at double the original price.

Nearly all the respondents (95%) expressed their disapproval of the trade. The advent of power-loom has rendered as many as 160 persons unemployed, that is four out of five in each family. This has worsened the economic condition of the weavers. Over the past ten years as many as 200 members of the community have been forced to leave their family trade and take to other occupations, mainly manual labour.

Though the weavers of both the sections are economically back-

ward, the tendency to drift is found only amongst the Saalis. Both carry on their trade with insufficient capital, and inefficient and, in some cases, out-worn production techniques. They use and process local raw materials but the market for the finished product is not always local. They also lack in marketing ability.

In order to help themselves, the weavers formed a co-operative society as early as 1938. At present there are three of them, out of which 2 are dominated by Saalis. These societies have shown a marked progress in respect of their membership, capital formation and the business turn-over right since their inception. Two of them have even installed powerlooms for their members.

Despite all this, the cooperatives has not made much use of the concessions provided by the Government. For instance, the Government have a scheme to provide the weavers' cooperatives with 25% loan and 75% subsidy for installation and purchase of new equipments and tools. Under another scheme Government helps the weavers in setting and establishing their own dyeing houses. However none of the societies asked for such assistance.

The rate of literacy is as low as 23.6 per cent. Only 37 people from those surveyed had education up to Matriculation. Out of these six were girls.

As for the higher education, in a population of nearly 700 weavers only two persons were graduates, one being a doctor from the Koshtis. Among the males, 13 boys had attended college.

Only eight of the respondents owned land. The average size of land holding was 2.424 hectares. Only Saali and five Koshtis cultivated the land themselves and the rest of the holders either leased out their holdings or gave on crop sharing basis. Surprisingly enough, land-owners amongst this community took to farming after deserting their family trade.

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WEST BENGAL INDUSTRIES ON THE MARCH

Jute mills in West Bengal consumed 4.96 lakh bales of fibre during June this year, as against 4.70 lakh bales in May and 4.32 lakh bales in June last year. This was due partly to the increased working hours in jute mills throughout the State. Also, for the season ending June 1970, jute mills consumed a total of 63.09 lakh bales of fibre, including 1.81 lakh bales of imported fibre. This showed an increase of 15.84 lakh bales in the quantity of fibre lifted by mills during the 1968-69 season.

Durgapur is to have its first cement manufacturing plant shortly. Construction work on the project is expected to begin soon. The plant, which will be in the private sector, will utilise molten iron slag as the basic raw material for the manufacture of cement. This is to be made available by the Durgapur Steel plant.

The plant, which will manufacture 1,200 tonnes of cement per day, will use machinery manufactured entirely within the country. The total investment in the project will be Rs 5 crore.

A private sector factory manufacturing cables nearly doubled its profits during the year ended March 1970, as compared to the previous year. Universal Cables Ltd. has reported that its gross profits in 1969-70 came Rs to 73.54 lakh, as against Rs 41.34 lakh in 1968-69.

FERTILISING JUTE WITH NPK INCREASES YIELD

The Jute Agricultural Research Institute, Barrackpore, West Bengal, has reported that jute yield increases in plots which are treated with a mixed dosage of NPK fertilisers. In the trials conducted on jute in 24-Parganas district, a dose of 33.6 kg nitrogen, 22.4 kg phosphoric acid and 33.6 kg potash per hectare was administered and the yield was 23 per cent more.

In another set of trials, where the timings of application of fertilisers were varied, top-dressing the entire quantity of nitrogenous fertiliser was found more beneficial than applying it in split doses. Top-dressing was done when the crop was 5 to 6 weeks old.

To Our Contributors

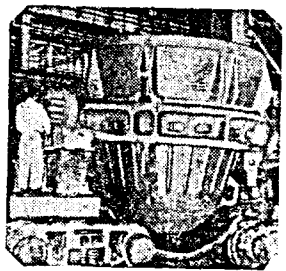
Articles which are not accepted for publication in *Yojana* will be returned only if they are accompanied by self-addressed stamped envelopes.

Unsolicited articles will not be acknowledged.

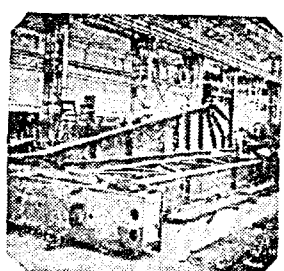
Contributors are requested to use only metric system of weights and measures.

Quiz for thinking citizens:

Which of these can be built without steel?



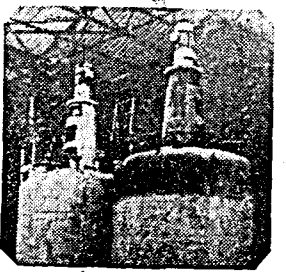
Steel plant equipment



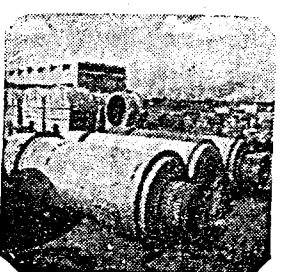
Heavy engineering equipment



Mining machinery



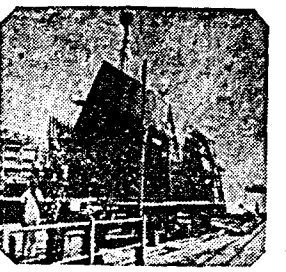
Chemical plant equipment



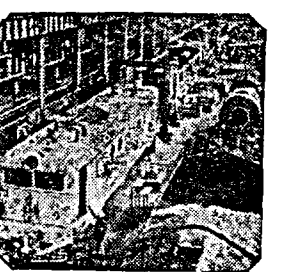
Cement making machinery



Wagons



Ships



Locomotives



Trucks



Tractors

The answer is obvious: none.

It was the crucial importance of steel as a mother industry that prompted the nation's planners to give top priority to the expansion of India's steel-making capability. Hindustan Steel's three plants at Rourkela, Bhilai and Durgapur came into being and over the years their capacity has been expanded. The country's industrial base has thus been firmly laid. And the infra-structure of India's manufacturing industries shown here proves that the benefits of industrialisation are already being realised.

In step with this rapid industrialisation the Alloy Steels Plant of Hindustan Steel has helped reduce the imported special steels content in machinery manufacture. And, of course, Hindustan Steel supplies the bulk of the pig iron for the foundry industries which make complicated cast components for these and other equipment.

Not only industrial equipment but our developing economy itself is being built with steel—largely from Hindustan Steel.

HINDUSTAN STEEL

Regd. Office: Ranchi. Plants: Rourkela, Bhilai, Durgapur
Alloy Steels Plant, Durgapur. Sales Office: 2 Fairlie Place, Calcutta-1



ENGINEERING NOTES

India Made Electrical Equipment for Malaysia

Yet another landmark in exports has been achieved by HEIL with an order from Malaysia for the supply of complete equipment and ancillaries of a 33,000-Volts, 7-Circuit Switching Station.

Valued at 350,000 Malaysian dollars the order has been placed by the City Council of George Town, Penang (Malaysia) against open global tenders.

With an earlier order for electric motors (two of 500 HP each and the other two of 225 HP) for Kuala Lumpur Water Supply Scheme already in hand, HEIL now has orders worth over one million rupees from Malaysia.

Spares Worth over Rs 100

Million Produced in 1969-70

The Engineering Shops of the Bhilai Steel Plant produced a total of 76,051 tons of spares and changeables during the financial year 1969-70. The value of these spares has been assessed at Rs 108.4 million at the prevailing market rate. This has given a profit of Rs 26.7 million to the Plant.

Apart from meeting the bulk of the demand of spares and changeables for the Bhilai Steel Plant, the Engineering Shops despatched 3,678 tons of spares and changeables to outside parties and sister concerns.

During the year 2,500 tons of unserviceable parts were repaired and reconditioned. This resulted in the saving of Rs 2.3 million to the plant. A total of 1,240 tons of items which were being hitherto imported were also produced as a measure of import substitution. This resulted in the saving of foreign exchange to the tune of Rs 2.3 million.

NGEF SIGNS BIGGEST EXPORT CONTRACT

The New Government Electric Factory (NGEF) Ltd., a joint enterprise of the Government of Mysore and AEG-Telefunken of West Germany, has won a contract for the export of electric motors worth Rs 10 million to West Germany and neighbouring countries. This is the largest single export contract signed by any company so far for electric motors.

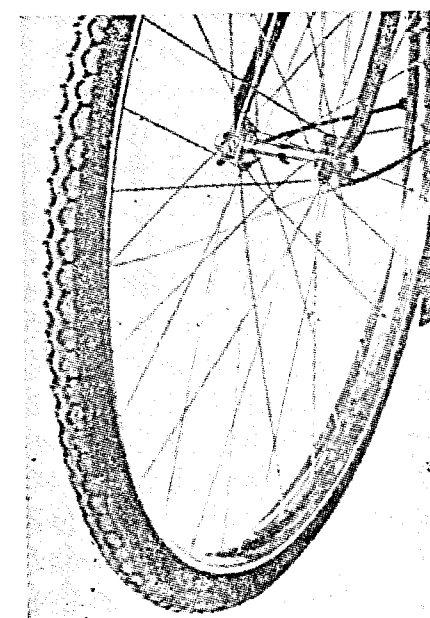
NGEF has made spectacular progress since it started production at the end of 1965. The sales in 1969-70 totalled Rs 54 million, Rs 30 million of transformers, Rs 4 million of switchgears and Rs 20 million of motors. The turnover during the previous two years was Rs 50.4 million and Rs 30.7 million respectively.

In December 1969, the total value of orders received for transformers amounted to Rs 26.5 million. During December 1969/January 1970, the orders received for switchgear amounted to Rs 3.7 million. Exports by NGEF Ltd. during 1960-70 rose to Rs 3 million from Rs 2 million in 1968-69. The export target set for 1970-71 is Rs 12.2 million. The exports of these products from India amounted to only about Rs 1.8 million in 1967-68. These had risen to eight million in 1968-69.

The company has already received the license for the manufacture of silicon diodes and with this it will enter into a new and highly sophisticated field of project electrification.

DUNLOP INTRODUCES PREMIUM CYCLE TYRES

Dunlop India has just introduced a premium cycle tyre—the Dunlop Gold Seal Cycle Tyre, which offers extra mileage and durability. Its premium tread pattern, combined with a strong casing, is specially designed to provide a greater contact area with the road which reduces tread wear and increases mileage.



A FOREMAN'S VALUABLE SUGGESTIONS

Two suggestions made by Mr A. Mukherjee, Mechanical Foreman at the New Calcining Plant of TISCO, have helped improve the mechanical efficiency of the machines in the Plant. His first suggestion made certain modifications to the vibrating screen at the Plant—which helped in salvaging two spacer tubes and eliminated shut-downs for repairs and maintenance, thus increasing screen availability and saving manpower.

Mr Mukherjee's second suggestion recommended modifications to the nose ring casting of Rotary Kilns. These modifications will make the manufacture of these castings possible in the Shops. The original casting which was imported, has 16 segments with separate front pieces keyed in. Mr Mukherjee's modifications combined the front pieces and the segment into one, thus eliminating the necessity of keying them together. The new design consisted of 4 segments only in place of the original 16.

The new nose ring casting at the No. 4 Kiln, has saved material cost and lining life substantially. For these valuable suggestions, Mr Mukherjee received a cash award of Rs 1,000 under TISCO's suggestions scheme.

Development Diary

- The first Cement Factory in the Public Sector has been commissioned at Mandhar, about 80 kms. from Raipur in Madhya Pradesh. Built at a cost of nearly Rs 5 crore by the Cement Corporation of India, the plant has a production capacity of two lakh tonnes per annum.
- A process for production of carbon black from low-ash coals of Assam has been successfully developed by the Regional Research Laboratory, Jorhat. The cost of conversion will be considerably lower than the price paid for the imported variety based on gas or oil furnace process.
- The Diesel Locomotive Works at Varanasi has made a major breakthrough in the international market. In the face of tough competition from developed countries. It has received orders from Montreal Locomotive Works, Canada, for the supply of connecting rods. The Varanasi Works has also offered to supply locomotives and components to Sudan, Syria and Nigeria.
- Britain has granted India an additional amount of Rs 90 lakh for the purchase of wheat this year. The new grant brings Britain's food aid for the year to Rs 3.06 crore. The wheat is to be purchased principally from Argentina.
- The Japanese Export-Import Bank has formally sanctioned a 7 million dollar loan for the outer harbour project at Visakhapatnam in Andhra Pradesh. Part of the loan is for the development of the Balladila iron ore mines.
- A Rs 5 crore project for improving the main runway and taxiways at Calcutta airport, to receive the Jumbo jets, Boeing 747 aircraft, has been sanctioned.
- A cargo vessel, M.V. Vishwa Darshan, built at the Hindustan Shipyard, has been launched at Visakhapatnam. The 12,000 DWT vessel has been built for the Shipping Corporation of India.
- The first Delhi-made television set "Televista", manufactured by a group of small-scale manufacturers at Okhla Industrial Estate has been released.
- The Electronics Corporation of India has drawn up a scheme to produce transistorised TV receivers on a very large scale. The cost of production of these receivers will not be more than Rs 1200 each and the import content of each receiver will be of the value of only Rs 40 or so.
- The electrical engineers of Uttar Pradesh have evolved a high tension transmission line of 400 kv from Obra to Rihand power stations to Lucknow. No transmission line in the country had so far carried more than 220 kv.
- The Bhilai Steel Plant made a profit of Rs 6 crore during 1969-70.
- A new crossbar exchange has been opened at Okhla in Delhi. It will have a capacity of 2,500 lines which could be extended to 10,000 lines without construction of any additional building. The exchange has been set up at a cost of a little over Rs one crore.
- India and Switzerland have signed an agreement for continued technical co-operation for the development of cattle breeding and fodder production in Kerala. The Swiss Government has already been providing assistance for this project, which is designed to develop cross breeding in order to increase milk production. Under the above agreement, Switzerland will provide additional assistance of Rs 66.7 lakh and a matching contribution will be made by the Government of Kerala. The Swiss Government has also agreed to provide Rs 1.70 lakh for an Artificial Insemination Centre in Mavelikara, Kerala.

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YOJANA

The journal of the Planning Commission published fortnightly in English, Hindi, Assamese, Bengali and Tamil

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AUGUST 23, 1970

NO. 157





The Maharashtra Agro Industries Development Corporation will soon put up India's first maize milling plant. This plant will process raw maize into flour, rava, soji and bran. Flour, rava and soji can either replace or supplement the corresponding by-products of wheat.

The two-million rupee Buhler plant to be located in Bombay will process 100 tons of maize a day. The cost will be a third of the price of grinding wheat into 'atta'.

Production pattern of the plant will be 55 per cent first grade flour for bakeries; 12 per cent second grade flour

for chapatis and rotis; 15 per cent soji and rava; 10 per cent germs for extraction of edible oil; and 8 per cent bran. The germs and second grade flour could be alternatively used for animal feed.

A highly mechanised plant, the end product will come off bagged and ready for storage and despatch. A major part of this Buhler plant will be fabricated by L&T.

Buhler Division

LARSEN & TOUBRO LIMITED

P.O. Box 278, Bombay 1.



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LEST WE FORGET

Whilst it is true that...hereditary inequalities must go as being injurious to the well-being of the society, the unabashed assertion of the right of the hitherto downtrodden millions is equally injurious, if not more so, to the same well-being.

— Gandhi

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MEN AND DOLLS

MEN have taken piquant delight in the legend that Eve was carved out of Adam's rib—the left one, at that! Inherent in this belief has been the flattering implication of the inferiority of the female. Last fortnight this self-indulgent masculine pride received a severe jolt, certainly not for the first time, when a woman member of the Indian Foreign Service, the first career diplomat as distinguished from a person of public eminence, was named India's Ambassador-designate to Hungary. Coming in the wake of a statement by an elder statesman publicly supporting the continued domestication of the female, the news was upsetting for this lobby which seems to believe:

"A woman, a dog and a walnut tree
The more you beat 'em the better they be."

In their own quiet and sanguine manner women have inflicted many reverses on the so-called stronger sex. In last year's I.A.S. Examination, a girl topped the list of successful candidates. More recently, an American medical researcher has demonstrated that men are weak at heart, for they are three times more prone to heart diseases than women. Still more slighting is the disclosure by a U. S. agency, which makes a fortune by recovering missing persons, that men go astray far more frequently than women: five males reported missing for every female. Whatever the counterpoint, women certainly outlive men. Also, women are gradually outnumbering men in the race for positions in different walks of life and work. The female invasion in professions like nursing and many other professions, and for jobs at reception desks, telephone exchanges and as secretaries and typists is so vigorous and complete that a male in any of these roles has come to strike a discordant note. Would anyone relish the idea of air hostesses being replaced by air hosts?

The slogan that a woman's proper place is the home smacks of a sense of defeat, rather than of genuine concern for the future of succeeding generations whom women are supposed to create, tend and attend. In seeking jobs and in entering unconventional fields of activity women are not deserting their homes and families. Only, they cannot be any more confined to the hearth, the smoky dens in which the flower of womanhood has so often perished in the past.

Inequality and injustice, long endured, have been banished for good. And, no harking back to the good old days, when women were only the personal ornament of the male, can be of any avail. No more can women be treated as pieces of interior decoration to be hidden jealously away from the public gaze. The

Constitution and the laws of the land have bestowed upon them position and privileges inferior to none.

The wind of change that swept India during the country's long and bitter struggle for independence created for our women the opportunity to assert their right to equality. Indeed, by their service and sacrifice they carved out for themselves an honoured place among those patriots whose names are enshrined in the annals of our freedom movement. It was natural, therefore, that on the attainment of Independence, the nation formalised their right to be regarded as equal partners in the glorious and exciting adventure of building up a new India. The Constitution which the Republic of India gave unto itself, enshrines the status of women as equal and full partners of the nation that was unfolding. By their splendid example and performance women have eminently justified this faith in the equality of sexes.

In point of fact, the progress of Indian women is an index of the country's own progress. Anyone trying to halt this advance is not only intent upon slowing down the nation's march towards progress but is also seeking to put the clock back. Time always flows in forward direction and therefore the skeptics stand not a chance of realising their dream. A futuristic vision of India can never be complete without the visualisation of women playing an equal part in shaping the destiny of the nation.

The men who think that women are dolls and deserve no better than a sedate existence under male suzerainty are indeed paranoids who cannot see beyond their noses. They seem to forget that the desire of Indian parents to have male children—rather not to have the female ones—sprang not from the needlessness of the female kind but from the grim awareness of the financial liabilities a female child meant in a male-dominated society. Many happy marriages have ended on the rocks and played havoc with innocent lives for the sheer chance of wives bearing only female children. Should a life of drudgery polluted and punctuated with male tyranny be the permanent lot of the Indian women? Or, should they come into their stride and liberate their parents and guardians from forced, and often unwilling, obligations dispensed and discharged at a discount? There can be no doubt about a sane man's choice between the two alternatives that are poles apart in their effect and implications. And all said and done, the choice no more remains in the hands of men. Time has overtaken them, and history is dictating its own course. The prolonged epic of the women's suffering is fading into the past as the twilight of a new dawn smiles on them.

PLANNING : CHARTER OF ORDERLY PROGRESS

The Fourth Plan represents a conscious, internally consistent, and carefully thought out programme for the most efficient exploitation of resources possible in existing conditions.
... **INDIRA GANDHI**

PLANNING is the vital instrument we have adopted to realise the social objectives enshrined in our Constitution. Through the Five Year Plans we have already achieved a significant increase in the national income in the past eighteen years and laid the foundations of technological advance. The Plan is fast modernising our agriculture and strengthening and diversifying our industry. Above all, it has reinforced national unity and purpose.

The attack on our territory in 1962 and again in 1965 forced us to modify the pattern of national expenditure. Before we could reconcile the competing claims of development and defence, drought struck us. Foreign credits became uncertain. Recession followed. All these seriously restricted our freedom of choice. We had to divert our energies to fight drought and near-famine and their aftermath. For some time, long-term planning had to be virtually suspended. But we succeeded in turning adversity to good use. We concentrated on import substitution which further enlarged our industrial base. This, along with the need for more foreign exchange, put us on the path of a more fruitful export drive. We maintained our investment in development work, especially in intensive agricultural programmes.

A new period has now opened. There is a welcome upsurge in the economy, and the increases in agricultural production have brought us nearer to self-sufficiency in foodgrains. But, inevitably, there are other problems, and a fresh challenge to face. Rural disparities have increased, partly owing to the very efforts we have made to move rapidly towards self-sufficiency in food, and partly owing to a certain tardiness in the matter of implementing the land reforms. Although the industrial recession has waned, new industries are not coming up fast enough and unemployment, especially of technically trained persons, continues to be acute. We have a larger and, understandably enough, a more articulate population.

Text of the Preface to the Fourth Plan (1969-74) by the Prime Minister, who is also Chairman of the Planning Commission.

Planning is the method to which we are committed for meeting such challenges. We have carried our three Five Year Plans. Each Five Year Plan has addressed itself specially to problems which have emerged either because of new political and economic developments in the country and in the world, or as a consequence of progress already achieved. The priorities and the emphasis have necessarily changed and have had to be adjusted from Plan to Plan, but we have always kept in view our long-term objectives.

The Fourth Plan represents a conscious, internally consistent and carefully thought out programme for the most efficient exploitation of our resources possible in existing conditions. The basic aim is to raise the standard of living of the people, especially of the less privileged sections of society. Our planning should result not only in an integrated process of increased production, but rational distribution of the added wealth. The overriding inspiration must be a burning sense of social justice. While increased production is of the utmost importance, it is equally important to remove, or reduce, and prevent the concentration of wealth and economic power. The benefits of development should accrue in increasing measure to the common man and the weaker sections of society, so that the forces of production can be fully unleashed. A sense of involvement, of participation by the people as a whole is vital for the success of any plan of rapid economic growth. This can only be evoked by securing social justice, by reducing disparities of income and wealth, and by redressing regional imbalances. A reorientation of our socio-economic institutions in this spirit is, accordingly, a first necessity.

One year of the Plan has already gone by. Between the Draft Plan and the present document certain important changes have been made. The projected investment in the public sector has been stepped up, so as to enable us to undertake a larger and bolder agenda of work. New schemes have been added to help the small farmer throughout the country, especially in the unirrigated areas. The emphasis is squarely on areas that have hitherto

suffered from neglect. Transport and housing problems in urban regions will receive more attention. A small but significant beginning is also being made with special programmes for children.

The Fourth Plan thus provides a necessary corrective to the earlier trend which helped particularly the stronger sections in agriculture as well as in industry to enable them rapidly to enlarge and diversify the production base. In the long run, the full potential of growth cannot be realised unless the energies of all our people are put to profitable use. The emphasis on spreading the impetus and benefits of economic growth to the weaker sections is thus necessary both in the interest of equality as well as growth. The Plan will now assist the less prosperous sections of our farming population to improve their position and make a yet bigger contribution to the national economy. Great industrial activity, and the modernisation of agriculture such as is proposed through the wider use of electric power and the adoption of intensive methods of cultivation in both irrigated and dry areas, would mean that a larger proportion of young people seeking jobs could find employment nearer home. At the same time, there are some new schemes, e.g., for a network of service centres in the rural areas, which will open out opportunities for young entrepreneurs.

The nationalisation of the fourteen big banks is evidence of our determination to bring a greater volume of resources within the area of social decision. It has effected a major change in our economic structure. It enables us to pay more attention to the "small man's" needs, and it restricts the scope for the monopolistic operations of the privileged few. Among other areas where social considerations have still to make a comparable impact are the enforcement of land laws, the management of public sector enterprises, and the toning up of the administration as a whole.

There can be no doubt that the responsibilities devolving upon the public sector—without diminishing those of the private sector, in our mixed economy—will grow in range and volume. Socialism involves a reordering of society on a rational and equitable basis and this can only be achieved by assigning an expanding role to the public sector. Following the reorganisation of credit policies resulting from the nationalisation of major banks, the public sector can be expected more and more to occupy the commanding heights of the economy. It alone would be in a position to undertake investments of the requisite magnitude in such industries of vital importance to us as steel, machinery, machine tools, power generation, ship-building, petrochemicals, fuels and drugs. Naturally, the administration of public enterprises, poses some problems of its own (here as in other countries) but they are not insuperable and will be overcome as we gain experience.

In addition to the fight against poverty and economic inequalities, the Plan seeks to enlarge the

area of self-reliance in terms of financial resources and technological inputs. Here, too, the public sector has an important part to play. Besides striving to set an example in better management methods and ushering in a new pattern of worker-management relations, the public sector should increasingly base itself on domestic know-how. The public and private sectors have both been too ready to look to foreign collaboration not only for financial but for technological resources. Such collaboration may be unavoidable when new processes have to be introduced, but excessive reliance on it has induced a state of mind which inhibits the development of our own technological skills and managerial talents. We should rely more and more on our own machinery and technical know-how, even though it may entail some initial risks and difficulties. This does not mean that we should be indifferent to the latest developments in technology, especially in the fast growing sectors. But it would be folly to forget that a nation's strength ultimately consists in what it can do on its own and not in what it can borrow from others.

There has been a noticeable change in recent years in the climate of international economic co-operation. It is now increasingly reaffirmed by responsible sections of public opinion in the lending as well as in the borrowing countries that development assistance should not be regarded as an instrument of foreign or commercial policy but as a means of correcting dangerous imbalances in the world economy. However, "aid" is in reality credits which have to be repaid; and even if such credits are available on terms which are concessional in some respects, they often have features which are not consistent strictly with the objective of development. For some time to come we can benefit by more external credits, especially untied credits on concessional terms. But we have to take note of international realities as they are and reduce our reliance on foreign credits.

The policy of self-reliance does not mean that we should be actually reducing imports from the rest of the world. In fact, as the pace of development quickens, imports of industrial raw materials, intermediates and special components will go up. But we propose to pay for them increasingly through our own earnings from exports. Economic independence therefore, hinges to a considerable extent on how we fare in export markets; and our export performance in turn would depend on the state of our economy at home and our success in developing a purposive, planned approach to the problem.

The complaint that planning has led to a rise in prices and that planning is, therefore, harmful, is misconceived and unfounded. Consumers with fixed incomes, particularly in urban areas face hardship when prices rise; but at the other extreme, when prices are reduced or depressed to uneconomic level, producers suffer and employment sags. If development means larger real incomes to ever larger numbers of people, some price increases can hardly be avoided. What we

turn to PAGE 13

An Integrated Development Agency Alone Can Help SMALL FARMERS

PROF. D. R. GADGIL

THE concept of an agency for the development of small farmers assumes that, by and large, programmes and schemes of assistance have proved successful in a number of areas, as far as the bigger farmers are concerned, but this is not true in the case of small farmers. For this reason a special effort has to be made to remedy this. It is also assumed that a long-term programme of action with appropriate changes in procedures and in organisational set-up will enable the potentially viable farmers to become, in fact, viable in the near future.

The small farmer is viewed as producer in ordinary or mixed farming. The programme should, therefore, be mainly directed towards broadening the base of production of the small farmer, either by more intensive use of land surface or adding new types of activities, particularly those relating to animal husbandry. Because of the pressure on land in all parts of the country, there is very little scope for increasing the physical area of the farmers' holdings.

So the basic task of the small farmers development agency is then to inquire into the deficiencies and inadequacies of the existing programmes and schemes with regard to the small farmers' needs and to take suitable measures in the areas of credit, sale and supply of technical knowledge to these farmers. The existing agencies in various areas, however, will continue to operate

Edited version of a speech at the Workshop on Small Farmers and Agricultural Labour, held in New Delhi in July, by the Deputy Chairman of the Planning Commission.

and on the whole no radical changes in their procedures or operations will be made.

Organisation

The development agency may, however, have to meet some special requirements in some cases. Where the small farmers are, in bulk, sharecroppers or insecure tenants, effective land reforms are pre-conditions to successful operation of these agencies. In some other areas the small holdings need be consolidated. The plan of operating with existing agencies may not again prove effective, specially where in the credit field, cooperative, public or private sector agencies do not exist to an adequate extent. In such cases new agencies may have to be created. Special attention has to be paid to this aspect, as the programmes of assistance to dispersed small producers must be related to an effective organisational structure.

In view of the importance of credit in these programmes, more attention has been paid to the organisational structure for credit. But as the work of the agency proceeds, other problems, such as, those of linking marketing with credit, or of organisation of storage, sale and supply will also have to be solved. At the organisational level the structure and operation of a co-ordinating body is absolutely necessary for effective co-ordination and prompt response of authorities at different levels.

Initially the work of the small farmers development agency may proceed to a large extent on an

ad hoc basis. It is hoped to be connected shortly with the district plans. The local programmes of the development agency must be derived from the State and district plans so that these can contribute substantially to the development plans of the State. The system of communications and other infrastructure facilities within the area, the development of credit and market centres, and the plan for location of centres of industrial activities must be derived from the district plans. This applies equally to programmes of conservation and development of natural resources, such as soil conservation, afforestation or development of irrigation facilities. The water management policies, the general agricultural programme, particular crop programmes, and the schemes relating to the animal husbandry will, however, have to be derived from the State Plans.

Potentially Viable Farmers

Let us now look at the category of "potentially viable" farmers in the context of the recent developments in agriculture. The factors like the increased use of water, especially of ground water through tubewells and pump sets and the availability of high-quality seeds and related programmes of agricultural practices have pushed the limit of viability towards smaller physical area than before in most regions. If the category of the potentially viable farmer can be made viable through the development programmes, oriented towards producer activities, production can be increased to a considerable extent.

Non-Viable Farmers

Both the non-viable farmers and the agricultural labourers depend on wages as the main source of income. In terms of land, the production base of these cultivators is so narrow that efforts of the institutions like small farmers development agency cannot make them viable. Small-sized fragmented holdings make it more difficult to apply improved technology and practices. The land base of these non-viable farmers could be profitably used for animal husbandry. However, in case of the much larger class of landless agricultural labourers these

schemes are not applicable, and as far as the large section of the non-viable farmers are concerned, it is ineffective. So even for the vast bulk of the non-viable farmers and landless labourers, the basic effort should be directed at providing adequate employment throughout the year at adequate wages. This is related to the problem of generating additional and diversified employment in the rural areas through planned development.

It is a fact that lands in possession of non-viable farmers are not used to the optimum level. The obvious reason for this is that, the plots are so small and inadequate that programmes of technical improvement cannot be taken up. So the improvement of economic lot of the non-viable farmers will essentially depend on some measure of pooling land resources and increasing the minimum area under production. Development Plans in India have so far neglected this aspect. If this problem has to be tackled, necessary steps regarding land reforms and consolidation of holdings have to be taken up. In the matter of land reforms a policy will have to be adopted regarding leasing in and leasing out practices. With regard to consolidation it should be kept in view that the consolidated fields are so laid out that the lands of the small holders, especially those of the un-economic holders, are brought together conveniently.

Rural Employment

A programme for development of producers' activities is to be necessarily related to the occupation of an individual producer. On the other hand, providing larger employment is an objective which has to be achieved and planned in the aggregate. So the problems of the non-viable farmers and of the landless farmers have to be tackled differently. After suitable calculation regarding availability of total employment from various sources, additional programmes have to be undertaken. The Rural works programme cannot meet this need adequately. During the Third Plan these programmes fell much short of expectations with regard to providing additional employment suitable to the needs of the local population and supplying utility benefits. When not considered as relief works, rural

works or any other employment giving programme must be conceived of as a developmental activity and must be related to the total development plan of the district or the areas. Development activities are undertaken by a variety of authorities and units in the public and private sectors. The extent of development programmes in the public sector would be apparent from the details of the district plan. To the extent to which private sector activities are institutionally financed some assessment regarding their dimension and nature could also be made. In this context, the activities of the new institutions like the small farmers development agency would also further activate the economy and add to the quantum of investment made. All this would have to be estimated in terms of its employment-generating effect. The real crucial problem in organisation, however, is co-ordination and matching. In this context the location and time of generation of employment opportunities, has to be coordinated with the requirement of local labour. The ultimate aim of such efforts in relation to non-viable farmers and landless labour will be to provide opportunity of employment to every unit of employable labour at a minimum wage for a minimum period during the year. The organisation has to take up the task of co-ordinating efforts of various agencies at different levels.

Co-ordinated Approach

For this, the supreme co-ordinating authority will have to adopt a flexible approach regarding the local development plans aiming at developing the resources of the region, providing infrastructure facilities, and creating in turn considerable employment opportunities. The coordinated development activities can solve the problem of utilising the large land surface that falls between the protected reserved forest areas and cultivated lands.

The problem of rural artisans, however, differ radically from those of the small farmers. Whereas the agricultural sector can avail itself of the technological advances most of the rural artisan industries have not achieved these benefits. Effective programmes for improving the techniques and products, as has been adopted in the case of products of the

SOUTHERN RAILWAY TO INTRODUCE MADRAS-CALCUTTA CONTAINER SERVICE

From Our Madras Correspondent

The Southern Railway is planning to introduce a Container Service shortly between Madras & Calcutta. The Railway has paid increasing attention to "containerisation" to meet the demands of fast growing traffic. Container Services are already in operation between Madras and Bangalore, Madras and Bombay, and between Bangalore & Bombay.

Goods trains on the trunk routes and a number of passenger-carrying trains have been dieselised to provide for faster movement of traffic. Among the passenger-carrying trains dieselised are Madras-New Delhi Grand Trunk Express, Madras-Howrah Mail, Madras-Bangalore Brindavan Express, Madras-Cochin Mail, Madras-Dadar Express and the Madras-Shoranur West-Coast Express. The Southern Railway has a total of 212 diesel locomotives on Broad and Metre Gauge sections.

In 1969-70, the Southern Railway carried 221 million passengers, 89 million of them on the suburban lines. The net tonne-kilometres moved over the Railway for the same period was about 8,361 millions.

handloom weavers, will have to be formulated for the traditional rural industries. If the industries are not helped, the general development of the region will not itself arrest the decay of rural artisan industries.

So ultimately the formulation of plans of development for the small farmer, the landless labourer or the rural artisan have to be essentially related to the district plan and to the specific local techno-economic circumstances. The superstructure of Central and State Government agencies, controlling these units, has to act in close cooperation with the local institutional agencies. The participation of local Panchayati Raj and Cooperative Institutions, academic personnel and technicians in the local area, is vitally essential.

MARCH OF PLANNING

INTENSIVE AGRICULTURE IS FOURTH PLAN'S STRATEGY

AT the time of Independence, India's agricultural situation was precarious, and substantial quantities of foodgrains had to be imported—2.9 million tonnes in 1948, 3.8 million tonnes in 1949, 2.1 million tonnes in 1950, and 4.8 million tonnes in 1951 when the First Plan was launched. It was then estimated that out of a total geographical area of 327 million hectares, the gross cropped area was about 132 million hectares. Food crops covered an area of 101 million hectares and commercial crops 21 million hectares or 77 per cent and 16 per cent of the total cropped area respectively. The remaining area was covered by plantations and other crops. The estimated population in 1950 was over 353 million and the production of foodgrains stood at 54.9 million tonnes.

The process of development initiated with the First Plan brought about significant increases in production of agricultural commodities during the 18-year period. The production of foodgrains increased from 54.9 million tonnes in 1950-51 to 94 million tonnes in 1968-69, an increase of 71 per cent. Production of sugarcane during the same period increased from 6.9 million tonnes to 12 million tonnes showing an increase of 73.9 per cent and oilseeds from 5.1 million tonnes to 8.6 million tonnes (1964-65), an increase of 66.7 per cent. Cotton production went up from 2.9 million bales to 5.7 million bales (1964-65), and jute production from 3.5 million bales to 6.0 million bales (1964-65), the percentage of increases being 130.8 in the case of cotton and 77 in the case of jute. The average growth rate of agricultural production in these years works out to about 3.8 per cent per annum.

Under the First Plan a sum of Rs 357 crore, out of the total plan outlay of Rs 2,356 crore was allocated for agriculture and community development. The output figures

for selected agricultural products in 1955-56 were: (million tonnes) foodgrains—69.2; sugarcane (gur)—7.3; oilseeds—5.6; cotton (million bales) 4.0 and jute—4.5. More than any other factor, the increases in agricultural production helped in stabilising the economy and paving the way for a higher rate of development during the Second Plan.

Second and Third Plans

An outlay of Rs 568 crore was provided for agriculture and community development in the Second Plan. Agricultural programmes were intended to provide adequate food to support the increased population and ensure supply of raw materials needed for a growing industrial economy. The programmes were further designed to make available larger exportable surpluses of agricultural and industrial development.

By the end of the Second Plan, the index of agricultural production (base 1949-50) rose to 142, the index of foodgrains production being 137 and that of other crops 153. Despite two years of unfavourable weather conditions, agricultural production recorded an overall increase of 21 per cent. The production of some principal agricultural commodities in the Second Plan (was in million tonnes): foodgrains—82.0; sugarcane (gur)—1.2; oilseeds—7.0; cotton—5.3 million bales and jute—4.1 million bales.

Under the Third Plan an allocation of Rs 1,460 crore, out of a total Plan outlay of Rs 10,400 crore was provided for agriculture, including minor irrigation schemes, soil conservation and co-operation. Performance in the field of agriculture during the first three years was unsatisfactory. The slow rate of growth not only depressed the growth of the economy but also led to an alarming increase in dependence on imports of foodgrains and other agricultural commodities. During the

Third Plan period, the country had to import 25 million tonnes of foodgrains, 3.9 million bales of cotton and 1.5 million bales of jute to supplement indigenous production.

In 1964-65, however, there was marked recovery in foodgrains output, followed by a spectacular breakthrough in 1967-68 when the production reached an all-time record figure of 95.1 million tonnes. This was possible mainly because of the introduction of high-yielding varieties. Hybrid seeds began to be widely adopted, while propagation of high-yielding varieties over fairly large areas was taken up as a full-fledged programme from *kharif* 1966 onwards in the three Annual Plans (1966-69).

On the eve of the Fourth Plan, the coverage of area under high-yielding varieties was estimated at 9.2 million hectares, nearly 9.3 per cent of the total area under cereals.

The Fourth Plan provides an outlay of Rs 2,728.2 crore for agriculture and allied sectors. The strategy of agricultural production is primarily dependent on intensive agriculture. To achieve the objective of a sustained growth rate of about 5 per cent per annum in agricultural production over the next decade, the Plan lays greater emphasis on co-ordinated research, expansion of irrigation, reorientation of irrigation practices and expansion in the supply of inputs. Emphasis is also laid on intensive efforts in selected areas for raising the yield levels of major commercial crops, increasing intensity of cropping and improving the agricultural marketing system.

It is proposed to build up sizeable buffer stocks as a safeguard against the uncertainties of food imports and fluctuations in agricultural production as also to even out the supplies of foodgrains and maintain stability in prices.

With the new strategy, it is hoped that the production targets of 129 million tonnes of foodgrains, 15 million tonnes of sugarcane, about 10.5 million tonnes of oilseeds and 8 million bales of cotton will be achieved. At the same time, conditions will have been created for building up a viable agricultural economy.

INDIAN WOMEN CAN PLAY A VITAL ROLE IN SOCIAL TRANSFORMATION

MUKUL BANERJEE

THE Magna Carta, the British charter of democratic liberty and equality, was framed in the year 1215. But the women of England had to agitate and fight for the right of suffrage for nearly 700 years before it was conceded. The Diet of Switzerland rejected the Bill on Women's suffrage over 26 times, and even as yet the women of that country do not have the right to vote. There are other countries, too, where parliamentary democracy is quite old but even then all their citizens do not enjoy the same privileges and rights under their constitutions. Compared to these, the Constitution of India is hardly two decades old, but the great framers of our Constitution were fair and liberal enough not to make any discriminations on the basis of caste, creed, sex or status.

Women in India enjoy the same rights and privileges as men under the Constitution. This is not so merely in theory. The Prime Minister of India, which is the largest democracy in the world covering a population of over 550 million, happens to be a woman. It was India's proud privilege to have a woman of this country as the first woman President of the U.N.O. The women of our country have held the positions of Governors, Chief Ministers of States, Speakers and Deputy Speakers of Legislatures and Ministers in the Central and State Governments.

It is not only in political or public life that Indian women have established themselves with honour and distinction, they have also earned recognition in other spheres like administration, judiciary, law, and medicine. They have even excelled in all-India competitive examinations. Incidentally, two girls topped the list in IAS examination last year.

However, despite the fact that our womenfolk have made their mark in different spheres of life and proved themselves worthy of the rights and privileges given to them, they continue to be hounded by many of the age-old social and religious prejudices and restrictions. The mass of women in rural as well as in urban India does not enjoy the opportunities given them, firstly because of their own blind faith in the age-old conventions and social and religious orthodoxies, and secondly because quite a majority of our men are not progressive and broad-minded enough to concede to women, in actual practice, the freedom and equality that is their due by legal and constitutional sanctions.

Mass illiteracy also is responsible for this. A greater reason, perhaps, is that prejudices die hard. Old traditions, conventions and prejudices are often found to have as much grip over the educated sections of the people as they have over the uneducated. Take

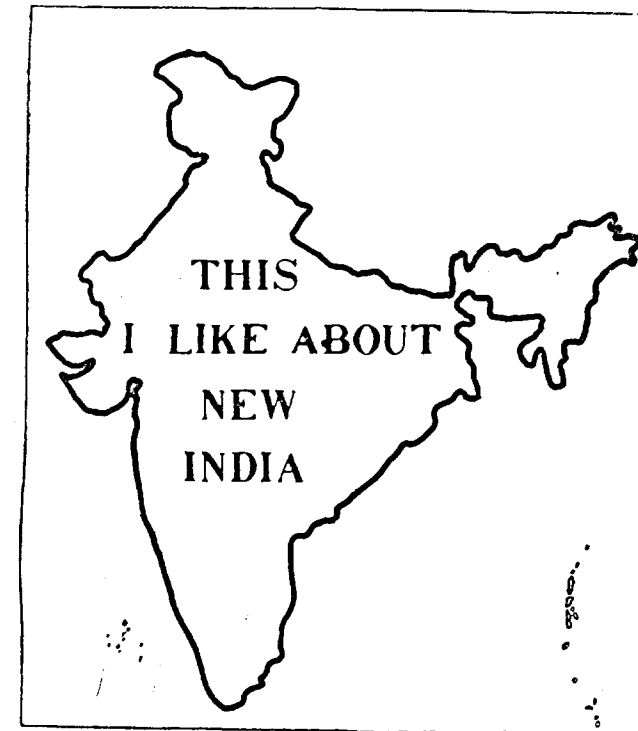
for instance the custom of dowry. It is prevalent not only among the illiterate rural masses, as a matter of social convention, but also among the most enlightened and educated city folk, though under some other garb.

India has woken up after centuries of slumber and is poised today to march forward with the progressive world. In order to keep in stride with others, she has to discard many of the out-dated and out-moded customs and conventions that still persist in our social life and operate against women. A woman today is no longer a liability. She is becoming rather an asset to the family in the economic sense, and in some cases she even makes a sizeable contribution to the family income.

Confucius, the great Chinese philosopher, said many centuries ago that "If you want to have tranquillity in the state there should be tranquillity in the society. If you want tranquillity in the society there should be tranquillity in the family..." Similarly, if we want to revolutionise our society and bring in a new social transformation, our families and their ways of living have also to be revolutionised. Here the women of our country have a very important and vital role to play. No longer passive units of the family, they have to take the initiative of moulding the family lives in such a manner that the families can contribute their maximum towards the onward march of the society. Not only this, they must also be bold enough to protest and agitate against customs which hinder social progress. If necessary, they should organise themselves and start boycott movements against dowry system, child marriage, wasteful expenditure over social functions, and such other evils.

However, these are only a few evils gnawing at the vitals of our society. Life in India today is a challenge in many other respects. Rising prices, hoarding and blackmarketing are some of the other evils which have taken a stranglehold of our society and are a source of constant worry to all of us, especially to women who have to run the house within a limited budget. However, a woman can effectively fight these evils if she is willing to accept austerity to some extent. By avoiding wasteful expenditure, and last but not the least, by inculcating the spirit of *Swadeshi* in the younger generation she can go a long way in lessening these evils.

No country, particularly an over-populated and under-developed country like India, can progress until and unless her people are imbued with a high sense of patriotism. Women account for half the population of this country, and if they gear up themselves to action, with the determination to go forward, come what may, the future of this country would be bright beyond doubt.



G. D. KHOSLA

Our Constitution

IT is easy to criticise and find fault with our friends, easier still to carp at those who disagree with us politically or socially. It gives one a sense of superiority to be able to say that the woman next-door or the man holding a position of power is lazy, unimaginative, corrupt—in fact everything that the speaker isn't.

At dinner parties and social gatherings, in club bars and railway trains, I am repeatedly told that the country is going to the dogs, and it is time democracy were scrapped, and a good, strong dictator started running our affairs. The force and the conviction with which this judgement is pronounced appeals me, and the alarming thing is those who pronounce it are often men and women of intelligence and reason, men who have risen in the world, made money and lived in great comfort, women who have led a life of luxury and enjoyed the benefits that civilised society provides.

They do not pause to consider the consequence of what they advocate. For a century and a half, what we wanted most of all was to be free of the yoke of foreign rule. We wanted freedom, freedom to speak and to write, freedom to move about our country, freedom to assemble and protest, freedom to choose a profession or trade and pursue it, freedom from arrest without due process of law.

This freedom we acquired and enshrined in our Constitution. We have enjoyed it (subject, of course, to certain reasonable restrictions enumerated in the Constitution itself) in full measure for more than 23 years, and we shall continue to enjoy it as long as we remain

a democracy and choose our rulers ourselves by voting for them.

To me this is the most valuable asset of New India and nothing can make up for its loss. Ours is not a country where you can be shot or imprisoned without trial, where you are afraid to criticise someone in high authority, or look over your shoulder to see if someone is shadowing you. Prices in New India are high and life is expensive. The climate is often unkind. But I do not feel the need of sneaking out and seeking asylum in a foreign country. In short, I feel a free man, and this is worth more to me than a thousand years of benevolent dictatorship.

What is benevolent dictatorship? People tell me, it means honest and efficient government, low prices, even distribution of consumer goods and justice for all. But does it? Which dictatorship has provided these benefits and for how long has the gloss lasted?

Whenever I feel unhappy about any shortcoming in our achievements, any seeming flaw in the policy of the government in power, I make a protest, but I remind myself that as long as we remain a democracy, I shall be a free man, and the government is doing what the majority of my countrymen wish and desire.

A. P. MUKERJIE

Political Freedom

THE thing that impresses me most in today's India is the full freedom enjoyed by all people to subscribe to any political ideology. There is absolutely no restriction in this regard from the Government. It would not be an exaggeration to say that India today has an ideal democratic climate. This is in sharp contrast to the days of British rule when it was a crime even to utter '*Bande Mataram*' at a public place. Today we find people holding rallies and public meetings, taking out processions and shouting slogans. People are able to express themselves freely on all issues. They can walk to the Prime Minister's residence for the redress of their grievances. One is at liberty to practice one's freedom of speech.

S. K. CHANDRA

Story of a Road

RECENTLY I got an opportunity to go to my village after a lapse of ten years. At that time the journey was tedious and troublesome. But during this visit when I got down from the train I could not believe my eyes that it was my old village station. It had undergone a change in every respect. But what amazed me most was the new road. The old muddy road had disappeared and in its place a new matted road was lying before my eyes shining in the midday sun. I could reach my home from the station by bus within fifteen minutes without covering my body with dust. The journey was comfortable. This was unimaginable ten years ago. It seemed to me that this road and the bus were the symbols of modern India.

PAKISTAN'S FOURTH FIVE YEAR PLAN

On July 1, Pakistan launched her Fourth Five Year Plan, 1970-75. The original draft was presented to the National Economic Council of Pakistan in February last and a revised version with certain modifications was presented to the Council in June.

The final Plan, released on July 1, has taken a cautious note of the climate of political uncertainty due to the impending General Elections, the first the country will have since its inception in 1947.

In this Report, YOJANA presents the highlights of the Plan.

A YOJANA Staff Report by
PRATIMA GHOSH and
HAMEEDUDDIN MAHMOOD

Approach and Strategy

THE guiding principle of Pakistan's planned economic development over the past two decades has been to seek the "maximum possible economic growth through encouragement of private enterprise, backed by provision of social, physical and institutional infrastructure by Government." The goal of equitable distribution of incomes was held in abeyance till such time as "the level of production had risen sufficiently to make such distribution possible."

In the fifties the country's economy stagnated and production hardly kept pace with rise in population. Even the per capita income declined. Despite a three per cent annual increase in per capita income during the Second Plan (1960-65), the country's staggering economic problems continued to baffle economists, even though foreign assistance continued to pour in after 1965. The constraint on resources became so acute that the economy was almost at a standstill. Pakistan was thus compelled to neglect the vital social sectors of education, health and housing. The urban communities were squeezed to the last drop in the taxation drive to salvage the economy. The conflict between economic growth and social justice

thus became very acute. The decline in real wages agitated the workers while the small farmers gained little from higher agricultural productivity "which was confined mostly to the larger commercial farmers". The absence of balanced development caused resentment in less developed regions which complained of neglect.

The Pakistani planners have attributed the 1969 mass stir to this economic gloom and have acknowledged that the events of 1969 "represented a forceful articulation of the deeply felt aspirations of the masses".

A shift in the outlook on planning became imperative and could be seen in the "Socio-economic objectives of the Fourth Plan" released in November 1968. It dawned on the planning strategists that the people at large would rather have "a slower rate of growth than uneven income distribution". Time and experience had taken their toll but did succeed in bringing home the prior significance of the social sector in economic development and of the sharing by the widest margin the fruits of economic growth. Hence, a corrective has been sought to be provided in the Fourth Plan which has its accent on the social sector and a great emphasis on public sector and balanced development.

The Pakistan planners have added a measure of realism by underlining the fact that "economic planning is an integral part of the political and social system and must draw its inspiration and its objectives from it. With the revival of political life, it is imperative that the new development strategy should be conceived and implemented within the new political framework."

*All figures are in Pakistan currency. Rs 100 (Indian)=Rs 63.4920 (Pakistan)



STRATEGY

The Plan seeks to achieve self-reliance in essential fields and to reconcile the social objectives with economic objectives. The main planks of the development strategy are :

1. A more balanced development effort directed towards securing equitable distribution of economic benefits will be undertaken.
2. Social sector programmes will be expanded.
3. Specific policies will be adopted to enlarge the role of public sector and to reduce concentration of income and economic power.
4. Fiscal policies will be initiated to narrow down the differences between maximum and minimum incomes.
5. Labour-intensive technology will be developed to increase the employment potential of the economy.
6. A specific consumption plan will be adopted to make the essential commodities available to the common man at reasonable prices.
7. A comprehensive income and price policy will be evolved to protect the workers and consumers. Luxury consumption will be restrained by steeper taxation and limits imposed on luxury housing.
8. Direct taxation will be resorted to increasingly to mobilise additional resources and ensure distributive justice.
9. Specific measures will be taken to stimulate the flow of bank credit towards the middle class and to fix a credit ceiling.
10. Free universal primary education will be ensured by 1980.
11. Every Union Council will be provided with at least one medical officer and a dispensary.

TARGETS

Pakistan's Fourth Five Year Plan sets out the following specific targets.

1. Annual growth rate of 6.5 per cent in GNP is envisaged, entailing an increase in average per capita income from Rs 565 in 1969-70 to Rs 675 in 1975-76.
2. Disparities in per capita income between various regions are to be reduced at the fastest possible rate.
3. Per capita consumption of foodgrains will be increased from 15.5 to 17 ounces per day and of cotton textiles to 20 per cent, sugar to 13 per cent and edible oils to 16 per cent. To achieve the above target in foodgrains consumption, rice production will have to be increased by 5.7 million tons, wheat by 2.6 million tons, and foodgrains by 8.5 million tons.

FOURTH PLAN AND EAST PAKISTAN

Taking cognizance of the ever present feeling of injustice to the Eastern Wing, Pakistan's Fourth Plan provides major participation to this Wing and thus the imbalances created in the economy and the lurking disparities between the two wings are being sought to be redressed.

East Pakistan's share in the development expenditure during the Third Plan was a meagre 37 per cent. This will now be raised to 52.5 per cent, which is still short of the 54 per cent share suggested under the population formula by East Pakistan economists.

The public sector development expenditure in East Pakistan will be increased from Rs 1,130 crore in the Third Plan to Rs 2,940 crore—an increase of 166 per cent—in the Fourth Plan. The public sector spending in East Pakistan had fallen short by Rs 240 crore in the Third Plan.

The annual acceleration in the total developmental expenditure in the Eastern Wing during the Fourth Plan will be 19 per cent compared to 4.5 per cent in the Third Plan.

The Plan recognises the need for energising the private sector in the Eastern Wing. It has also highlighted the necessity of improving the efficiency and organisation of public corporations in this Wing. A certain degree of decentralisation in the implementation of programmes has also been suggested.

A sum of Rs 150 crore has been provided outside the Plan for flood control measures in East Pakistan.

The following table gives the regional allocations in the Fourth Plan:—

	(Rs in crores)		
	Total	East Pakistan	West Pakistan
<i>Plan allocation :</i>			
Public Sector	4,450	2,790	1,660
Private Sector	2,600	1,000	1,600
	7,050	3,790	3,260
<i>Outside the Plan :</i>			
Flood Control	150	150	—
Indus Basin	300	—	300
	450	150	300
<i>Total Development Programme :</i>			
Public Sector	4,900	2,940	1,960
Private Sector	2,600	1,000	1,600
	7,500	3,940	3,560

4. 7.5 million new jobs will be provided compared to 6.5 million new entrants to the labour force.
5. More equitable distribution of income and wealth will be aimed at by : (i) limiting the concentration of industrial wealth through increased taxation of upper-income groups, (ii) fixing minimum wages and salaries, (iii) narrowing down the present differentials in salary structure, and (iv) provisions of more equal opportunities in economic and social fields.
6. An income and price policy will be evolved to protect the rise in per capita income from price erosion.
7. An annual growth rate of 8.5 per cent in exports is envisaged.
8. Domestic contribution to development financing will be increased by saving and reinvesting 1/5th of the additional income generated during the Plan. Domestic effort will have to contribute 79 per cent of the total development expenditure by 1974-75.
9. Greater self-reliance is aimed at by developing capital goods and defence-oriented industries and by boosting production in other major industries. Steel production will be increased by 800,000 tons, fertilisers by one million nutrient tons, cement by four million tons, natural gas by 280,000 million cubic feet and transport equipment and industrial machinery by Rs 1,100 million.
10. Power generation capacity is to be increased to 1,740 MW providing irrigation to an additional four million acres and extending rural electrification to 2,150 more villages.
11. A major flood control programme will be undertaken in East Pakistan outside the Fourth Plan at an estimated cost of Rs 150 crore.
12. For improving communication facilities, the two wings will be linked by a space satellite. An additional 190,000 telephones will be installed. TV coverage will be extended to cover 90 per cent of the population. Educational TV, including farm broadcasts, will be introduced.
13. Outlay on education is to be increased by more than 2½ times the level of investment in the Third Plan by increasing primary school enrolment by five million, secondary school enrolment by one million, and by increasing technical education by 2.80 percent. Universal primary education upto class V is aimed at by 1980.
Literacy percentage is expected to go up from 18 in 1969-70 to 28 in 1974-75 and 42 by the end of the seventies.
14. In the field of public health malaria and small-pox eradication programmes will be extended to cover the entire population. A total of 24,000 hospital beds will be added.

The target for Family Planning is to prevent 9.6 million births during the Plan period and to reduce the birth rate from 45 in 1969-70 to 40 in 1974-75.

15. Half a million housing units for low income group will be constructed while restricting the construction of luxury housing.
16. In respect of physical planning, an Urban Works Programme will be implemented to improve environmental conditions in urban areas and to meet community needs in neglected areas.

ALLOCATION

The Plan proposes a total development outlay of Rs 7,500 crore—Rs 4,900 crore in the public sector and Rs 2,600 crore in the private sector. Taking a cautious note of impending political developments, the Plan states : "The relative roles of public and private sectors is a major policy issue which can be re-examined in the light of the new political framework" emerging after the country's forthcoming General Election."

The increased outlay on public sector is in view of the need for accelerated development in East Pakistan where private sector is less active. It is also due to the emphasis laid on the social sector and the contemplated shift in favour of capital goods industry.

The special emphasis laid on the social sector is indicated by the fact that this sector claims 27 per cent of the total Fourth Plan allocation as against the 20 per cent outlay in the Third Plan. The following is the pattern of public sector allocation under different heads :

	Rs in crores		
	Third Plan (estimated actual)	Fourth Plan (allocations)	Percentage increase
Agriculture	265	665	151
Industry	268	435	62
Fuels and Minerals	57	60	5
Water	630	1010	60
Power	360	585	63
Transport and Communications	420	805	92
Physical Planning & Housing	155	375	142
Education	135	370	174
Health & Family Planning	90	315	250
Social Welfare	5	21	320
Manpower	5	14	180
Works Programme	110	245	123
Total	2,500	4,900	96

RESOURCES

Out of the total Fourth Plan development outlay of Rs 7,500 crore, about 70 per cent will have to be raised internally, compared to 64 per cent in the Third Plan and 60 per cent in the Second Plan. This would require a saving and reinvestment of at least 1/5th of the additional income generated. The Plan also involves an additional taxation effort of the order of Rs 680 crore; Rs 100 crore through improvement in the performance of the public sector and Rs 350 crore by deficit financing. In the Third Plan the total taxation effort was of the order of Rs 650 crore. Against this, the Fourth Plan target of Rs 680 crore entails an annual taxation effort of Rs 40-45 crore. The report of the Taxation Commission, which is awaited, is likely to indicate the direction of tapping additional tax potential.

The Fourth Plan expectations of foreign aid inflow are fixed at Rs 2,200 crore. Out of this, Rs 1,800 crore will be available for the public sector and Rs 400 crore for the private sector. The aid inflow during the Third Plan was of the order of Rs 1,600 crore. Thus, against a 63 per cent rise in the development expenditure during the Fourth Plan, the aid inflow will be only 45 per cent higher. Accounting for debt servicing liabilities, the net aid availability will be as low as only 13 per cent more than in the Third Plan. The contribution of gross foreign assistance in financing development will decrease from 34.2 per cent in the Third Plan to 29.3 per cent in the Fourth Plan and in net terms from 27.4 per cent to 21.3 per cent.

Pakistan is pinning her hope on a 100 per cent increase in the total fund availability (800 million U. S. dollars per year) from I.D.A., on the World Bank's promise of increasing its aid outflow to Asia, Africa and Latin America, on the Pearson Commission's Report in the wake of which the U.K. and West Germany have announced an increase in their development lendings, and finally, on the recommendations of the Pakistan-Peterson Task Force, set up by President Nixon, for increased flow of foreign assistance.

Shortfall in Plan Performance

The actual public sector expenditure in Pakistan's Third Plan fell short by Rs 800 crore against the proposed outlay. Out of a total of Rs 3,000 crore, Rs 1,600 crore for East Pakistan and Rs 1,400 for West Pakistan, the actual spending in the two Wings was Rs 1,200 crore and Rs. 1,000 crore respectively.

This shortfall of Rs 800 crore was due to an increased defence expenditure of about Rs 500 crore and a fall in external assistance of about Rs 400 crore.

In respect of private sector spendings, while in West Pakistan the target was exceeded, in the Eastern Wing the total private sector spending amounted to Rs 550 crore against the target of Rs 1,100 crore.

PREFACE TO THE FOURTH PLAN

from Page 4

must ensure, however, is stability in respect of the core items of family consumption. An adequate supply of foodgrains and articles of everyday use must be maintained at fairly stable prices. Agricultural scientists who have brought about such notable increases in yields of wheat, and to some extent of millets and rice have now turned to the task of bringing about similar gains in pulses and cash crops like oilseeds, cotton and sugarcane. In general, the possible impact of development plans on the price situation has been carefully studied, and every effort will be made to keep production and prices in balance.

Planning certainly has its critics, but the fact remains that in modern conditions, and in a developing country like ours, economic planning has become indispensable. Compared to the tasks to be accomplished, the resources of money, trained manpower and administrative and managerial skills are in short supply, and they have to be allocated primarily with a view to the national interest rather than the interest of any private individual or group. This is after all, what the Plan seeks to do. At the same time, and through such rational allocation, it can lead to an augmentation of the now scarce resources, and thus gradually extend the limits of our economic freedom.

For us in India, planning is a charter of orderly progress. It provides a framework of time and space that binds sectors and regions together and relates each year's effort to the succeeding years, impelling us all constantly to greater co-operative endeavour. By strengthening the economic fabric of the country as a whole and of the different regions, it makes a powerful contribution to our goal of national integration. The Plan gives concrete expression to our national purpose. With its implementation, we shall have advanced yet another stage towards our goal of a prosperous, democratic, modern, socialist society. In meetings of the National Development Council, I have found that all States, irrespective of the political beliefs their Governments hold, have very similar expectation of the Plan. This is so because our people as a whole have pinned their hopes on the Plan and want it to succeed. I am confident that they will not spare themselves in a determined effort to ensure that it does succeed.

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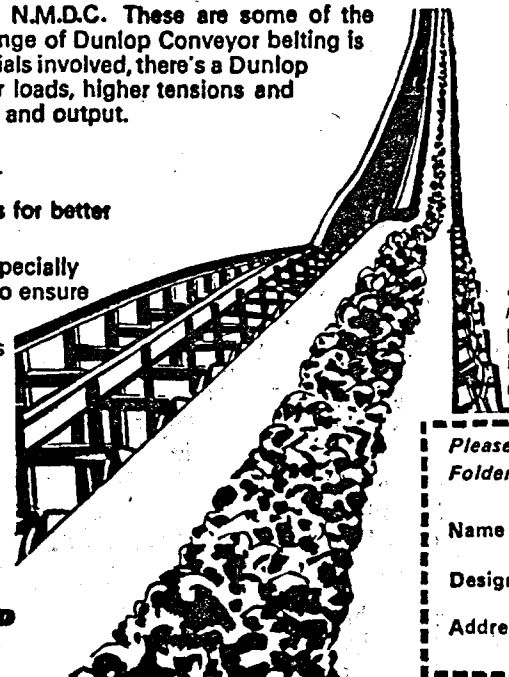
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**If a country, or rather a people,
cannot develop without foreign aid
it is unlikely to develop with it**

FOREIGN AID DOES NOT INCREASE RATE OF DEVELOPMENT

P. T. BAUER

THE flow of aid since the Second World War has probably more often retarded than promoted overall economic advance in recipient countries. This conclusion is paradoxical, because foreign aid certainly increases the resources of the recipient countries, or at any rate of their governments. But it does not follow that foreign aid increases the rate of development. The result depends on how aid affects the determinants of economic progress, notably its repercussions on economic capacities, policies and institutions, and on the allocation of resources.

The major determinants of material progress are people's economic faculties and attitudes, their values, objectives and motivations, their social and political institutions, together with natural resources and external market opportunities. Foreign aid is relatively ineffective as an instrument of development because, even at best, it cannot affect these underlying determinants of development favourably.

Foreign aid is clearly not necessary for economic development, as is obvious from the very existence of developed countries, all of which began as underdeveloped and progressed without foreign aid. Moreover, many underdeveloped countries have advanced very rapidly over the last half century or so without foreign aid, a particularly relevant consideration in this context. There are many such countries in the Far East, South-East Asia, East and West Africa and Latin America.

Advocates of aid encourage the unfounded belief that the prerequisites of development can be had for nothing, and ignore or obscure the fact that the people of developed countries themselves have had to develop the qualities, attitudes and institutions favourable to material progress.

Foreign aid cannot promote development if the population at large is not interested in material advance, or if it is strongly attached to values and customs incompatible with material progress.

Persons and groups react to material poverty and backwardness in different ways. Possible responses include failure even to notice the condition, which is often part of a wider attitude of un-questioning acceptance of the nature of things, especially if comparisons with other people are not readily available; conscious

acceptance of poverty, either in the form of resignation or unwillingness to change modes of living; attempts to improve one's position by reliance on charity or other free donations through beggary or blackmail; and deliberate attempts to improve one's own economic performance. Only the last of these responses can lead to sustained material progress, and it is the one least likely to be promoted by the insistence on foreign aid as necessary for material advance.

In assessing the likely effect of aid an important difference should be noted between resources developed locally (or received in exchange for local production), and resources supplied gratis as external doles from abroad. When resources are received from abroad for nothing, the valuable process of generating resources is lost. When resources are both generated and used locally, the personal faculties and attitudes, social institutions and economic opportunities are encouraged to grow and to serve as basis for further economic development. Moreover the adoption of foreign prototypes in development policy can often be damaging; it may not promote material progress, or may indeed retard it and lead to frustration and political tension.

Balance of Payments

Foreign aid augments the resources of governments compared to those of the private sector in recipient countries, and thereby promotes concentration of power within underdeveloped countries. The preferential treatment of governments engaged in comprehensive central planning carries this process a stage further. Indeed, in many discussions planning is equated with development, which is the opposite of the truth, if comprehensive planning means state control over the composition and direction of economic activity.

The flow of aid is often linked with the balance of payments deficits of the recipients, particularly when these deficits are regarded, as they often are, as inevitable concomitants of government efforts to carry out development plans. Governments are thus encouraged to make their development plans as ambitious as possible to pursue inflationary monetary and fiscal policies, and to avoid the accumulation of foreign exchange reserves. The pursuit of inflationary policies, the recurrence of balance of payments crises, and especially the imposition of specific controls, notably exchange controls, usually leads to a widespread feeling of insecurity, which

encourages the export of capital and discourages domestic saving and investment expenditure.

Thus foreign aid may even reduce rather than, as is so often urged, increase investment within the recipient countries. In many instances, of course, expenditure made possible or easier by foreign aid is quite unrelated to any type of capital formation.

Infrastructure Is Not Ready-Made

A variant of the case for foreign aid to promote investment links aid specifically to the financing of the infrastructure necessary for development in poor countries.

Infrastructure in this context refers to such installations as ports, railways, roads, which do not produce commodities directly but promote economic activity generally. It is said that without these installations economic advance is impossible, while the high costs put them beyond the means of poor countries, particularly as the economic return is either too long delayed, or too general or indiscriminate, for private financing. In fact, much of the infrastructure even in underdeveloped countries has been financed and operated by private capital. Moreover, governments of underdeveloped countries themselves could borrow from private sources, and service the loans from increased revenues, which is indeed what has happened in many underdeveloped countries in the comparatively recent past.

The infrastructures of reasonably highly developed economies represent substantial capital, which absorbed a large part of total investment over decades or even centuries. The suggestion that a ready-made infrastructure is necessary for development ignores that the infrastructure was usually developed in the course of economic advance; it is another example of an unhistorical and unrealistic attitude to the process of development. Much of the literature suggests that the world was somehow created in two parts: one part with a ready-made infrastructure of railways, roads, ports, pipelines and public utilities, which has therefore been able to develop, and the other, which the Creator unfortunately forgot to endow with social overhead capital. This is not the way things happened.

The main argument behind the axiomatic support of foreign aid is the suggestion that it is essential for the development of poor countries. For instance it is often argued that the West has a moral duty to help the poor countries and that aid should be offered to meet their needs, especially in view of the allegedly ever widening gap between rich and poor countries.

Foreign aid is sometimes regarded as an inevitable and natural instrument for redistribution of wealth. But foreign aid differs radically from domestic redistributive taxation, whatever the merits of the latter. Foreign aid is paid by governments to governments: it is not redistribution of income between persons and families. The flow of aid cannot be adjusted to the circumstances and incomes of individuals and families. Foreign aid is partly regressive because many taxpayers in the donor countries who contribute to aid are poorer than many people receiving it in the recipient countries.

Anyway, the general case for redistributive taxation implies a basic uniformity in living conditions and requirements of income recipients. Physical and social conditions, and thus modes of living, differ widely between many rich and poor countries. This difference is obvious for physical requirements, but it applies also to social conditions.

Need Is No Criterion

Altogether it is not clear why the prior emergence of some people from material backwardness—which is what is meant by international income differences—should be considered reprehensible. Much of the emphasis on international inequality reflects the advocacy—implicit or explicit—of a policy to standardise living conditions internationally by redistributive taxation, possibly coupled with supra-international economic controls. The advocacy of such policies gains effectiveness from the closely related suggestions that international income differences are unjust, and that they do not reflect far-reaching differences in qualities, attitudes and requirements; in other words, that material inequality is reprehensible and indefensible and at the same time abnormal and easily remediable at no great cost. But precisely because international income differences reflect deep-seated differences in people's abilities, attempts to remove them imply close and intense control over people's lives, that is, the creation of great inequalities of power. The more diverse the conditions, and the more deep-seated the causes of diversity, the more intensive is the compulsion required to standardise them. A large measure of international standardisation of material conditions requires not only world government, but world government with totalitarian powers.

Another argument for foreign aid is based on need, which suggests that the need of poor countries for aid is shown by their very low incomes, and aid must therefore be given.

Simple references to need do not provide a criterion for aid. Indeed, its adoption leads to paradoxes or even absurdities. If the country is poor, or experiences difficulties, *i.e.*, is in need because the government spends large sums on armaments or on political propaganda directed against the donors, or because it expels the most productive groups in the country, should this need serve as a ground for further aid? This consideration should suffice to disprove need as a basis for aid.

Taxpayers' Money

Foreign aid is often advocated as if it were the discharge of a moral duty to help the poor. But the analogy with moral obligation fails completely. Foreign aid is tax-payers' money compulsorily collected, it is outside the area of volition and choice, and therefore has no moral element. Indeed, contributors not only have no choice, but quite often do not even know they are contributing.

It is sometimes urged that in a democracy tax-payers do have a choice, which restores the moral element in foreign aid. This objection is superficial. The taxpayer has to contribute to foreign aid whether he likes

it or not and whether he has voted in its favour or against it. Those who favour foreign aid could always make a donation to the governments of recipient countries.

A moral obligation to help the less fortunate cannot be discharged by entities such as governments, but only by persons who are prepared to impoverish themselves and weaken their position relatively to others in order to help their poorer fellow-men. Those wishing to help underdeveloped countries can easily write a cheque in favour of their governments or missions, schools and hospitals operating there.

Instrument of Political Strategy

Foreign aid is sometimes justified, especially in the United States, on the grounds that it represents a valuable instrument of western political strategy in keeping underdeveloped countries out of the Soviet bloc. This argument is in curious contrast to those based on moral and humanitarian grounds. But it is also insubstantial.

*The argument assumes that foreign aid serves rapidly and appreciably to raise living standards, and further that an inclination to accept communism depends largely on the standard of living. Neither of these assumptions is valid.

*With few exceptions, foreign aid promotes centralised and closely controlled economies, so that governments emerge which lean toward the Soviet bloc, which they find more congenial.

*Beneficiaries in this area, as in others, are apt to resent donors. The transfer of taxpayers' money to foreign governments without control over its use understandably arouses suspicions of sinister motives, notably of political domination. In recipient countries, foreign aid is also often regarded as an instrument for forcing them to purchase what would otherwise be unsalable goods from the donor countries. Moreover, many people in recipient countries consider aid as an admission of guilt on the part of the donors, and as partial restitution for past wrongs. This view is fashionable and vocal in underdeveloped countries, where it is widely put about that their material backwardness is a result of western exploitation.

*If foreign aid were to serve as an instrument of political strategy, it would have to be allocated much more selectively than at present, and its allocation would have to be divorced from pressures by commercial interests in donor countries.

The last argument for aid to be considered here is the curious suggestion often put forward in Great Britain, that foreign aid promotes exports and thus helps the balance of payments. This argument is, at best, obscure but more nearly misleading, or even the reverse of the truth. If the argument means that exports are bought with the proceeds of aid, they are unrequited, and cannot buy imports or repay debt, so that the resources used contribute nothing to British real income. And as exports have an import content and also diminish domestic supplies, unrequited exports aggravate the external payments problem and thereby increase the corresponding need for deflation of home demand. To argue in this way for aid is like

urging the shopkeeper to have his till robbed, on the ground that the stolen money may well be spent in his shop.

If, on the other hand, the suggestion refers to the provision of shelter in external markets through tied aid, it implies a subsidy to British exporters, which is not what is usually understood by aid.

The foregoing arguments are not intended to suggest that foreign aid can never promote economic development in poor countries. There are circumstances in which foreign aid may supply a missing factor, though this may not even be capital. In Taiwan, for instance, substantial United States aid has probably promoted the rapid material progress since the early 1950s, an advance which, though remarkable, was not more so than that of Hong Kong and Japan. Before United States aid began it was widely believed in Taiwan that the country would shortly be taken over by the People's Republic of China. This apprehension led to a crisis of confidence which was only reversed by the flow of American aid, accompanied by drastic changes in the government's economic policy, notably the removal of many of the more restrictive government economic controls, substantial withdrawal of the government from direct participation in economic activity, and successful measures of land reform without expropriation. The role of United States aid in promoting these latter changes is clearly difficult to measure but it is widely held to have been significant.

The beneficial effects of aid on Taiwan could be reproduced elsewhere. For instance, foreign aid could accelerate development in poor countries, by reducing the price of investible funds. But this would, of course, only be effective if the other factors and preconditions necessary for development were already present.

But the question of how far the effectiveness of aid could be enhanced is still open. There seems to be much scope for some improvement, especially through radical changes in the criteria for its allocation. Aid could be allocated much more selectively than at present. In particular, aid could be distributed so as to favour governments which, within their human, administrative and economic resources, try to perform their essential tasks (including modification of the institutional structure), while at the same time refraining from close control of the economy. Such a criterion would promote relatively liberal economic systems in recipient countries, would minimize coercion, and advance economic development and living standards generally. It would probably reduce political tension in the recipient countries, too. Pressures by commercial interests in the donor countries, for whom foreign aid often represents subsidized markets, would also be avoided.

But even if foreign aid were reformed along these lines, which is improbable, it is still unlikely to serve as an effective instrument, let alone an indispensable instrument for the economic development of poor countries. It may promote their development in some instances; in practice the presumption is the other way.

Courtesy : CERES

With nuclear power to flow from Kalapakkam around 1974 and the Salem Steel Project on the anvil, Tamil Nadu has a tryst with destiny

THE search for steel in Salem district of Tamil Nadu is more than a century old. The pioneering efforts of Josiah Marshall Heath, a member of the Civil Service in the State, to establish iron works in Porto Novo in South Arcot district in 1830 were followed by those for a similar project in 1949 in Pulampatti in Salem district and in Tiruvannamalai in North Arcot district. Several proposals for setting up such a project had to be given up due to one reason or the other.

Nevertheless, the reports of R.M. Benza (1856), Newbold (1846), W. Kind and R.B. Roote (1864) provided valuable information on the availability of iron ore deposits in the region and furnished the first comprehensive account of their geology. The report of Sir Thomas Holland (1895) contained for the first time several analyses of Salem iron ores. Kanjamalai deposits were studied by Dr V.S. Dubey and Karunakaran in 1957-58 and a report thereon was submitted to the Government. In 1944, a study on the iron ore deposits in Salem by V.S. Krishnan and N.K.N. Aiyangar was published.

In spite of all these scientific investigations on the iron ore deposits in the region, the proposal for a steel work could not take shape for the non-availability of an important element for steel manufacture, namely, metallurgical coking coal in the neighbourhood. The discovery of expensive reserves of lignite, estimated at about 2,000 million tonnes in Neyveli in the adjoining South Arcot district, have provided this basic input.

The proposal, now accepted for the establishment of an integrated iron and steel plant in Neyveli-Salem region based on the iron ore of Kanjamalai and lignite from Neyveli was initiated by the Government in 1960. Since then extensive investigations have been carried out

on the iron ore reserves and also studies to assess their suitability for steel making. These studies were entrusted to experts from the U.S., Japan, the U.K., Sweden, Norway and East and West Germany. After studying the samples of the iron ore and lignite available in the area, the experts are unanimous that special alloy steel could be pro-

THE SALEM

STEEL

PROJECT

A YOJANA STAFF REPORT

By S. V. Raghavan

Our Madras Correspondent

cessed economically and in sufficient quantities with the existing raw material available within the region. The Indian consulting engineers, Dastur & Co. in their project report envisaged a capacity of half a million tonnes of special alloy steel per annum in the first stage. According to them the feasibility and the economic viability of the project were beyond doubt.

Pending Central approval of a steel plant, the State Government decided to set up a plant for the concentration of the magnetite iron ore at Kanjamalai and for pelletisation with a view to exporting the pellets and later on to dovetail this project with a full-fledged steel plant. Now, with Centre's acceptance of the proposal, the consultants have suggested pilot mining at two places in Kanja-

malai hill—one with overburden and another without overburden—each 15-metre square and five metres deep.

Kanjamalai hills, situated about 10 kms from Salem, have a length of about six kms and a width of three kms, and rise to a height of 670 metres above the ground. The hill is composed of three iron ore bands. The first band of ore stands out as a girle of hillocks around Kanjamalai at its base. The second and the third occur at elevations of 300 and 365 metres above the ground level. The first band has an average width of about 25 metres and a total length of 12 kms, and forms the most important of the three bands from the point of view of the reserves and exploitation. The geological investigations, namely, pitting, trenching, drilling and opening of slits and by diving an adit have established an ore reserve of 122 million tonnes above the ground level in Kanjamalai alone.

Rich Deposits

Aero-malmetric survey and other studies have indicated additional deposits within a radius of about 30 to 40 kms.

For extracting one tonne of mined ore, an additional one tonne of overburden would have to be handled. For obtaining one tonne of beneficiated and concentrated ore, 22.3 tonnes of iron ore would be required. On this basis, a plant of the capacity of half a million tonnes of steel initially, can be fed by the Kanjamalai ore deposits alone for more than 40 years.

With these very large reserves of lignite, it will not be difficult to get a supply for an annual requirement of 3,28,000 tonnes of lignite char from the briquetting and carbonisation plant at Neyveli, the present capacity of which is 3,35,000 tonnes per

annum. Limestone of the required grade for the manufacture of iron and steel is obtainable within the district itself, from places like Sankaridrug, Namakkal and Tiruchengodu, and from the adjoining Coimbatore district. Other raw materials like magnesite and bauxite are again available from within Salem district. Bentonite is the only item which has to come from far off Rajasthan.

In the matter of power supply, water and transportation, Salem is well situated, and these should offer no particular difficulty. Kanjamalai site would require only 161 tonne-km. of transport for assembling iron ore concentrates, lignite, char and fluxes for one tonne of steel. This figure is the lowest among the sites considered for this project and also the lowest of all the steel works in the country.

Land acquisition proceedings have been initiated for acquiring 6,868 hectares of land for building the plant, township, railway siding,

marshalling yards, ancillary industries and mining.

The capital cost of the project of 500,000 tonnes capacity will be about Rs 100 crore, including a foreign exchange component of Rs 40 crore (pre-devlaution estimate). The State Government has so far incurred an expenditure of about Rs 64 lakh on the preliminary items of the project and has provided Rs 10 crore in the Fourth Plan.

The plant will employ about 5,000 persons when commissioned at the end of about five or six years.

With the low phosphorus and sulphur content of the beneficiated ore and low aluminium and phosphorus content of the coking fuel, the pig iron, which will be one of the intermediate products, and the special kinds of steel will be able to meet the specialised requirements of the automobile industries, which are concentrated in a big way in the South. Also the products of the Salem plant will meet the increasing

demand of the engineering industries.

With nuclear power flowing from Kalpakkam around 1974 and steel from Salem rolling out in the near future, Tamil Nadu seems to have tryst with destiny.

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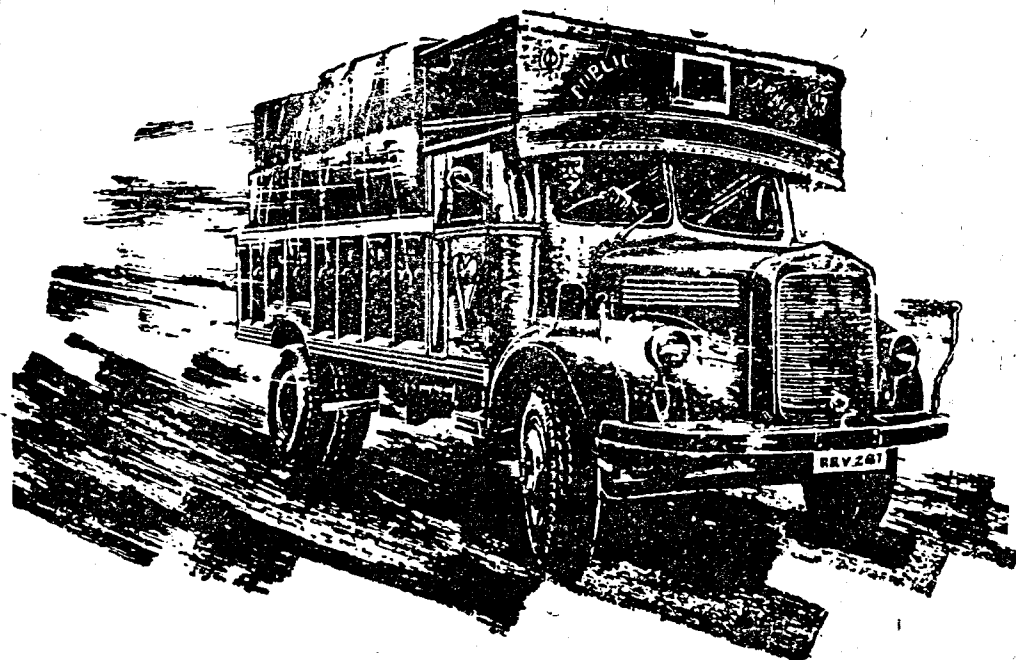
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EARTH RESOURCES SATELLITE

A satellite that will map the world's food, water and fuel resources and help fight natural calamities by forecasting them will be orbiting the earth in about two years from now. The processing of the data returned by the satellite is expected to have global participation for the simple reason that weather is every man's business.

An operational earth resources satellite system linked to computerized ground complexes can help unravel mankind's untapped reserves of food, fresh water, fuels, minerals and forestry resources.

Watching the rotatory earth from hundreds of kilometers above, the Earth Resources Satellite can forewarn the terrestrial men about impending forest fires, iceberg flow, destructive locust migrations, even the now unpredictable natural disasters like the recent earthquake in Peru.

While the navigation, geodesy, meteorology and communications satellites launched earlier tended to benefit the industrialized world, the Earth Resources Satellite project is of widest implications for all the nations of the world.

The drum-shaped satellite with two large solar panels will carry two monitoring instruments: an advanced high-resolution camera and a four-band scanner to pick up images in infra-red wave-lengths outside the visible spectrum. The instruments will take pictures of land plots 160 km on a side.

Flying in a circular orbit 904 km above earth in a near polar orbit, the spacecraft can view the rotating planet totally each day. It will be assigned specific tasks like identifying crop species, assessing crop vigour or disease, classifying uses to which land is put, determining land surface composition and structure, mapping snow cover and assessing water runoff, mapping shorelines and estuaries and identifying and mapping air and sea pollution.

Accurate forecasting of water run off by the satellite can help double the irrigation, thereby effecting 25 to 50 per cent increase in irrigated crop production, without adding more land to cultivation.

Accurate run-off forecast will also facilitate better siting of dams. Hydroelectric power generation can be increased 25 to 40 per cent with accurate information on expected water flow, again without installing new generators. The 250 million dollar project also includes the launching of a second Earth Resources Satellite in 1973. If trials succeed, meteorology will acquire a wholly celestial outlook.

FAMILY PLANNING FOUNDATION

The explosive increase in India's population—we have the unsavoury distinction of adding one Australia every year—has constantly worried our demographers, economists and planners. In the Fourth Plan Rs 315 crore have been allocated for keeping the birth rate down. But looking at the magnitude of the task, governmental effort alone will not be sufficient. Non-governmental initiative and effort have an equally wide scope in this vital sector. The initiative of Mr J.R.D. Tata and Dr Bharat Ram in setting up a Family Planning Foundation "to secure a wider commitment to a national problem" is welcome and praiseworthy. Created to assume "a supporting and innovative role", the Rs 58 lakh Foundation will sponsor research, back up financially specific projects on the lines of regional family planning associations and maintain mobile medical clinics to overcome the shortage of medical and para-medical personnel. Mr Tata and Dr Bharat Ram's lead is worthy of amelioration. There is no doubt that the massive governmental effort combined with matching private initiative will help achieve the target of restraining the birth rate at 25 per thousand against the present one of 39.



IGNORAMAN

Wants to Know
If
the Law will succeed
in grabbing those
who 'grab' the land

GERMANS PREFER INDIAN TEA

"Kaffeetrinken"?
"Teetrinken..."
"Indischen Tee trinken".

The above dialogue is not from a German movie but from German life today. The Germans have switched over from coffee to tea, and when it comes to tea, their preference is Indian tea with lemon juice.

The Federal Republic imports tea leaves from India and has it blended according to the demands of its domestic market. In 1967, West Germany imported Rs 4.1 crore worth of Indian tea. This rose to Rs 5.1 crore last year. Imports included all varieties of Indian tea: Assam tea which accounts for 52 per cent of India's total tea exports; Darjeeling tea, which has the richest flavour; and also the Dras tea produced in the plains of West Bengal.

India is the world's largest producer of tea, with an annual production of 380 million kg. This forms 48 per cent of the world's total tea supply.

KARNAL IS HARYANA'S GRANARY

THE STORY OF AN INTENSIVE AGRICULTURAL DISTRICT

K. K. AGGARWAL

KARNAL'S AGRICULTURE IN 1967-69

- * Foodgrains production registered an increase of 33.3 per cent.
- * Wheat production up by 60 per cent.
- * Average yield of wheat up by 15 per cent per annum.
- * Five-fold rise in fertiliser consumption.
- * Area under high-yielding varieties increased from 7,000 to 1,10,000 hectares.
- * The value of yield of important crops rose from Rs 69 crore to Rs 86 crore.

KARNAL was brought under the Intensive Agricultural District Programme in 1967 and within two years it has become Haryana's most important agricultural district having produced 32% of the State's foodgrains, 35% of its wheat and 62% of its rice.

Situated on either side of the G. T. Road, it forms part of the Indo-Gangetic alluvial plain. The soil is derived from sediments deposited by Yamuna and Ghaggar and their tributaries. The light alluvial soils, commonly known as *Khaddar*, are mostly found along the river Yamuna and the medium to heavy soils constitute *Banjar* area. The main soil problems are salinity, alkalinity, water logging and water erosion.

The rural population accounts for 83% of the total population of the district, there being 1.27 lakh farming families living in 1,352 villages. As many as 42% families own land less than 4.1 hectares, which is scattered at least in two pieces.

The distribution of rainfall was uneven during 1968-69. There was heavy downpour in the beginning and a long drought afterwards. Excessive rains in July of the year resulted in floods causing damage to stocks of foodgrains and fertilisers, while continued dry spell in the winter months affected adversely the sowing of *rabi* crops. Rains again failed in vast areas of the district during the current year. Late and scanty showers were hardly sufficient for the cultivations of maize and bajra.

Paddy is the most important crop of the district. Area under this crop was 1,38,000 hectares in 1967-68 and 1,39,000 hectares in 1968-69. This year three varieties of paddy namely IR-8, *Basmati* and *Jhona* were sown but due to failure of rains the transplantation of paddy had to be delayed by more than a month. September rains did help the *kharif* crops to mature successfully but a shortfall of about 40% in area and production was estimated, especially under high yielding and *Basmati* varieties.

Out of a total area of 8,01,000 hectares, the cultivated area in the district is 6,44,000 hectares. The total

cropped area was 8,88,000 hectares as a result of double cropping. Most of the principal crops namely rice, maize, wheat, gram, sugarcane and cotton are grown here. The area under different principal crops was as under:

	in '000 hectares		
	1966-67	1967-68	1968-69
Wheat	224	242	268
Gram	109	121	101
Rice	124	138	139
Maize	47	57	48
Sugarcane	36	32	38
Cotton	21	21	17

The value of important crops produced was Rs 86 crore in 1968-69 as compared to Rs 69 crore in 1966-67.

Fourth Plan Scheme

During the Fourth Plan, the total cropped area under foodgrains alone would be increased from 6,94,000 hectares to 7,35,000 hectares which would further be subdivided into 4,53,000 hectares under *rabi* foodgrains and the remaining 2,82,000 hectares under *kharif* foodgrains. The production of foodgrains would also increase from 6,64,000 tonnes to 12,50,000 tonnes.

The net area irrigated in 1968-69 was 3,00,000 hectares out of which two-thirds was fed by canals and the remaining one-third by 14,714 tubewells. The percentage of irrigated area under important food and non-foodgrain crops has increased from 50% in 1966-67 to 61% in 1968-69 as a result of special efforts made under the Intensive Agricultural District Programme through Agricultural Refinance Corporation and advancement of loans worth Rs 194 lakh through primary Land Mortgage Banks. With the installation of 30,000 new tubewells during the Fourth Plan period (at the rate of 6,000 every year) an additional one lakh hectares would be brought under irrigation, thus increasing the irrigated area from 3,54,000 hectares to approximately 5,00,000 hectares in 1973-74. This will constitute about 70% of the total area under foodgrains. The area under cash crops will increase from 1.20 lakh hectares to 1.45 lakh hectares. The total gross irrigated area by the end of Fourth Plan would be 6,40,000 hectares as against 5,00,000 hectares in 1968-69.

The fertiliser consumption in the District increased from 18,000 tonnes in 1966-67 to 58,000 tonnes in 1967-68 and 1,03,000 tonnes in 1968-69. The per hectare consumption was 27.05 kgs, 67.50 kgs. and 157 kgs. respectively. Karnal district consumed 43% of the State's total fertiliser consumption and 50% of Phosphatic and Potassic fertiliser in 1968-69. A target of 1,50,000 tonnes of fertiliser has been fixed for the year 1969-70 raising the per hectare consumption to 180 kgs. The district needs another 70 kgs. per hectare in order to catch up with Ludhiana district in Punjab.

The chemical fertiliser would be supplemented by 9,33,000 tonnes of compost manure for which 63,500 new manure pits and 60,000 old pits would be dug during 1969-70.

By the end of the Fourth Plan fertiliser consumption would be raised to 3.20 lakh tonnes, or to 350 kgs. per hectare. Besides prescription of balanced quantities of fertiliser, the dosage would be split up for application at different intervals.

The area under high yielding varieties increased from 6,800 hectares in 1966-67 to 46,520 hectares in 1967-68 and 1,10,200 hectares in 1968-69. It will further go up to 1,25,000 hectares in 1969-70 (one lakh hectares under wheat, 12,000 hectares under Paddy 8,000 hectares under maize and 5,000 under bajra). The area under high-yielding varieties would further be increased during the Fourth Plan to 3,40,000 hectares. Out of this 2,40,000 hectares would be under wheat 50,000 under paddy, 25,000 under hybrid maize and an equal area under hybrid bajra.

The average yield per .40 hectare of wheat has shown a growth rate of 15% per annum. It has risen from about 630 kg to about 820 kg per .40 hectare as a result of better irrigation facilities, judicious use of fertilisers and quality seeds, adoption of high yielding varieties, besides taking plant protection measures and assuring clean cultivation on scientific lines.

The water table in Karnal district is very near to the ground level and hence the texture of the soil is very weedy and hardy in nature. Thus mechanical cultivation

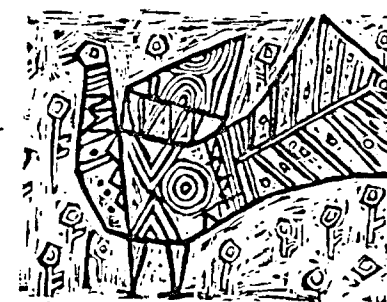
is the only answer for improving the yield and especially the pattern. In addition to 2,250 tractors, 97 tractors were provided under the agricultural refinance scheme. 820 more tractors would be procured and supplied during the current financial year. Wheat threshers and prototype threshers are also becoming popular.

Demonstration plots laid on scientific lines provide an excellent laboratory for the enthusiastic farmers to learn latest methods of cultivation and to increase production. 4,570 such demonstration plots were laid during 1968-69. 1,125 demonstration centres and 6,750 demonstration plots would be set up during 1969-70 besides developing 150 villages as model ones.

Under the farmers training programme 12,567 farmers were trained during 1968-69 and 6,225 during *kharif* 1969 in latest techniques of scientific farming in a number of training camps at village, block and district levels for different durations. The programme will continue during the current year and the Fourth Plan period by arranging 450 camps at district level, 2,250 at block level and 15,000 at village level annually.

The actual requirements of fertiliser can be gauged and adequate dosage recommended after the soil is clinically tested. It is proposed to test 60,000 solid samples every year, for which a soil-testing laboratory has been set up at Karnal.

Crop competitions at the rate of 300 at village level, 30 at block level, 30 at district level and 13 at State level are held every year in order to stimulate competitions for greater production. Three thousand farmers have so far participated in such competitions.



A view of the world's largest gas turbine which works on the principle of aircraft jet engines.

WORLD'S LARGEST GAS TURBINE

A Russian-built 100,000 kw gas turbine, the world's largest, has been successfully tested at the Krasnoyarsk Heat and Power Plant. The turbo-unit is designed to relieve peak loads at electric stations during the evening, when a rapid generation of more power by additional units is necessary. Steam turbines take from 10 to 12 hours to get into full operation for attaining full capacity, while in gas turbine it takes only 30 to 40 minutes. Besides, a gas turbine takes up little space, requires smaller quantity of metal in its making and, most important of all, is economical in the use of fuel.

The gas turbine designed and constructed by three Leningrad units is not only the biggest in the world, but it works on the principle of aircraft jet engines, has a new automation system and is made from special heat-resistant alloys. An original computer, designed specially for the control of the operation of the turbine automatically informs the engineer on duty of all aspects of the operation of the turbine.

WOOD-BASED INDUSTRIES IN WEST BENGAL

FORESTS cover over 3,300 square kilometres, about 35 per cent of the total land area of the Himalayan districts of Darjeeling and Jalpaiguri in West Bengal. The total production of industrial wood from these forests has increased from 60,000 cubic metres in 1956 to about 1,00,000 cubic metres in 1960, and to over 1,38,000 cubic metres in 1968-69. The present market value of forest products in the region is Rs 6 crore.

The forests in the northern areas of West Bengal provide immense potential for industrial development of the region. At present plywood manufacture, saw-milling and furniture-making are the only wood-based industries in the region. Of these, one Saw Mill and one Training-cum-Production Centre in furniture-making in Siliguri are in the public sector, while the rest are in the private sector.

Four plywood mills, employing over 1300 workers, produce about 8 lakh square metres of plywood for the manufacture of tea chests and about 800 cubic metres of round wood. The Government Saw Mill at Siliguri, the largest in the area, has an annual turn-over of Rs 20/25 lakh and produces over 9,000 cubic metres of sawn timber and employs over 220 workers. Fifty-nine other saw mills provide employment to 600 people while two furniture-making industries employ over 150 people.

The forests in the region supply about 7,500 cubic metres of wood for the match-manufacturing industry in the Calcutta area, which accounts for 20 to 25 per cent of the total demand of the industry.

However, only a fraction of the vast forest resources have been utilised so far. During the last two decades, West Bengal has made remarkable strides in industrial development; but this has been confined to certain areas in the State. For this reason, the development of wood-based industries has been neglected. This has resulted in forest-based raw materials for the manu-

facture of paper, newsprint, pulp and other industrial purposes being put to unproductive use.

The tea industry could have nursed the ailing economy of North Bengal. But because of competition in the international market, the tea industry has reached the saturation point and its further expansion is no longer possible. In fact, the average number of workers in the tea industry has declined from 2,51,145 in 1958 to 1,87,612 in 1967 despite the fact that production has increased from 76,193 kg to 98,188 kg, during the same period.

CREDIT GOES UP IN WEST BENGAL

Short-term credit through Cooperative Societies will go up to Rs 13 crore in West Bengal this year, as against Rs 2.90 crore last year, thus reaching an all-time record in the last 15 years.

Of Rs 13 crore, Rs 10 crore will be available from the State Cooperative Banks and the rest from the District Cooperative Banks.

During the last seven months, the amount of credit realisation has gone up to Rs 6 crore, as against last year's realisation of Rs 2.90 crore.

The rapid economic growth and consequent increase in employment opportunities of the region will have perforce to depend on the proper utilisation of forest resources. The rich forests renewed by re-plantations are permanent sources of raw materials for wood-based industries. A species of wood with long fibres, which abound in the area, are suitable for newsprint pulp; while other hardwood trees with comparatively short fibres, are equally suitable for various grades of pulp. Besides, huge quantities of jute sticks, often wasted as fuel, can also be economically used for feeding the pulp mills.

Apart from the advantage of the proximity to rich sources of raw material, the completion of the Farakka barrage will make the transport of forest produce to Calcutta and other parts of the country easier and cheaper. This also gives a definite edge to North Bengal as the centre of a complex of wood-based industries. A scheme has already been proposed for setting up a particle board plant in North Bengal during the Fourth Five Year Plan.

Forest-based industries, however, suffer from some physical limitations. Of the total wood available, hardly 30 per cent is put to industrial use, while the balance is consumed as fuel, which can also be used for industrial purposes. Therefore, if the vast unutilised forest resources are to be properly utilised, the present pattern of utilisation should be suitably altered. Among other things, there is need for the expansion of wood-based industries.

The increase in marketing of industrial wood has facilitated the growth of saw-milling industry, mainly small-sized units. But the problem of making the best use of saw-dust and wood-chips, which add up to a sizeable waste, has to be tackled. Lack of capital also hinders the proper utilisation of these waste products. One of the ways in which saw-dust and wood-chips can be used profitably is by manufacturing particle boards, now being used extensively in homes and offices.

Cocoa Plantation in Tamil Nadu

About 6,073 hectares of agricultural land in Tamil Nadu will be put under Cocoa plantation. This will benefit the chocolate-producing factory, proposed to be set up in the region.

Of the total area under plantation, about 1,616 hectares will be in the Nilgiris district, about 405 hectares in Thengumarahada near Bhavani-sagar, while the rest will be in Ganguwar Odai in Madurai and in Tirunelveli district.

A Realistic Price Policy can Tackle the Problem of Soaring Prices

J. S. MAINI

THE Indian economy faces the problem of a general and continuous rise in the price level, affecting the common consumers. Despite an all-round increase in production during the last year, the wholesale price index with 1961-62 as base year stood at 180.9 in June 1970, showing an increase of 6.5 per cent over the corresponding period in the previous year. During the past few years prices have risen by more than 10 per cent per annum, whereas an annual price rise even at the rate of over 2 per cent to 2½ per cent adversely affects the economy. The table given here, showing the index numbers of wholesale prices reveals the magnitude of the price rise in recent years.

During the period, March 1969 to March 1970, Index numbers of wholesale prices for all commodities, food articles, food-grains, industrial raw materials and manufactured goods (finished products) have gone up from 164.8 to 175.7; from 186.2 to 199.3; from 192.3 to 213.7; from 171 to 187.6 and from 136 to 142.7 respectively.

Unfortunately, however, no serious thought has been given to the aspects of price inflation in the next five years. But a rising price level threatens to throw out of gear all Plan calculations which envisage a period of "Growth with Stability".

Wages and prices chasing each other lead to further price rises, posing great threats to the economy.

In fact, price inflation is caused not only by economic factors, but also by many extraneous factors including social and political factors.

On the economic side three main factors are responsible for the rise in price level. These are expansion in money supply, rise in population and shifts in people's incomes.

Rise in Money Supply

Money supply in India has followed a disconcertingly rising trend during the past few years. Money supply with the public has gone up from Rs 28,68.61 crore in 1960-61 to Rs 45,29.39 crore in 1965-66, to Rs 57,79.25 crore in 1968-69 and to Rs 63,53.65 crore in 1969-70.

Heavy doses of deficit financing by the Government and increasing amount of Government expenditures have also contributed to the increase in money supply. The present structure of the Indian economy cannot absorb this huge quantity of money, without bringing major stresses and strains in the various spheres of the economic activity. Along with it the existence of 'black money' pushes the price-level further upwards.

A total freeze in money-supply can stop the disproportionate increase in money-supply and prevent the internal value of the currency from falling further. Secondly, demonetization, involving change of currency with strict controls on the exchange of new notes for the existing ones is required for eliminating completely the black money in circulation.

Next comes the continuous rise in demand arising from a vast population increase at a rate of 2.5 per cent per annum. Shifts in income too lead to rise in prices through a rise in demand. Therefore, the shifts in income, except when these include transfer of income and wealth from the relatively rich to the relatively poor, should be minimised. Apart from this, the consumer goods industries should be provided more facilities and incentives to cope with the continuously increasing demands.

The official explanation for the price rise is that the higher purchasing power in the hands of the people benefited from the 'Green Revolution' is responsible for the soaring prices. If this is the case then the Government should, of course, resort to vigorous steps to mop up the savings from the rural sector and also impose income tax on agricultural income, so that the black money of the businessmen is not invested in this sector breeding more black money.

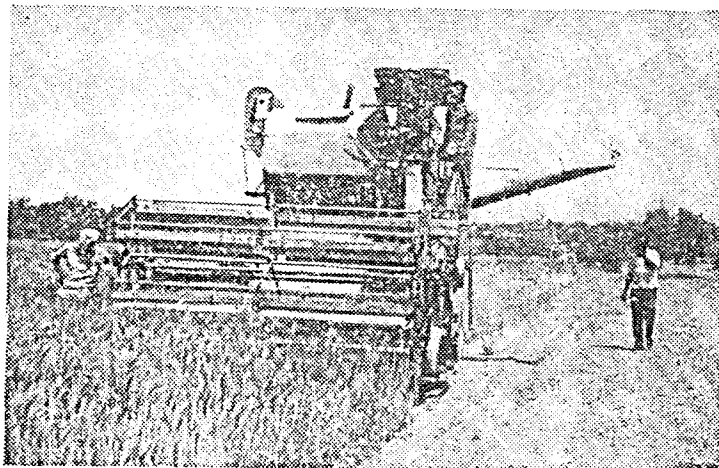
Man-Made Scarcities

Not only natural scarcities but also man-made scarcities are responsible for the price rise in India. The speculation on hoardings and creation of artificial scarcities to secure higher prices are resorted to in all industries, from *vanaspati* to steel and automobiles. A disproportionate rise in the prices of food-grains causes another chain of multiple price rises in the economy, thus imposing heavy burdens on the fixed income groups.

For controlling this problem, a policy of a price-freeze coupled with a freeze in money-supply is required, which will ensure price-stability, essential for the success of the Plans.

Index Numbers of Whole-sale Prices (1961-62=100)

	All Commo- dities	Food Articles	Food- grains	Raw Materials (Industrial)	Manufactures (Finished goods)
1965-66	131.6	144.6	154.3	132.8	116.5
1966-67	149.9	171.1	182.9	158.4	124.4
1967-68	167.3	207.8	228.4	156.4	127.3
1968-69	165.4	196.9	201.0	157.3	131.8
1969-70	171.5	196.5	207.3	180.1	139.5



DESERT RECLAMATION IN RAJASTHAN

IN the vast sandy stretches of Rajasthan, water is a scarce commodity and rainfall scanty. Way back in 1924, the Maharaja of Bikaner constructed a canal which was named after him as Ganga canal. A branch of this canal is feeding two big Central State farms at Suratgarh and Jetsar. The 12,120-hectare Suratgarh farm and the 8,888-hectare Jetsar farm hold a promise for Rajasthan's desert wastes, for man there is waging a tough battle against Nature. The effort to make the desert wasteland yield foodgrains and sustain greenery is backed by the use of the modern sinews of agriculture. A wide range of farming equipment has been employed on these farms. These machines are doing all kinds of operations—levelling, deep-ploughing and opening irrigation ditches.

The mechanisation of these operations has lent a fast pace to the

reclamation work. The farms have been divided into blocks of 1,616 hectares each, which again are subdivided into plots of 121.2 hectares. The smallest unit is a square of 6.06 hectares.

Cropping is planned ahead of the seasons. During the *rabi* season, wheat and mustard are cultivated and in *kharif* cotton, jute, sugarcane, cowpea, soyabean, castor and groundnut are sown.

These farms are able to supply large quantities of different varieties of quality seeds which are well dried and free of contamination because of having been grown in desert areas away from normal cultivation.

With more water flowing in the canal in the wake of the Indus Water settlement, the prospect of lush greenery blooming in the desert will no more be a mirage.

INDIANOIL TO REFUEL JUMBO JETS

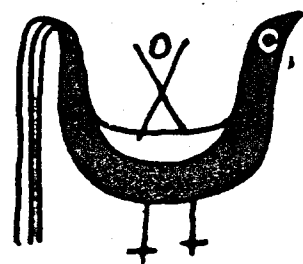
The Indian Oil Corporation, which meets 70 per cent of India's aviation fuel requirements from its own refineries, is now gearing itself to handle the needs of the Boeing-747 "Jumbo-jets".

The Corporation has designed 45,000 litre refuellers for servicing the Jumbos, at a cost of Rs 7 lakh per unit.

It is also planning to have 85,000 litre refuellers to meet the needs of high capacity jets in the shortest possible time.

Indianoil is now supplying aviation fuel to 19 international airlines operating through different airports in India. These include Sabena the Belgian World Airlines, Syrian Arab Airlines, Airlana Afghan Airlines, Aeroflot, Thai International Airways, Qantas, SAS, JAL, Iran Air, Pan American Airways, Lufthansa, Saudi Arabian Airlines, KLM, and others.

IOC is also the sole supplier for the Indian Air Force and a bulk supplier for Indian Airlines and Air India aircraft.



QUOTATION BOX

The trouble with revolutions is they are so damned habit-forming. The supply of presidents exceeds the demand. But I am hoping to be in office again for a day or two in August.

—General Fernando Luiz Higgins, President of Bolivia

There is such a demand for girls to work in offices that it doesn't matter if they cannot read or write, let alone what colour their skin is. They only have to stand up and breathe.

—L. Somers in The Daily Mail, London

"Russians are going to the moon in seven years. What is the Indian going to do?"

"We will go to Russia".

—A censored dialogue from a Tamil film

A favourite Algerian game is to employ Russians or East Europeans on some grand technical scheme, and then call in American efficiency experts to keep a check on the: a model of positive non-alignment.

—Francis Hope in New Statesman

The Moroccans have their ancient monarchy, the Algerians their fat belly carved out of our land, and we Tunisians—well, perhaps we think we are a bit cleverer than the rest.

—A Tunisian politician quoted in New Statesmen

The average waiting period for a phone connection increased from one year in 1956 to four years at the beginning of the Fourth Plan.

—Mr Sher Singh, Minister of State for Communications.

Of every 21 railway consignments one becomes a casualty in transit... For every rupee earned in freight the compensation paid is thrice as much.

—Mr R. B. Lal of Compensation Claims Committee

It was Humphrey Trevelyan's lot to preside, in part, over the dissolution of the British Empire. He began by serving the Government of India during the last two decades of the Raj. He finished with three missions to Arab countries which broadly covered the end of British power there.

—Adam Watson reviewing Humphrey Trevelyan's Autobiography

BOOKS

Creating a New Type of Indian Citizenship

Indian Unity. Edited by R. V. Ramachandrasekhara Rao. Publications Division, New Delhi. Rs 4.

Krishna Chaitanya

This compilation of writings on the theme of Indian unity by the leaders of the Indian re-awakening and others who had sympathy for its ideals is timely. But the timeliness at times comes home with a certain amount of poignancy, as for instance when we read Allan Octavian Hume summing up, in his presidential address to the Congress Session of 1885, the objectives of the national movement as "the fusion into one national whole of all the different and, till recently discordant, elements that constitute the population of India and the gradual regeneration along all lines, mental, moral, social and political, of the nation thus evolved." The movement, he added, was further intended "to foster a wider altruism and a more genuine public spirit, by concentrating the most strenuous efforts on great national questions and diminishing the absorption in local or purely selfish interests." These tasks, it would seem, yet remain to be completed.

Many of the earlier writers like Lala Lajpat Rai, Annie Besant, Surendranath Banerjee and others had cited historical parallels like the unification of Germany, Italy and Switzerland. The American "Melting Pot" had also fascinated them. Indianisation is a sinister concept if it implies that the minority should be assimilated into the majority's way of life. But it definitely is not a bad concept if the idea behind is the creation of a new type of Indian citizenship. In that sense it was strongly advocated by a man like Visvesvarayya. If variety exists, tension can be minimised by tolerance. But real unity cannot be built up that way. As Gandhiji pointed out, tolerance may imply

a gratuitous assumption of the inferiority of other ways of life. But what is really required is genuine respect for them. Bepin Chandra Pal also perceived this truth. He advocated what was basically an attitude of secularism and rationality, but he believed that this open-mindedness could be the basis for a deep interpenetration of traditions. A fine suggestion made by him is still to be realised. This was that people in each community who were genuinely religious—which im-

plied that they realised the universality of all religions—should attempt the interpretation of other religious traditions.

The paradoxical truth that unity could be fostered, not by a dogmatic and arbitrary centralism but through the maximum of local autonomy, was glimpsed by Subhash Chandra Bose. This leads in the direction of the real source of initiative which alone can regenerate a nation: the efforts of the people themselves. Modulating conceptually from engineering to social engineering, Visvesvarayya had, while emphasising this truth, also stressed that elitist guidance could help. He wanted the politician, the sociologist and the educator to put their heads together in planning the ideological and institutional bases of true nationhood.

It is time planned work started on these lines.

A Development and Investment Journal

Development and Investment. A weekly journal published by Gujarat Industrial Development Corporation and Gujarat Industrial Investment Corporation, Ahmedabad. Re 1.

M. R. Kulkarni

It is a welcome trend that the various investment and development corporations in the country are addressing themselves, in addition to their primary function of financing development, to varied ancillary activities without which financing would serve a limited purpose. These activities comprise pre-investment surveys, locating areas of good investment potential, encouraging, educating and even discovering young dynamic entrepreneurs. The development corporations in Gujarat have sponsored "Development and Investment", a weekly journal to serve the cause underlying these activities. More specifically, the declared objective of the journal would be to encourage state level research and analysis of the problems and potential and the dynamics of development at micro level. Such an effort on the regional level has been a long-felt need. Lack of grassroot planning has been one of the serious weaknesses of our planning. Planning in the

past has been too much centralised with the result that it has not adequately strengthened the centrifugal forces of development. The Fourth Plan has now rightly placed the accent on area and district planning.

While emphasising the need for regional planning and local initiative it is essential to sound a note of warning that the regional approach does not clash with national interests. The two must be properly integrated and their interdependence borne in mind. Otherwise, there is the danger that the concern with regional problems and interests may degenerate into narrow parochial attitudes. It must not also happen that such a journal becomes a platform for lobbying for unjustified local demands.

It is reassuring to find on the basis of the first few issues of this journal that it has, on the whole, a correct orientation. As should be expected, the issues look rather exploratory, groping for a more well-defined orientation. One would only hope that, while seeking for a more clearcut personality, the journal would retain its freshness and would not fall into the rut of a provincial publication dishing out second-hand information easily available from routine sources.

Balanced Outlook on Rural Problem

The Indian Rural Problem by Manilal B. Nanavati and J. J. Anjaria. Indian Society of Agricultural Economics, Bombay. Rs 20.

B. N. Nair

The seventh revised edition of this valuable publication has appeared in the market not a day too soon. Professor M. L. Dantwala has enlisted the co-operation of a number of scholars in bringing out this revised edition and given it breadth as well as depth in its treatment of several current rural problems. As the Doyen of Agricultural Economists in the country he has imparted to the task of revision some of his characteristic zeal and sense of thoroughness combined with dignified prose. Part V of the book covers agricultural development in the three Plans and touches upon important aspects such as the new agricultural policy, the green revolution and the reorientation of agricultural credit. In Chapter XX, a review of the Indian rural problem has been attempted with stress on a number of current issues.

Problems of Planning

Planning at the State Level in India by Ajit Kumar Singh. Pages 42; and Manpower Planning and Employment in India by P. Sitapati. Pages 37. "Commerce" pamphlet series.

A. N. Prabhu

The more or less well known problems of Indian planning have been brought into correct perspective by Mr Ajit Kumar Singh in this brief paper. He has fortified his argument with authoritative quotes. He spotlights various aspects of state planning and underlines its weaknesses. The author rightly emphasises the need for a permanent secretariat for the National Development Council for greater involvement and consultation of the States. He reiterates the suggestion for the creation of an inter-state council to resolve conflicts and tensions, which are so much in evidence of late. The paper has a short select bibliography.

This revised edition ends with a note of timely caution *a la* Gunnar Myrdal that "problems of development cannot be solved in terms of the Western model or any set model; that the approach will have to be in terms of social as well as institutional changes; and that while expectations are rising fast, performance has still lagged behind. There indeed, lies the challenge." The contents of the book impart a high degree of balanced outlook, and a sense of reality at a time when foreign-returned production economists are seeking post haste to bring about complacency through the widespread canvassing of production functions and plead for an induced agricultural development under foreign counsel, much to the overall negligence of problems such as land reforms.

The book is moderately priced and will continue to be an indispensable reference volume for students of Indian economics in our universities. Perhaps, its continuing popularity is a pointer that there is a basic need for books of this variety by Indian scholars themselves.

In the other pamphlet Mr Sitapati has handled the subject of manpower planning at the state level with the authority of an experienced man. Manpower, which is the basic capital of a country, has to be utilised to the maximum possible extent. The need for organising manpower planning in a democracy, and more so in a federal set-up, has been examined in all its aspects. The author says there should be more persuasion and central leadership than statutory fiat or central directives. He pleads for a second look at the manpower planning organisations at the Union and State levels and strengthening of institutional arrangements.

TO KNOW INDIA
READ YOJANA

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Ahilyabai: A Powerful Personality

Ahilyabai by Hira Lal Sharma. National Biography Series, National Book Trust. Pages 123. Rs 2.25.

S. Prasad

Among the remarkable women thrown up by Indian history, Ahilyabai Holkar has an assured place. Her character does not change under the hard glare of history. The colours remain practically the same as reflected in the folk-lore about her—the picture of a virtuous, dedicated woman, who resurrected several Hindu shrines. But history is a lot besides folk-lore, and some interesting facets are added to Ahilyabai's personality, which though not new, are not so widely known. It is a powerful personality that finally emerges, rising above recurring personal tragedy. Here was a woman who lost her husband, while still young, her father-in-law, who was her mentor; a little later, and then her only son and her grandson, whom she wished to appoint her successor, followed by the death of her only daughter and the son-in-law. It could have broken any ordinary mortal. But it could not extinguish the glow of life inside Ahilyabai. And as each tragedy struck, it only steeled her heart to a greater purpose. There is hardly any doubt that to provide inspiration to lesser mortals, the subject is a wise choice by the National Book Trust.

What was the urge that drove her forward? With others, it could have been the lust for power, but with Ahilyabai it was different, the book tells us. It was to justify the trust and confidence reposed in her by her warrior father-in-law. She proved herself as accomplished on the battle-field as in statecraft. Actually, her claim to posterity would seem to be based as much on her success in administration as on her philanthropy. This is how historians have assessed her.

The author has divided the book into thirty chapters, to delineate Ahilyabai's various qualities as a housewife, a widow and an administrator. The language is simple, though not always elegant. But it manages to bring out her personality effectively.

BIG DEEDS HUMBLE MEN

In this feature
Yojana seeks to present
the outstanding achievements of some of the
many millions of obscure
men and women who
are working to build
tomorrow's India.

BACHAT GRAM

Baharganj, a small village in Contai sub-division of Midnapore district of West Bengal, has aptly earned the name of Bachat Gram. Each family of this village has a small savings account. A special post office has been opened in the village since February 11 this year to transact savings bank business.

It all started when the District Savings Officer of the Central Government, with the help of the Block Development Officer in September 1969, started an intensive campaign for small savings among the villagers. It immediately caught the fancy of the people and on the very first day 180 savings accounts were opened. The number of these accounts has now risen to 204 and the village has a savings balance of nearly Rs 5,000. On an average, 30 transactions are made every day.

IMPRESSIVE ACHIEVEMENT

Ram Amruta Shinde, a small holder of Maralak, in Nanded district of Marathwada, has become a household legend in the surrounding villages. He grew 24 quintals of Jowar on 60 hectares of land. The average yield in this area from local variety is four to six quintals per 40 hectares. Shinde's success in this comparatively backward area has induced half the cultivators in the neighbouring villages to follow his example.

When asked about the secret of his success, Shinde said that it was

all due to the new methods of cultivation which he adopted under the guidance of the local agricultural officer.

A PROGRESSIVE VILLAGE

The credit for bringing about a marked change in the economic condition of the farmers of Zhala village, in Gewar Patti of Almora district goes to Laxman Singh Manral.

In collaboration with another farmer, Manral produced four quintals of hybrid seed Kalyan Sona-227 from only 4 kgs of seed. This yield was sold to other farmers and about 300 farmers benefited by selling this high-yielding variety seed. Within two to three years the crop increased by five to six times.

Manral at present is engaged in experimenting in animal husbandry and running a chemist's shop. Recently he won an award of Rs 50 from the Commissioner of Kumaon for his meritorious service in inducing the farmers to take to small savings.

NOTHING LIKE SELF-HELP

That co-operation and self-help can bring prosperity and progress to a backward village has been amply demonstrated by the inhabitants of Ambi-Dumala, a small village in Sangamner taluka of Ahmednagar district.

The story started in 1963, when the residents of Ambi-Dumala decided to construct a bridge on the river Kas. Overwhelmed by their zeal and constructive way of thinking, an engineer came up to give all the technical help required. With his efficient guidance, the bridge was ready after two years of continuous work. However, all this was achieved without any financial or technical assistance from the Government.

Extremely satisfied with the work Shri Shankarrao Kale, President of the Zila Parishad, who also happens to be an engineer, announced a contribution of Rs 20,000 on behalf of the Zila Parishad.

What was to be done with this amount? The small boys shouted, "We want a school building." The elders consented immediately and a beautiful school building also came up. It was a happy day for the people. Along with the bridge, they got a school building too.

A NEW DEAL FOR WEST BENGAL INDUSTRIES

Industries in West Bengal in the public sector as well as in the private sector, will receive liberal loans from the Industrial Development Bank of India and the Life Insurance Corporation. The credit policy of these institutions will help boost up the economy of the State. A local committee of the IDBI is likely to be set up for looking into the credit requirements and other needs of the industries in the State.

Apropos to this policy, two new thermal power units, proposed to be installed at Santaldih in West Bengal, are likely to receive additional assistance from the IDBI and the LIC.

The IDBI is understood to have further agreed to provide Rs one crore annually for three consecutive years for the improvement of Calcutta's transport system.

On guarantee from the State Government, the Life Insurance Corporation too is likely to advance loans for meeting the needs of water supply and housing construction in municipal areas, not covered by the Calcutta Metropolitan Development Authority. Special schemes would be taken up by these institutions for financing the small entrepreneurs, specially the unemployed engineers.

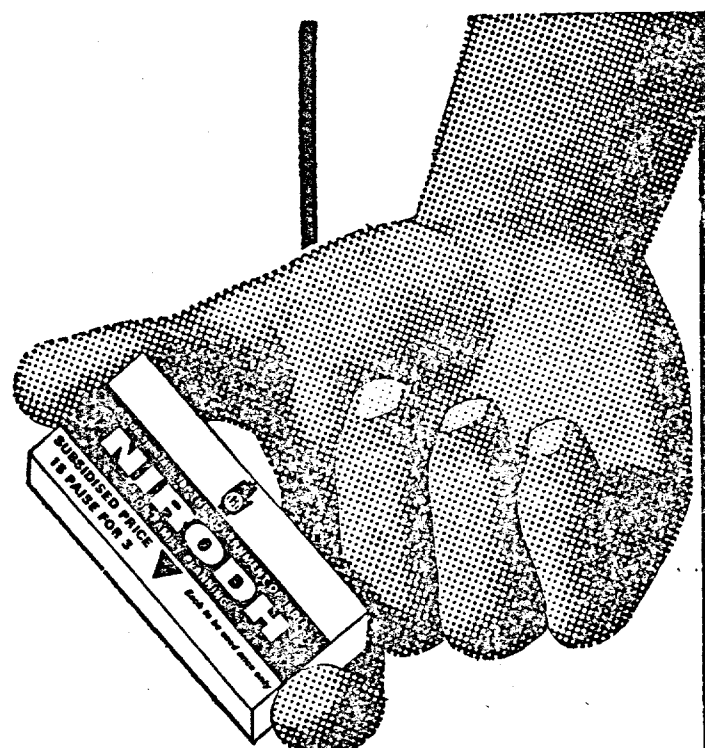
The State Government is receiving fresh applications for industrial licences.

RECORD RISE IN ASSAM'S SMALL SAVINGS

In 1969-70, small savings in Assam recorded the highest rise since 1960-61. The total gross collection was around Rs 18.97 crore and net collection around Rs 4.05 crore, including the estimated interest. In 1968-69 the gross collection was about Rs 15.50 crore and net collection Rs 3.47 crore.

Considerable progress in the matter of opening new Post Office Savings Bank accounts and new Cumulative Time Deposit accounts has also been made. During the year 50,852 new Post Office Savings accounts, 14,556 new Cumulative Time Deposit accounts and 51 new Fixed Deposit accounts were also opened.

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FOR FAMILY PLANNING
15 paise for 3
Price kept low through Government subsidy

SOLD BY PROVISION STORES, GROCERS, CHEMISTS AND DRUGGISTS, GENERAL MERCHANTS, PAN SHOPS ETC.

FOR SPACING CHILDREN

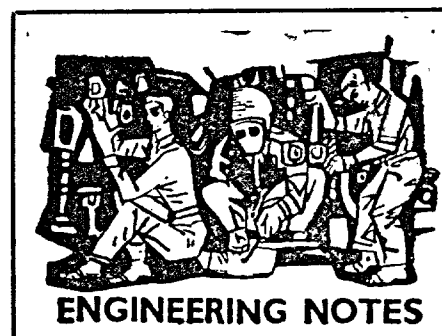
Today, children can be had by choice and not by chance. Nirodh gives you the choice to have a child only when you desire it.

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Doctors say a child needs special care during its first three or four years for its proper growth. Also, the mother needs the time to recoup her health after childbirth. With the use of Nirodh, you can easily postpone the birth of your next child.

Nirodh (condom) is a contraceptive made of super quality rubber for men. This is used all over the world because it is simple, safe and does not affect the health of the users. Nirodh is available everywhere.

70/61



A SMALL THRESHER FOR SMALL HOLDINGS

A small thresher suited to holdings up to 10 hectares, has been designed by the Indian Agricultural Research Institute, New Delhi.

It is named "Pusa Junior Thresher."

The machine can be operated with a two H. P. motor, petrol engine, power tiller or a 4-wheel tractor. Its capacity is about one quintal of clean grain per hour. For threshing a quintal of grain (wheat), its power requirement is only 0.45 H. P. compared with about 2.5 H.P. needed by common threshers.

METAL-TYPE PLASTIC WITH MANY USES

The Shri Ram Institute for Industrial Research has developed a new metal-type plastic called ABS Engineering Plastic which may bring about a "plastic revolution" in the country.

After nearly four years' research the Institute has produced it from indigenous petro-chemicals. It can replace steel and non-ferrous metals used in many appliances. For example, it can be used in car bodies and scooters, typewriters, telephone casings, parts of railway coaches and the inner lining of refrigerators. It is more durable and economical if produced in bulk.

Contributors are requested to use only metric system of weights and measures.

CHITTARANJAN TO MAKE

A. C. LOCOS BASED ON INDIAN DESIGN

The Chittaranjan Locomotive Works are under orders to manufacture 141 electric locomotives—84 AC and 57 DC—within the next four years.

The prototype of the AC loco, which will be based on a completely indigenous design, is expected to be turned out next month.

The order for 84 such locomotives will be completed by 1973.

The order for 57 heavy freight locomotives to replace the existing freight locomotives on DC electrified section of the Central Railway is due to be completed within the next four years.

The prototype of this DC locomotive is likely to be ready in October, and after tests, production will be taken up.

The Chittaranjan Locomotive Works is also working on a design

of an electric locomotive for the Vira-Sabaramati section which could operate on both DC and 25 AC sections. This prototype may be ready early in 1972.

The manufacture of electric locomotives was first taken up in 1961 and till March 1964, 21 DC locos had been manufactured at Chittaranjan.

With the bulk of electrification work of Indian Railways being on AC, production of AC locos was taken up in 1963-64 and 227 AC locos have so far been manufactured.

The indigenous content of the locomotives has been steadily going up. The imported content came down from 58 per cent in 1961-62 to 22.3 per cent in 1970.

Indian Railways had over 500 electric locomotives in operation in 1969.

FUNICULAR BRICK SHELL ROOFS

A completely unreinforced brick shell roof measuring 12.5 m x 12m has been built by the National Institute of Designs, Ahmedabad, using country bricks. The successful construction of this roof has opened up vast possibilities for the application of the new technique for the construction of large roofs to provide unobstructed column-free space required for warehouses and industrial structures.

High voltage rectifiers

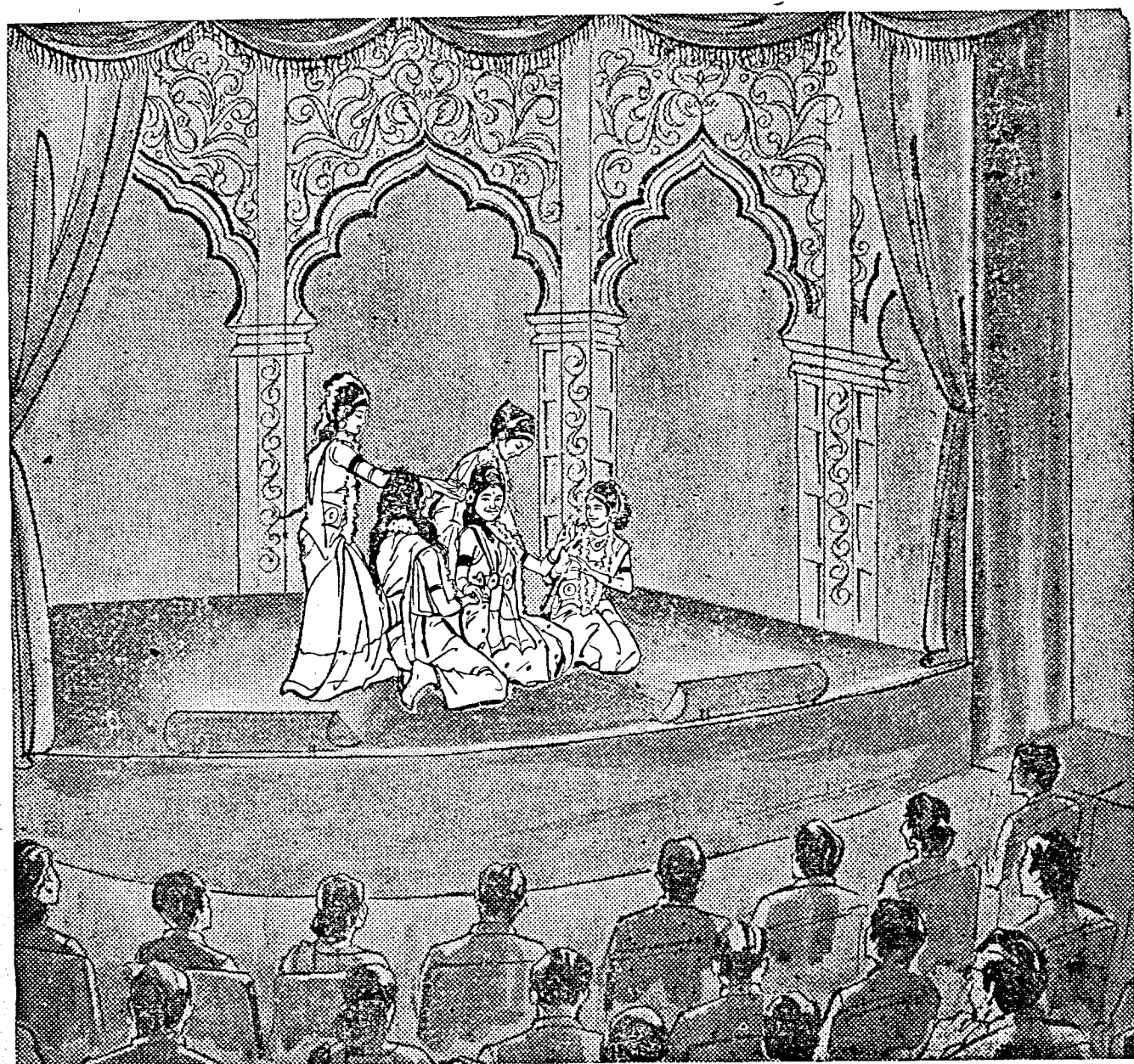
Khandelwar Hermann Electronics Pvt. Ltd., of Bombay, are now producing, for the first time in India, High Voltage Cartridge Type Selenium Rectifiers from 1KV to 6 KV. These rectifiers are used for high voltage power supplies such as X-rays, television, oscilloscopes, EV testers and radar equipment.

The company, which was established with the technical and financial participation of Hermann K.G. of W. Germany, has already exported to Ceylon battery elimina-

tors for using transistor sets by AC mains. Trial samples of miniature selenium rectifiers, manufactured for the first time in India, have been sent to USA, France and UK, and the reports are said to be encouraging.

India-Made Grinding Machine

The first wholly indigenous grinding machine manufactured by the Machine Tool Corporation of India Ltd., Ajmer—a public sector undertaking, has been delivered to a private firm in Indore. The machine, called the Tool Post Grinding Attachment is useful to all mechanical engineering workshops and industrial training institutes and is specially suitable for small and medium scale industries. The basic design which was obtained from the Central Machine Tool Institute, Bangalore, was modified and further improved in the Corporation's own design office. The Corporation is now engaged in the production of more sophisticated grinding machines in collaboration with Czechoslovakia.



Not by bread alone

Cultural activities mean a fuller life. These need not be confined to the well-to-do; at least, not in Jamshedpur, where the Community Centres in the low income areas provide ample scope for self-expression and enjoyment. The other activities at these Centres include sewing and knitting classes, kindergartens; music and dance classes.

This urban Community Development Programme owes its success to the enthusiasm of the participants and the spirit of the Steel Company which cares deeply for the welfare of the people of Jamshedpur.

TATA STEEL

Development Diary

UNICEF will provide financial assistance to the extent of Rs 8.6 crore during the Fourth Plan for strengthening of health services in India, for which an agreement has been signed. Under the agreement, UNICEF will provide equipment, supply drugs and diet supplements and give financial grants. The Government of India, in the same period, will spend Rs 241.21 crore on this project in addition to the expenditure to be incurred by the State Governments.

* Five plants are being set up in Hyderabad as part of the nuclear fuel complex to manufacture nuclear grade uranium and other material for the country's nuclear power plants. They will help save foreign exchange worth Rs 5.5 crore annually.

* India's exports of sewing machines to Britain increased from Rs 5,54,300 in April-December 1968 to Rs 8,78,254 during the corresponding period in 1969.

* The National Dairy Research Institute at Karnal has been successful in producing dry cheese which will increase the shelf life of processed cheese. Having a compensation of 4.55 per cent fat and 42.25 per cent milk proteins plus other minor milk constituents, dry cheese can be reconstituted readily into cheese spread by adding warm water equal in quantity to the weight of the dry powder.

* Hindustan Housing Factory, a public sector undertaking, achieved a record out-turn of Rs 1.93 crore during the year 1968-69 as against Rs 1.80 crore in 1967-68. During 1968-69 the factory earned a net profit of Rs 7.58 lakh.

* In its one year of operation, the Rural Electrification Corporation has approved 50 schemes costing Rs 30.26 crore. These schemes sponsored by the State Electricity Boards and pilot co-operative societies will electrify 4,404 villages, energise 85,404 pump sets and 12,771 LT industrial

connections. In addition, the Corporation has given a loan of Rs 6.51 crore to the three co-operative projects in Mysore, Andhra Pradesh and Gujarat. These projects on completion will provide electricity to 401 villages, energise 18,611 pump sets and 851 LT industrial connections.

* The Rs 90-crore Pochampad Irrigation Project in Andhra Pradesh has been commissioned. Designed to irrigate about 200,000 hectares of land in Nizamabad and Karimnagar districts of Telengana, the project will help produce nearly 11 lakh tonnes of foodgrains valued at over Rs 73 crore.

* The Council of Scientific and Industrial Research has approved eight new research projects and 92 research schemes. The projects include the manufacture of some rare biochemicals at Vithal-bhai Patel Chest Institute, New Delhi, and the establishment of a multi-purpose hydro-metallurgical testing unit for nickel and other non-ferrous metals at Jamshedpur.

* The Fertiliser Plant at Rourkela has won the National Safety Award for the second time for achieving the highest percentage of reduction in accidents.

* A Public Sector Cotton Corporation has been registered in Bombay, with an authorised capital of Rs 5 crore. It will take over shortly the entire import trade in cotton and will also provide ready market to cultivators growing new varieties of extra-long staple cotton.

* Since the nationalisation of fourteen major banks, bank deposits, as a whole, have increased by Rs 655 crore. Of this, the nationalised banks account for Rs 570 crore. Bank credit increased by Rs 710 crore, out of which the nationalised banks accounted for Rs 637 crore.

* The total production in 1969 of the five State farms at Suratgarh, Jetsar, Hissar, Raichur and Hirakud was worth nearly Rs 8 crore. The Suratgarh farm, the biggest in Asia, produced crops worth Rs one crore.

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To help them reap better...
help them
sow better

We help them sow better by making better equipment possible like tractors that plough an acre an hour, bulldozers, scrapers, traxcavators, superphosphate plants. This is only the groundwork behind our efforts in making more food possible. We've been thinking of food from other angles as well. Like dairy, for instance. Leading dairies depend on us for complete dairy equipment. And that's not all. We also supply and install cattle feed plants, bulk handling equipment, refrigeration plants, bacon factories, slaughter house equipment...Our efforts in making more food possible are backed by collaborators like Caterpillar—people who move the earth; Chemiebau who are well known for the design and supply of chemical plants all over the world; Atlas—famous for refrigeration plants, bacon factories, slaughter house equipment; Niro Atomizer, Paasch and Silkeborg, Wright Hargreaves—manufacturers of dairy equipment, Buhler—designers of bulk handling and grain storage plants...

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LEST WE FORGET

Education is the most important tool of development.

— V. K. R. V. Rao

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OPERATION EDUCATION

THE first year of the Second Development Decade having been designated by the United Nations as the International Education Year (IEY) signifies the tacit acceptance of the catalytic role of education in socio-economic development. Launched on July 1, the Year also happens to be the birth centenary year of Maria Montessori, one of the greatest educators of all times. This remarkable juxtaposition of events accentuates the relevance of the global educational drive the IEY seeks to initiate in the months ahead. *Yojana* proudly associates itself with this "magnificent obsession" by projecting in this issue, not only Madam Montessori's revolutionary contribution to the cause of education, but also the tasks of education and educational development.

The Fourth Plan has conceived of education as being the main edifice in India's development in the social sector. The Rs 822.66 crore outlay on education is roughly half of the total allocation for the social sector. In addition, the average annual non-Plan expenditure stands at Rs 550 crore. In terms of specific targets, elementary education will be expanded to cover 86.68 million children, while the number of school-going girls will rise to 35.93 million. All this is a quantitative affirmation of the need to achieve social transformation through education.

It is a well-designed coincidence that IEY programmes incorporate features quite similar to and consonant with the Fourth Plan priorities. In fact, the IEY, if anything, will quicken the pace of their realisation. The National Literacy Day, to be observed on September 8, is a major countrywide effort to promote literacy among the weaker sections of the society, backward areas and communities and girls. The task of eradicating adult illiteracy is also engaging equal attention. For the first time an organised effort is to be made to expand pre-primary education for children below six years of age. Pre-primary education is like the timely sowing of the field without which a bumper crop cannot be expected.

The two programmes of adult literacy and pre-primary education have their own validity and urgency. A large number of present-day adults unfortunately belong to the pre-Independence generation when education was not widespread. Today's citizen, farmer and worker, must be equipped with a certain measure of elementary education, not only for the sake of increased production but also to enable them to exercise their franchise with judgement. Many of them are parents who have to guide their children and even help them to become useful citizens. Illiterate parenthood has never been an asset to any society. For this reason, the adult literacy programme has not only to be an adjunct to the overall development effort but also a matter deserving the highest priority.

Extension of pre-primary education to millions of children below six years of age is a very big task, which may not be accomplished either during a single education year or a single five-year plan. It is a continuing effort related directly to the growth of resources at the nation's disposal. With the continuing rise in population, the problem will grow bigger and bigger in dimension, unless educational planning runs in close conjunction with demographic planning. In this area, public effort should be supplemented on an ever-increasing scale by private effort. The centenary celebrations of Maria Montessori must set the pattern for this massive effort.

A bright aspect of the Indian transition is the metamorphosis of Indian education. In the past, rich parents deemed it a privilege to send their children abroad (*vilayat*) for higher learning. Within two decades of Independence we now have many centres of advanced study which attract scholars from different parts of the world. This restores India's ancient reputation as a citadel of learning. During the International Education Year, ten scholarships for advanced training and research in Indian institutions will be awarded to fellows from developing countries of Asia and Africa.

While the IEY programmes embrace a wide range of educational activity, it is rather surprising that not a single programme specifically designed to strengthen Dr Zakir Husain's experiment in Basic Education has been included. This appears to be a glaring omission especially when *Jamia Millia*, the late President's bold experiment in basic education, will be celebrating its diamond jubilee next month.

Even more striking is the absence of teacher-oriented programmes. The present state of affairs in education is partly due to the severance of the link between the teacher and the taught, which has left the student famished and under-developed, while the teacher has become barren and sterile. There is need to re-establish the old relationship of understanding and confidence between them. Let us not forget that while Plato disagreed with Socrates and so did Aristotle with Plato, none of them dared to ridicule his teacher. And, indeed, one of the greatest books of all times, namely Plato's *Dialogue*, is a tribute to an indefatigable teacher. For the spiritual and intellectual regeneration of the Indian society it is necessary to restore to the teacher his venerated status of *Guru*. Through all the stages of education, it is the teacher who remains a dominant influence in the making of a pupil's personality and in moulding the citizen of the future. If education is the gateway to wisdom, the teacher, as the transmitter of knowledge, holds the key to this gateway. By side-tracking or denigrating him, youth will get lost in the wilderness of Time.

EDUCATION FOR THE SEVENTIES

INDIA LAUNCHES INTERNATIONAL EDUCATION YEAR

In 1968 the General Assembly of the United Nations passed a resolution designating 1970, the first year of the Second Development Decade, as "International Education Year". The decade is to be devoted to a massive and concerted effort to eradicate poverty, ill-health and ignorance. This, it is universally recognised, can be spear-headed by the spread of education. In India, the International Education Year was formally launched by President V.V. Giri on July 18. During the year the country is to take a fresh look at the existing situation and draw up plans to meet more effectively the present and future needs to the extent that this can be visualised. In this article, the author reviews the progress so far made to spread education and to eradicate illiteracy and the steps contemplated to remove this great impediment to progress.

D. P. NAYAR

SINCE Independence India has made tremendous progress in the field of education. The magnitude of the operations involved has very few parallels in history. The number of children in classes I-V increased from 19 million in 1950-51 to 56 million in 1968-69, and will further increase to about 69 million by the end of 1973-74. This enrolment as percentage of the population in the age-group 6-11 increased from 42.6 in 1950-51 to 77.3 in 1968-69 and is estimated to increase to 85.2 in 1973-74. The number of children in classes VI-VIII attending schools has increased more than four times by the end of 1968-69, from 3 million in 1950-51 to 12.3 million. In terms of percentage of the age-group 11-14 it increased from 12.7 in 1950-51 to 32.3 in 1968-69 and will be 41.3 in 1973-74. In the case of children in classes IX-XI the enrolment has increased from 1.2 million in 1950-51 to 6.6 million in 1968-69 and will go up to 9.7 million in 1973-74. Taking school-going children as a whole (age-group 6-17) their number has increased from 32 million in 1950-51 to 74.3 million in 1968-69 and the percentage of children attending schools of this age-group has doubled itself from 25.4 to 51.7. This percentage will go up to 58.7 by 1973-74.

The number of universities increased from 27 in 1950-51 to 76 in 1969-70. The total enrolment at the university stage increased from 360,000 in 1950-51 to 1.69 million in 1968-69 and will increase to 2.66 million by the end of the Fourth Plan.

There was a steep rise in the facilities for technical education. The number of degree colleges increased from 49 in 1950-51 to 102 in 1960-61 and will go up to 138 by the end of 1968-69. This will represent an increase in the sanctioned admission capacity from 4,000 in 1950-51 to about 14,000 in 1960-61 and nearly 25,000 in 1968-69. The number of diploma institutions increased from 86 in 1950-51 to 195 in 1960-61 and 284

by the end of the Third Plan, representing an increase in admission capacity from 5,900 in 1950-51 to 48,600 in 1968-69. Institutions for the training of craftsmen increased from 59 in 1955-56 to 167 in 1960-61 and 318 by the end of the Third Plan. Training facilities, thereby, have increased from 10,500 in 1950-51 to 100,000 by the end of the Third Plan. These will go up to 150,000 by the end of the Fourth Plan.

Even qualitatively speaking, while there has been a general deterioration in standards, which is perhaps inevitable in a stage of such rapid expansion, the "number of good institutions and of first rate students", as President Giri remarked in his inaugural address, "is much larger today than it ever was". Some of our institutions of higher learning in many fields can hold their own against the best in the world.

IEY'S INDIAN PROGRAMME

The Indian component of the world-wide efforts during the International Education Year includes the following specific programmes with specific relationships and emphasis:

- * Pre-primary education programme, coinciding with the birth centenary of Madam Montessori on August 31.
- * Programme for improved teaching of languages, linked with the birthday of Acharya Vinoba Bhave on September 11.
- * The programmes with accent on Gandhian values in education, correlated with Mahatma Gandhi's birthday on October 2.

These achievements should give us confidence and courage to meet the challenges of the future and of the "growing disparity between the hopes of individuals and needs of society on the one hand and the comparatively limited capabilities of the educational system on the other". There is need to provide work to millions of educated people as well as build peace in their hearts. All these factors have led to a crisis in education all the world over, an arresting symptom of which is the universal student revolt.

The theme chosen by India for the IEY is "Education for the Seventies". As the Education Minister pointed out, children who will be born in 1970 will 'complete' their education towards the end of the century and will have to work in the 21st century. While it is difficult to visualise the changes that will overtake us by that time and much more so to prepare for them, a few things stand out quite clearly. The educational system will have to shift its emphasis from imparting knowledge to inculcating habits of self-help and self-study, problem-solving ability, courage and willingness to face the unknown and the inculcation of basic human values like commitment to truth and excellence, self-restraint, sense of social responsibility and tolerance. The tools of education are also undergoing rapid transformation. Institutional training through a teacher is giving place to education by radio, television, correspondence courses, programmed learning, etc. The concept of life-long education is taking the place of completing education in a limited time span.

Keeping these challenges in view, the IEY programme, drawn up by a Central Committee, is a comprehensive one extending from pre-primary education to the university stage, including the education of the adults. There will be pilot projects for pre-school

The quest for work for all and peace for all mankind are now the greatest needs of humanity and I believe that both work and peace can be joined together in a new orientation of education anywhere in the world.
V. V. Giri

education, especially in rural areas, with the help of the local communities.

SALIENT FEATURES

At the primary stage a programme will be launched to emphasise Gandhian values in education—work experience, community service and equal respect for all religions. The States have been requested to accord high priority to the expansion of primary education, especially among girls; and to mobilise local resources for the improvement of primary education on the pattern of Tamil Nadu.

Pilot projects in vocationalisation of secondary education will be launched. A more ambitious project is to attempt intensive educational development at all levels and link it effectively with socio-economic development in a few selected districts.

At the university stage, the accent will be on the development of informal methods of education, quality improvement and provision of student amenities and participation.

Technical education will be improved and more effectively linked with industry.

Other programmes will concentrate on development of languages, adult education, television, etc. There will be programmes for improving international understanding and widening the areas of co-operation. The programmes will be of two types: seminars and conferences, where the problems will be thought out, and action programmes. "Our overall attempt", said the Education Minister, "is to develop an action-oriented programme directed towards Education in the Seventies".

LINK WITH FOURTH PLAN

A question arises as to how these programmes are related to the Fourth Five Year Plan, to which all the resources we could muster, have been committed. Does the IEY lead to a diversion of effort from a Plan conceived in the national situation to remote and comparatively irrelevant but fashionable international considerations? That this is not so should be plain from what has been stated in the previous paragraphs. The work during the IEY will not be a diversion from our planned effort but an intensification of it—an intensification resulting not so much from pumping in of additional money as from a strengthening of the national will, resulting from the consciousness of a mighty purpose shared with the entire world community. It is in this context of energising the national will that what the Education Minister said gains special significance:

(turn to PAGE 21)

PROGRESS OF EDUCATION IN FIVE YEAR PLANS

* The number of children in classes I—V increased from 19 million in 1950-51 to 56 million in 1968-69 and will be 69 million by the end of the Fourth Plan.

* Middle school attendance (for classes VI—VIII) rose four times from three million in 1951-52 to 12.3 million in 1968-69.

* Enrolment in classes IX—XI stepped up from 1.2 million in 1950-51 to 6.6 million in 1968-69 and will go up to 9.7 million in 1973-74.

* The total number of school-going children between 6 and 17 years increased from 23 million in 1951-52 to 74.3 million in 1968-69.

* The number of Universities in India increased from 27 in 1950-51 to 76 in 1969-70.

* The number of college-going students rose from 36,000 in 1950-51 to 1.69 million in 1968-69 and will be 2.66 million in 1973-74.

PRE-PRIMARY EDUCATION IN DEVELOPING DEMOCRACIES

A. M. JOOSTEN

A total transformation of the existing educational system is essential to prepare the children of today adequately for the vastly complex and rapidly changing world of tomorrow.

V.V. Giri

The defence of the child, the scientific recognition of his nature, the social proclamation of his rights, must replace the piecemeal ways of conceiving education.

—Dr Maria Montessori

PERHAPS no one has done more than Dr Maria Montessori, both in theory and in practice, to help society become conscious of the general importance of the pre-primary stage in education, or perhaps better education during the earliest years of human life. It is now universally conceded by child psychologists and others that this is the stage during which the foundation, and consequently the whole future development of man, is largely determined. No one has helped us more than Dr Montessori to realise its far reaching implications. She made this the corner-stone of a world-wide social campaign. She, too, has helped us take the first steps towards its active implementation by pointing out that we must re-define the meaning of education in order to be able to extend it practically to these early years. Education must be distinguished from mere teaching. The latter can hardly be directed towards the very young child who is still largely inaccessible to verbal instruction and, at the same time, needs so much more. Dr Montessori, therefore, reminds us that the first and most comprehensive task of education consists in "helping life". Thus conceived it can have no other point of departure than the beginning of life itself. Its application from this earliest moment onwards implies recognition of the fact that right from its start, human life is psychical as well as physical.

It was again Dr Montessori who has thrown light on the importance of the environment in which and at the expense of which the child lays the foundation of his personality during the earliest years of his life. Also, she has pointed to the evident necessity to "prepare" a special environment for the child of at least 2½ years onwards, an environment which serves, by its contents and organization, as a "means of development" as well as provides a medium of development. The penetrating studies of modern biology which deal with and demonstrate the vital relationship between the living being and his environment support this claim.

Children find themselves in an environment not merely shaped by adult men, but determined almost exclusively by the adults' own needs and by their economical and cultural possibilities to satisfy them. These needs and possibilities differ widely from family to family, from society to society, horizontally in space and vertically in time. Yet, they differ as a whole from the needs of the developing child. Awareness of this basic difference again varies greatly among individual adults, or groups of adults. Often the child's rights and personality are recognised only to the extent to which his needs seem to approach those of the adult and practical education itself is still largely an attempt to transform the child as much and as early as possible into a being accepting and conforming to the standards of adult life.

This denial of the child's vital needs and rights and our failure to provide for his satisfaction is naturally increasingly serious as we go back towards the beginning of life, whilst, at the same time, it is exactly during those early years that development is most decisive and the environment exercises its greatest influence. The disproportion between the fundamental achievements of early development and the accidental character of the environment in which it takes place creates a situation which is biologically unique and, from a social point of view, the very opposite of democracy.

CONTRADICTORY CONDITION

We educate the child under conditions contradicting the very goal of our educational effort. The human being educated under undemocratic conditions, denied its most vital rights and prevented from satisfying them by an inadequately prepared environment, forms an undemocratic personality which is unprepared for democracy. That later on he will be "taught" the principles and merits of democracy means next to nothing.

It is not what we learn that determines how we live, act and think, but what we are. What we have learned is often revealed by our lips only and passes through us, without really affecting us, along the shortest road from ear to mouth. What our whole being and life should embody and reveal must have penetrated the whole of our being. It must have been "absorbed" and made into a living part of our living being. It is the very young child who possesses the fulness of this absorbing power and it is on the environment that he exercises it.

Hence the great importance of preparing an educational environment for the young child which corresponds to his developmental needs and to do so equally for all children and at the time when they most need it. To leave the child at the mercy of an accidental environment which, basically, ignores him, is to ignore democracy as a factor of education and, therefore, to make of its opposite a constituent element of the developing personality.

LIMITED FAMILY INFLUENCES

Where pre-primary education is not made available in all its implications and according to all its requirements, the individual child will be at the mercy of an environment determined not in relation to his needs but by the accident of his birth in a particular family, its economical and cultural capacities and its degree of sympathy with and understanding of the child as a human (psycho-physical) being in course of development. This perpetuates and creates differences between child and child, future adult and future adult, which touch his very personality and the inner strength and wealth at his disposal during the rest of his life. The differences thus created are, therefore, much greater and go much deeper than others already taken into consideration. They have a bearing on social problems like delinquency, social and moral under-development, at a level hardly ever really considered.

Whatever attempts are being made to counteract influences that add to social dangers, take into account only positively bad influences. They hardly consider the much more widely diffused circumstances that cause what modern psychology calls "mental starvation". Measures advocated are directed towards an always difficult improvement of conditions in this or that definitely immoral, anti-social or materially distressed family. Only at the level of the primary school is envisaged the practical possibility of a balancing and outweighing second environment. And then it is already too late.

NEED IN INDIA

Human democracy requires that we do not work only for the few whose conditions are so evidently outside normality that we cannot help noticing them and at an age when their consequences also can no longer escape attention. It requires us to work for all those whose condition, without being outright abnormal, fails to do justice to their legitimate and essential needs. It is not the extent of remedial measures but the extent of its prophylactic and hygienic provision that characterizes the democratic welfare state. No prophylaxis and hygiene can, however, be considered complete, until it includes and concentrates on the years of early development and on development as a whole of the human being.

These considerations, however brief and incomplete, already lead us to give special importance to pre-primary education in India because India has pledged itself to democracy. Its strenuous efforts, against all and great odds, in the field of primary education bear witness to it, but primary education comes too late. It helps construct on a foundation, it does not help laying that foundation and is, thereby, limited by that foundation's quality and extension.

RURAL CONTEXT

Primary education also meets with difficulties independent of the nature and the laws of development itself and these difficulties are thereby more serious at one place than at another. Being directed towards children from 5 to 6 years onwards it fails to meet the greatest need of rural society, and India is and will for a long time continue to be a predominantly rural society. Here it is the children below 6 years who are most abandoned and cannot receive adequate care and guidance. Their parents work in fields and home, older children can be and are already associated with these activities and can also, therefore, often be ill-spared even for schooling, but the very young are not and cannot. Co-education still meets with traditional opposition at older ages which is hardly felt where the children are very young, whilst the very numerical limitation of a rural community makes separate schools for girls and boys hardly possible on economic grounds.

Primary education also, in order to be really effective, requires at least 6 years, while pre-primary education covers only 3½ years and can within this period achieve at least a lasting foundation of literacy, basic arithmetic and general culture. The so-called "exercises of practical life", which are so prominent a feature of Montessori pre-primary education, not only directly influence improvement in habits of hygienic and independent living, but also meet with full success and inner interest among the very young. If, therefore, rapid extension of education is our aim and if this aim is to be achieved in spite of severely restricted means, a start made at the pre-primary stage offers evident and impressive advantages.

The very way of imparting education meets with less difficulties at the pre-primary stage. Primary education is not yet ready to give up class teaching, but there are few rural schools which can afford to have a class teaching for each age-group which often contains an uneconomically limited number of pupils. So we see several age groups combined under one teacher who, however, cannot within the frame-work of his methods do justice to them. In a pre-primary school this problem need not arise and the application of the Montessori Method even prevents it from arising as it requires, on psycho-pedagogical grounds, that children of 3 successive ages be grouped together. That these children will in their turn prove of great benefit to primary schools need not be mentioned. Not only will they have been prepared to a considerable extent, but they will also be more or less of the same age on entering a primary school.

Lastly, education cannot and may not be restricted to children only. Social uplift forms an integral part of

It was the courage, vision, fortitude and above all compassion of Maria Montessori that unlocked the secrets of childhood and gave the world a glimpse into the making of the Man.

MARIA MONTESSORI

A CENTENARY TRIBUTE

HAMEEDUDDIN MAHMOOD

THREE women—one from Poland, another from England and the third from Italy—have left their indelible imprint on the tablets of eternity. Their work, transcending the geographical limits of their own countries, transformed the world so definitely and permanently that it will never be the same again. Marie Curie, the Polish woman discovered Radium. Florence Nightingale, the woman of Victorian England, gave to the world the modern profession of nursing and revolutionised medical services across the seven seas. This lady with the lamp shed light and love in the darkness and sorrow of death and decay.

Maria Montessori, the Italian, unlocked the heart of the child and gave the world a glimpse into the making of the Man. Her legacy, known as the Montessori Method of education, applied to children from birth to adulthood, demolished all the prevalent misgivings about the ability of the child to learn and understand. Sustained by faith and aided by scientific insight, Maria Montessori established experimentally that the child was the father of man. To her, the child was God. She went to him with a feeling heart, a burning faith and an irrepressible love that swelled within her on the mere sight of him. If it were not for the injustice wrought on the child by the adults, Maria Montessori probably would have ended up only as one of the many successful medical practitioners in the ancient capital of Rome. The hapless misery of children in a "lunatic asylum" and the unsightly deprivation of the children of a Roman slum motivated



this beautiful, young Italian doctor into dedicating her entire life to the rebuilding of the tremendous human potential in a child.

Young Maria, at the age of 14, had opted for mathematics and joined a boy's school yearning for a career as an engineer—both of which were unimaginable in the 19th century Europe. But by a quirk of fate she became, in 1896, Italy's first woman doctor and one of the very first on the continent itself.

Just as men have trodden the earth and later tilled its surface without thoughts for the immense wealth hidden in its depths, so the men of our day make progress after progress in civilised life, without noticing the treasures that lie hidden in the spiritual world of infancy.

—Dr Maria Montessori

While working at the Psychiatric Clinic attached to the medical faculty of the University of Rome, Dr Montessori came in contact with a bunch of mentally deficient children. With a woman's instinct and tenderness and doctor's pathological insight Maria discovered that a mere medical course of treatment would be futile unless it was supplemented by an educational approach. She succeeded in having a separate institution set up for the purpose and in two years of rigorous, painstaking labour helped the children recover as much of their dormant faculties as the unfortunate ones could do. Helped by her care and assistance, these very children appeared at a common public examination and did quite well and in some cases even better than the normal children. Maria had wrought a miracle in the city of Nero, the Sadist.

In 1907, came another challenge. Though the children now were not mentally retarded, they were worse still, afflicted by poverty and privation. As a social worker she was called upon to take care of the children of poor illiterate parents of a slum in Rome. Added to this sad ecology was an even greater hurdle. Unlike the earlier group of children, this wretched lot was all below six years of age, with whom, according to the contemporary conviction, nothing even remotely resembling education could work. Maria set out to apply her methods and techniques, learnt, improvised and invented during the earlier experiment, to find out if these could work on children handicapped by social circumstance and low age factor. Her approach and techniques proved remarkably efficient, workable and effective. The negative traits of

turn to PAGE 21

these urchins faded, revealing the gentle, sensitive facade of true humans craving for development, responding to help and assistance as it trickled and telescoping their energies and capacities to grasp anything within their reach, more quickly and readily than the adults would do.

Maria had performed the miracle again. In a manner consistent with the scientific genius and temperament, Maria re-assembled the elements of the two situations and studied and analysed in the most scientific fashion the factors that helped the two sets of children rally back to fullness of their inborn talents, and standardised the tools, techniques and practices of her method of education. The resultant system came to be known as the "Montessori Method", which she further perfected by extending its application from childbirth to adulthood. The system was tried with exemplary success on an infinitely varied scale, embracing different ethnic, linguistic, social, cultural, geographic and even religious settings. The result was always an astounding success revealing the even more astounding powers of the child to respond to his needs, stimuli, assistance and opportunities.

A new educational philosophy had been shaped and a new system of education had taken birth which "helped the child" by "learning from him." Maria had penetrated the core of the Man in its stage of formation and revealed the nascent glow of the original human material that lies embedded in the child, remaining dormant and ultimately destroyed if denied expression but revealing its radiance when tapped and released.

Like the great religions of the world that swept across the globe from their single source of illumination residing in their preceptors, the Montessori Method radiated in all directions to all lands. She herself became its preacher. Giving up her job, she travelled from place to place and country to country helping the adults "discover the child" and the secrets residing in him.

During the course of this globe girdling, Madam Montessori came to India twice and spent ten years, from 1937-1946 and from 1947-1949, setting up Montessori Centres and spreading her magical method of

understanding and helping the "formation of the man" in the child. The cream of Indian leadership, itself devoted to secure its renaissance, received her with folded hands, helped her and lauded her. India even sponsored her name for the Nobel Peace Prize in 1950. Two years later on May 6, Dr Maria Montessori breathed her last. In her demise, the world lost a pioneer in the field of education of the mentally defective children, the founder of pedagogical anthropology

Noble ideals and high standards we have always had. Yet warfare and strife show no signs of abating. And if education is always conceived along the same antiquated lines of a mere transmission of knowledge, there is little to be hoped from it in the bettering of mankind's future. For, what is the use of merely transmitting knowledge if the individual's total development lags behind? Instead, we must take into account a psychic entity, a social personality, a new world force, innumerable in the totality of its membership, which is at present hidden and ignored. If help and salvation are to come, they can only come from the children, for the children are the makers of men.

Dr Maria Montessori

and the inventor of a new system of child education. But her legacy—the Montessori Method of education—shall continue to illumine the minds and hearts of millions and millions of children the world over and each year on August 31, her birthday, succeeding generations of men and women will offer their grateful tributes to her fond and everlasting memory, for the memory of Maria Montessori is enshrined permanently in the hearts and lips of all children all around the world.

March of Planning

FOREIGN AID EIGHT PER CENT OF TOTAL OUTLAY

Self-reliance is one of the main planks in the strategy of development in the Fourth Plan. This is reflected in the reduction in foreign aid to only about eight per cent of the total outlay as compared with 20 to 30 per cent in the Third (1961-66) and Second (1956-61) Plans.

Net aid for the entire Fourth Plan period, beginning 1969, is estimated at Rs 1,850 crore which is nearly half of what was received during the Third Plan. India will require about Rs 10,150 crore in foreign exchange, apart from debt service payments to the International Monetary Fund of about Rs 2,560 crore in the Fourth Plan.

The foreign exchange requirements amounting to Rs 8,300 crore are to be met by increasing exports from Rs 1,360 crore in 1968-69 to around Rs 1,900 crore in 1973-74. In order to achieve this, export policies will be properly extended and institutional arrangements made for export promotion.

The reduction of net aid in the Fourth Plan is closely linked with more domestic savings and resources and even balance of payments through increasing exports and keeping down imports. There will be emphasis on additional mobilisation of internal resources in a manner which will not give rise to inflationary pressures.

It is planned to do away with concessional imports of foodgrains under PL-480 by 1971. Foreign aid net of debt charges and interest payments will be reduced to about half by the end of the Fourth Plan as compared to the current level. Planned increases in production of foodgrains, raw materials and manufactured goods are likely to restrict imports to manageable proportions.

PROBLEMS OF THE YOUNG

O. P. MITTAL

INDIA is passing through a period of big social changes due to the weakening of the traditional authority. The situation calls for a new approach to the problems of youth. The need is evidently to secure a higher degree of stability, planning and organisation within four major areas: (a) family and community, (b) leisure and recreation, (c) formal education, and (d) employment and preparation for work.

The youth needs opportunity for self-expression, comradeship, community life and national service. The aim of the youth programmes is to assist the younger generation in their development and in making social adjustments to lead a healthy, happy and usefully creative and constructive life as well as to promote national consciousness and international understanding.

The age group 12-30 is generally regarded as youth in this country. It is divided into three stages: adolescence 12-17, youth 18-21 and young adults 22-30. According to the 1961 census, the total number of those in the age group 12-30, was estimated to be over 151 million which constituted about 34 per cent of the total population. By 1981 India's population is likely to increase by another 250 million of which about one-third may be in this category.

There is, at present, no information available on the nature and magnitude of the problem of youth in specific age groups in terms of literacy, occupation, employment position, interests, attitudes, apti-

Need for an Appropriate Policy

tudes as also the needs and aspirations of rural and urban youth. Factual information is necessary to gauge the extent and various manifestations of youth problems. There is need to promote studies through universities, schools of social work and other related research and training institutions to help in analysing the problem in all its facets.

Youth welfare programmes have been organised under the Plans and most of these are being continued in the Fourth Plan. These include labour and social service camps, youth leadership training camps, scout and guides, youth festivals, youth hostels, holiday homes, *Bal Bhavans*, *Yuvak Mandals*, Young Farmers' Forums, pre-vocational training centres, condensed courses of education for adult women, National Employment Service and Craftsmen Training Institutions. In the First Plan, a provision of Rs 1.05 crore was made for youth welfare programmes. Of this, about Rs 98 lakh were spent on organising labour and service camps for students. Nearly 1,470 camps were organised in which about two lakh young men and women participated.

In the Second Plan, Rs 2.8 crore were set apart for the scheme 'Labour and Social Service Camps' and Campus Work Projects and other Youth Welfare Programmes such as Youth Festivals, tours, hikes, etc. The National Cadet Corps, the Auxiliary Cadet Corps and the Bharat Scouts and Guides movement were strengthened. Under Campus Work Project, 517 projects, such as swimming pools, recreational halls—cum-auditoria were constructed with the help of teachers and students.

An additional amount of Rs 4.97 crore was spent on youth welfare activities and physical education programmes. An expenditure of Rs 7.4 crore was also incurred in the States Sector.

During the Third Plan period, a total provision of Rs 14.6 crore was made under education—Rs 8.8 crore at the Centre and Rs 5.8 crore in the State Plans—for physical education, sports, games, N.C.C., A.C.C. and other Youth Welfare activities. Since most of these programmes and activities were organised through educational institutions, the benefits mostly reached students. The non-student youth were covered mostly through youth welfare programmes organised in 4,471 Community Development Blocks.

The Fourth Plan provides an outlay of Rs 16.2 crore for the various youth welfare programmes in the country.

Community Life

The family life plays an important role in the physical growth, behaviour and moral training of the youth. At the same time, new economic, social and political forces tend to alienate the youth from the accepted norms and create problems of adjustment. There is a trend towards increasing fragmentation of social life and a decline of the close-knit community.

Social control in a community lies in the hands of "elders" and the youth are subjected to a constant surveillance, help and guidance. Such conditions continue in our society not only in rural and tribal areas, but also in mining fields, small towns and older *mohallas* of larger cities. The family and the community, in these conditions, have to accept a greater responsibility towards the youth. In the changing circumstances, a lowering of moral standards in public life may lead to a wide-spread feeling of bewilderment, frustration and unhappiness among the youth.

The community needs provision for health, and leisure-time activities on a permanent basis. The

519 MILLION YOUNG PEOPLE

In 1960, there were 519 million people in the world in the 15-24 age group. By the year 2,000, there will be 1,128 million of them.

State, local authorities and voluntary organisations need to organise youth services on a wide scale to give opportunities to young persons in their formative years to take part in leisure-time programmes which they will enjoy and which will help in their development. Efforts have to be directed towards enrichment of leisure hours through indoor and outdoor activities, occupying mind and body in social and cultural pursuits, and taking part in sports and adventures like mountaineering. The youth have also to be encouraged to participate in social services. A beginning has been made for the university students through the National Service Scheme. The Education Commission, which had earlier recommended the introduction of such a service, had observed that this may become an instrument to build character, improve discipline, develop a liking for manual labour and develop a sense of social responsibility. Such a programme will also expose the students to various social problems. Since the National Service Scheme is the first major attempt towards a comprehensive youth welfare programme, which may also cover non-student youth later, it seems necessary that there should be built-in evaluation, effective supervision by trained staff and proper orientation of the youth before they are placed in the actual work situation.

Education Policy

The education policy has a great bearing on the development of the youth. The recommendation of the Education Commission (1964-66) formed the basis of the national policy on education and provided the framework for the formulation of the Fourth Plan for the educational sector. The Commission observed that Education in India needs a drastic reconstruction, almost a revolution. It further emphasised the need to bring about major improvements in the effectiveness of primary education; to introduce work experience as an integral element of general education; to vocationalise secondary education; to improve the quality of teachers at all levels and to provide teachers in sufficient strength; to liquidate illiteracy and to pay special attention

to education and research in agricultural and allied sciences.

There is an upward trend in the enrolment of the youth in educational and technical institutions. During the Fourth Plan period the percentage of enrolment in educational institutions in the age group 11-14 is proposed to be raised from the existing 32.2 to 41.3. The enrolment capacity for the age group 14-17 is expected to be increased to the level of 96.9 lakh covering nearly 24.2 per cent of those belonging to this age group. The enrolment of students in the universities is likely to touch 26.6 lakh figure by the end of 1973-74 as against 16.9 lakh reached by the end of 1968-69.

At present majority of the young people, particularly in the age group 17 and above, remain unserved by any educational or welfare programme. In view of the large numbers involved, it is necessary to make up for the past neglect and to provide certain welfare and development programmes for this category who are often exposed to the risk of exploitation by anti-social elements. There is need to make adequate provision for the continued social and personal development of those who leave schools and for their satisfactory adjustment to the adult world of work and play. An effort is being made in this direction through the pre-vocational training programme initiated by the Central Government on a pilot basis. The scheme deals with educational and vocational problems of early school-leavers as well as drop-outs in the age group 11-14 years who are not able to continue their academic education due to economic, social or personal reasons. There are at present 64 pre-vocational centres functioning in the country with an enrolment of 3,512 trainees. During the period 1966-69 about 1,930 trainees had completed the course.

The Study Team on Pre-Vocational Training had observed that the programme should be continued on an experimental basis. It recommended a reorganisation of the existing courses and introduction of additional full-time and part-time courses in home crafts for girls and agricultural trades for boys. The Fourth Plan provides an outlay of Rs two crore for this purpose. Special

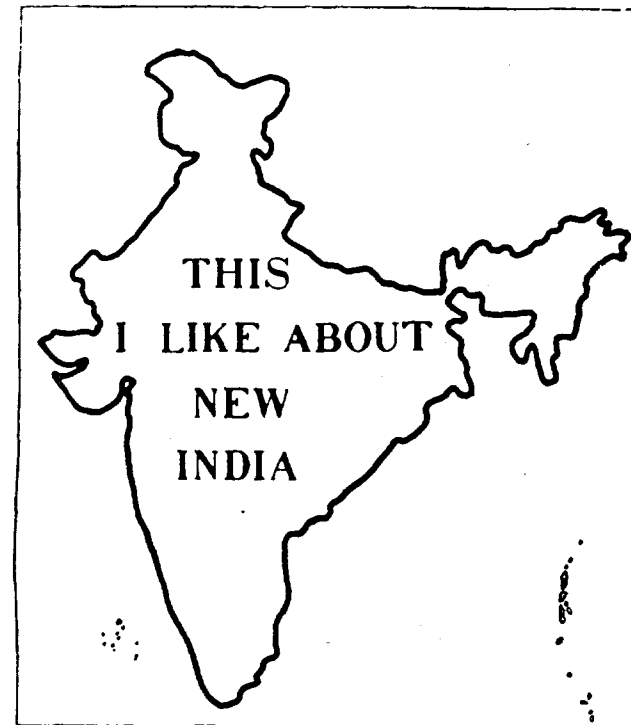
programmes have also been designed for the non-student youth.

National Commission

Nothing is more frustrating to the young people than being unemployed or under-employed or having no incentives and avenues for further progress in their careers for an indefinite period. At the end of June 1969 there were 31 lakh persons on the live registers of the 409 Employment Exchanges in the country. This included about 13 lakh job-seekers with educational qualifications corresponding to matriculation and above. In addition, there were a large number of unemployed and under-employed young adults in both rural and urban areas who did not get themselves registered in the Employment Exchanges.

No one exactly knows what is happening to the large number of young people who are neither in educational or vocational institutions nor are moving smoothly into employment positions. The problem has reached a level of crisis requiring an extraordinary effort to find solution. Amongst the educated youth the continued unemployment results usually in an attitude of apathy and defeatism. A major tendency is to lose interest in all forms of active life. The revolutionary youth movements in Europe before the Second World War found their leadership in the unemployed graduates who looked forward to a brilliant career. India seems to be passing through a similar phase.

The need is to enunciate a policy and programmes which may be based on the experience of the past, adjusted to the realities of the present and adequate to foreseeable needs of the future. Such a task could be effectively carried out by constituting a National Youth Commission. Efforts may have to be directed towards bringing the four operational partners together—the official organisations, the local authorities, the voluntary agencies and the youth themselves at different levels to review, plan and design programmes, keeping in view the age groups to be served, local variations and availability of resources.



R. G. BANSAL

A Necklace of Projects

MOTHER India is wearing today a necklace not of pearls but of development projects. These projects are the results of sweat and toil. Any unprejudiced observer will readily concede that the industrial face of India has changed beyond recognition. Think of India minus these projects and we will see nothing but vast emptiness.

These projects are sinews of our nation and are building a sizable army of technical experts. They are spreading a new gospel that giant mills, factories and mines can be run by society without individual ownership.

B M. GARG

Impressive Progress of Railways

I am impressed by the extent of progress and efficiency achieved by India's Railway system. After 23 years of Independence it has undergone remarkable changes. Fast and de-luxe trains have been introduced to provide speedy, comfortable journey between cities like Delhi, Calcutta, Madras and Bombay. If you happen to take a trip by the Taj Express travelling from Delhi to Agra, it is not difficult to visualise the future that lies ahead. The Railways' contribution to country's economic growth has been invaluable and they have been a powerful instrument of social change.

During the past few years our Railways have become largely independent of imports for their needs of components, wagons and locomotives. It is gratifying to note that the production of locomotives and allied components has increased from 20 to nearly 80 per cent and is expected to rise further. This means a saving of about 25 million dollars annually.

With the present accent on efficiency and modernisation, Indian Railways seem well equipped to contribute even more effectively in the future to the country's social progress and continued economic growth.

M. ATCHI REDDY Tribal Sincerity

IT is almost one year that I went to meet my friend who was working on a power project situated in Dandakaranya. I drove by car through a thick forest and reached the place around 10.30 A.M. I found the "ghat" road leading towards a group of thatched huts on the slope of a deep valley. When I went close to those huts, my car was stopped by some people holding traditional bows and arrows in their hands. They forced me to get down and requested me to enter a small hut by the side of the road. I was afraid of them and was really perplexed when I found myself alone among those tribals. When I entered the hut I found there large-size photos of Mahatma Gandhi, Shri Nehru, Shri Alluri Sitaramaraju, their late patriot leader, and others. I found some people there enjoying music from their transistors and others performing 'bhajans' and singing songs in their tribal dialects. I felt greatly relieved. After some time they offered me 'prasada' and coffee and a crude tiffin, all in stainless steel plates and glasses.

Their leader told me in Telugu that it was their Independence Day Celebration. He explained that all this progress had been achieved as a result of a 'coffee growing scheme' sponsored by the Tribal Welfare Department. When they bade me farewell I found my car full of flowers and fruits.

CALLING ALL READERS

Yojana invites contributions from its readers to new feature "This I like About New India". We desire to encourage our readers to tell us about the country's achievements which are significant.

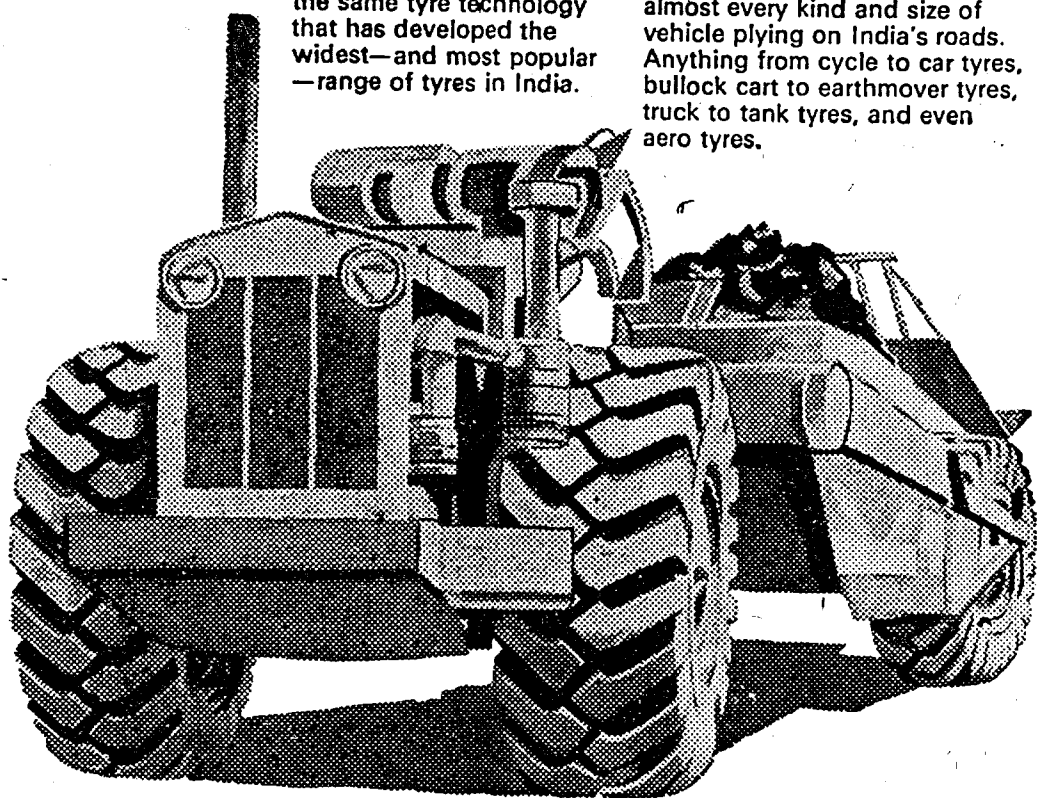
Contributions, not exceeding 3000 words, should deal with some positive aspect of individual or collective endeavour in New India. Contributions stating age and field of activity and address of the contributor, should be addressed to:

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DEVELOPMENT PROBLEMS OF WEST BENGAL

SUNIL BANIK

WHEN the First Five Year Plan was launched in 1951, the economy of West Bengal was in a bad shape. In later years, however, no concerted effort was made by the State Government to diversify and modernise the economy. Meanwhile, the population increased at a rate higher than the national average and the influx of displaced persons from East Pakistan created serious problems for the State, which was already heavily dependent on imports of foodgrains and other agricultural commodities. Even after three Five Year Plans, the present shortage in foodgrains is estimated at 20 lakh tonnes.

Although most of the State Plan outlays were spent on agriculture, production remained stagnant and inadequate, mainly because of the lack of irrigation facilities, timely and adequate credits and supply of essential inputs. For example, the percentage of gross irrigated area to total cultivable area at the end of the Third Plan was less than 30 per cent in the State, as against 45.51 per cent in Tamil Nadu. The percentage of land cultivated more than once to the total cultivated area was only 17.4 in 1962-63. The increase in the index of agricultural production (1949-50=100) was only 130.10 in 1961-62 and 139.51 in 1967-68. The increase in agricultural income during the years 1960-61 to 1967-68 was only 0.72 per cent, as against 4.06 in Punjab and 4.14 in Gujarat.

The land reform measures, which had been passed, and the land tenure systems formulated before 1950 were never seriously implemented. Most of the amount allocated

in the Plans for rural electrification remained unutilised. Similarly, funds earmarked for rural irrigation and flood control projects were not spent fully.

If agriculture failed to prosper, industry did no better. Industrial activity in the State during the Third Plan period and in recent years has been almost stagnant. The share of West Bengal in the industrial income of the country declined from 28 per cent in 1948 to about 14 per cent in 1967. While a larger number of new private enterprises have been coming up in other States, there has been a decline in private sector enterprises in West Bengal. The per capita income of the State also came down from Rs 461.9 in 1960-61 to Rs 450.2 in 1967-68.

The Causes

Many factors have contributed to the decline in the economy and limping industrial life of the State. One of them is the absence of perspective planning and requisite infrastructural facilities at the State level. Secondly, the State Government has not been able to provide attractive financial and other incentives to prospective entrepreneurs to set up new industries, especially in selected growth centres. There is also a sense of frustration among entrepreneurs on account of the alleged discrimination against the State by the Centre in granting assistance and economic facilities. Thirdly, the development of Calcutta Port, from which the State economy largely draws its sustenance, and also of the Calcutta Metropolitan area, which generates about 58 per cent of the total income of the State, have been neglected. The politics-oriented trade unionism, encouraging

militancy and indiscipline, has created a climate which is not congenial for industrial development and investment. Industrial relations in the State have now reached a critical point. The total number of work stoppages mainly due to strikes and lock-outs and the resultant loss of man-days have been steadily increasing. The number of work stoppages increased from 438 in 1967 to 790 in 1969. The total man-days lost increased from 50.16 lakh in 1967 to 102.73 lakh in 1969 (in Maharashtra the loss of man-days in 1969 was only 1.27 lakh).

The labour trouble and the lack of adequate financial and raw materials support have forced many factories to close down, and many more are "sick". There is no accurate count of the smaller industrial units which have had to close down since 1967 in the wake of the recession. About 160 factories and firms involving 29,920 employees are now closed. The average of daily workers in the registered working factories declined from 8.80 lakh in 1965 to 8.52 lakh in 1968.

Mounting Unemployment

Industrial recession has accentuated the already acute unemployment problem in the State. The number of applicants on the live registers of Employment Exchanges at the end of 1969 was 4.96 lakh. It increased to 5.16 lakh in March 1970, the highest among the States, compared to 2.91 lakh in Maharashtra, 2.41 lakh in Kerala and 1.29 lakh in Gujarat. At the end of the Third Plan, there was a backlog of about 15 lakh, and it is estimated that about 4 lakh more will join the labour market every year. The most disturbing feature of unemployment, however, is the growing number of the educated unemployed, which has contributed to increasing social distress and tension in the State.

As a result of the unhealthy economic climate and other factors caused by political uncertainty, several business firms have been thinking of shifting their factories and offices outside the State, despite the fact that West Bengal has some built-in advantages for business enterprises. Several industrial concerns, which have factories outside the State, have

already shifted their offices from Calcutta. This has resulted in further shrinkage of industries and deterioration in the existing infrastructural facilities. Many companies have given up plans for expansion or for opening branches within the State.

It is not only the private enterprises that have been suffering. Public undertakings also have been running much below their rated capacity and suffering increased losses. In the Durgapur Steel Plant alone, with its 26,000 workers, there were about 50 strikes between August 1966 and July 1969. The production of the plant was less than half its rated capacity of 1.6 million tonnes in 1969. Already the plant has accumulated a loss of over Rs 84 crore.

Calcutta Port

Calcutta Port, which suffered most following the partition of Bengal, has been facing formidable difficulties in recent years. The port charges have been going up every year due to increased dredging expenses and the need to maintain a surplus labour force. At the same time traffic at the Port has been dwindling. The gross tonnage handled has declined steeply from 13 million tonnes in 1963-64 to 6.2 million tonnes in 1968-69. While import traffic has fallen, export traffic has almost stagnated as the exporters prefer to bypass Calcutta Port to avoid high port charges. The future of the Calcutta Port now depends on the successful and timely completion of the Farakka project, the cost of which has escalated from the original estimate of Rs 56.40 crore to Rs 156.29 crore. To add to the problems of Calcutta Port, the Assam tea industry, which produces 50 per cent of the country's tea, has decided to set up a tea auction centre in Gauhati and to export tea through the Kandla Port in Gujarat. This will result in adding to the number of unemployed in Calcutta, and cause a revenue loss of about Rs 7 crore per year.

The Calcutta Metropolitan District, with an area of 1,255 sq. kms. and a population of over 7.5 million, is the largest urban concentration in India. The population of the area is expected to increase by 40 per cent by 1976, and 108 per cent by 2001. It is heartening to note that the Central Government has finalised a 5-year

face-lift plan for the Calcutta area at a cost of Rs 150 crore, of which Rs 43 crore will be Central grant. About Rs 22 crore are to be spent this year on various projects, including the extension of filtered water supply, drainage, sewage and garbage disposal. Any plan for the development of Calcutta should, however, be multi-pronged and should include the development of roads, traffic, rehabilitation of slum-dwellers and provision of other civic amenities. Similarly steps should be taken for the dispersal of economic activities and the city population outside the metropolitan area.

A New Programme

In the present situation, the economic stalemate in the State can be broken only by a massive investment programme and the restoration of better industrial relations. An investment and expansion programme, oriented to growth and employment, should be taken up without further delay.

For the development of the agricultural sector, immediate steps should be taken to implement the land reforms measures already on the Statute book. Appropriate laws should also be enacted for more equitable distribution of land, imposition of ceilings on holdings of agricultural land on family basis, conferring permanent titles on cultivators who have been tilling *khas* or vested land on the basis of yearly licences and protecting the rights of *bargadars* against eviction. Lands occupied illegally should be recovered and distributed among landless peasants.

Rural electrification, road construction, major and minor irrigation works, including tubewells, and flood control projects should be taken up in right earnest. Funds should be made available to the State, even outside the Plan outlay. The State Government has already asked for Central financial assistance of Rs 6.34 crore for flood control and irrigation projects, which will provide sizeable employment to the rural people and open up avenues for setting up agro-based rural industries.

The State, with its 34.2 lakh acres of inland-water resources and vast deep-sea fishing grounds in the Bay of Bengal, has tremendous

potentialities for developing the fishing industry. These sources, if developed, can meet the growing demand for fish in the State, provide sizeable employment, and also produce enough for exports.

It may be noted that, while the State's liabilities have increased, its own resources of revenue have not been appreciably expanded during the Plan periods. The State's revenue earning potentialities are being lost year after year due to intensive and extensive tax drives by the Centre. Unlike many other States, the increases in the outlays in the successive Plans of West Bengal were only marginal. The increase in the Fourth Plan outlay over that of the Third Plan is only 4 per cent. The State should also get more special loans. Recently, it has been decided that West Bengal will get Rs 8.5 crore as special aid for 1970-71.

The Fourth Plan outlay of Rs 322.5 crore is very much on the low side. If the State's Fourth Plan cannot be revised at this stage, sizeable Central allocations should be made outside the Plan to effectively tackle the colossal unemployment problem.

If the Central Government takes up an investment programme in the State, it will not only give a psychological boost to the investment and industrial climate, but will also solve the unemployment problem to a great extent. The rehabilitation of the 'closed' and 'sick' industrial units will help to provide re-employment to retrenched workers. The working of the existing industries to their full capacity and their expansion will promote ancillaries and create more job opportunities.

The Government will have to provide financial assistance and other incentives and take steps to ensure regular and adequate supply of essential raw materials at reasonable prices. Banks and financial institutions have a special role to play in the present situation. The new role adopted by the Industrial Development Bank to make the sick viable units and help prospective entrepreneurs is welcome. The banks should provide soft loans and open more branches. The Life Insurance Corporation also should divert more of its investments to this State.

THE KING OF KATHAK

WE are striving to revive our ancient arts and crafts, but perhaps we care little for the artists who have preserved the ancient treasures for us through generations. This fact has once again been brought home, very poignantly, by Shambhu Maharaj, the Kathak wizard, who is seriously ill.

We seem to have forgotten that a few years ago Shambhu Maharaj was an epoch-maker in the world of Kathak dancing. The country was then grateful to him, and showered honours on him. Only two years ago, he was made a Fellow of the Sangeet Natak Akademi, which is the premier institution for the promotion of performing arts. In 1955, he was given the national award for his outstanding contribution to the Kathak style. He is also among the early recipients of the national honour of *Padma Shri*. Years ago, the title *Nritya Samrat* was conferred on him by an arts conference at Dehra Dun and another title, *Abhinaya Chakravarti*, by the Madras conference.

Before coming to Delhi in 1955 as a dance teacher at the Bharatiya Kala Kendra, Shambhu Maharaj was a court dancer in the former Princely states of Rampur and Raigarh.

During his career as a Kathak teacher, he has trained scores of students, many of whom have since established themselves as dancers. His nephew, Birju Maharaj, and Sitara Devi are the most prominent among his disciples today.

Shambhu Maharaj belongs to the Lucknow School of Kathak which earned its distinct identity at the court of Nawab Wajid Ali Shah of Oudh, early in the nineteenth century. He is a grandson of Thakur Prasad who was the pioneer of the School. His father, Kalika Prasad, his uncle, Bindadin, and his elder brother, Achchan Maharaj, who were his gurus in the art of Kathak, endowed the style with an artistic excellence in rhythm and expression. Shambhu Maharaj, following in the footsteps of his forefathers, enriched it further by

widening its musical score and adding new graces to its interpretative aspect i.e. Bhava. Like his father Kalika Prasad, he became a master dancer, and like his uncle Bindadin, he composed new chores. Besides, he revived the Ashtapadi, certain Thumris and Bhajans in dance and excelled himself in Bhava.

With the dedicated efforts of Shambhu Maharaj and his predecessors, the Lucknow School has distinguished itself as, in the words of Mohan Khokar, most 'graceful, decorative, suggestive, expressive and sensuous'. It is a matter of regret that the seniormost living exponent of Kathak, next only to his revered brother Lachchu Maharaj, should be languishing in poverty and misery in the last phase of his life.

INDIA'S FOREMOST BUSINESSMAN

ACCORDING to a survey conducted by Mr Donald Robinson, a well-known American author, Mr J. R. D. Tata is among the world's Top 100 "who for good or ill pack the most clout". Mr Robinson put in four years of research, travelled more than eight million kilometres and interviewed a number of laymen and experts in every field of human endeavour. The results of his survey have been published in *ESQUIRE*, the well-known magazine for men.

The Prime Minister of India, Mrs Indira Gandhi, is the only other Indian who figures in the roll of honour of the 100 Most Important People in the world. She is described as "responsible for the daily life and well-being of 535 million people."

The reference to Mr Tata includes a photograph captioned "J.R.D. Tata, India's foremost businessman, involved in steel, heavy electricals, hydro-electric power, industrial statesmanship".

Also included in the list of celebrities are Mr Leonid I. Brezhnev, General de Gaulle; Mr Lyndon Baines Johnson, Mr. Richard M. Nixon, Pope Paul VI,



IGNORAMAN

Wants to know

If

International Education Year

is not an international
conspiracy against him

Mr David Rockefeller, Marshal Tito, U Thant and Mr Harold Wilson.

AVOID DISCOTHEQUES

Are you a regular visitor to a discotheque?

You better not, if you respect your faculty of hearing. A survey has revealed that the sound and fury in a discotheque could impair hearing.

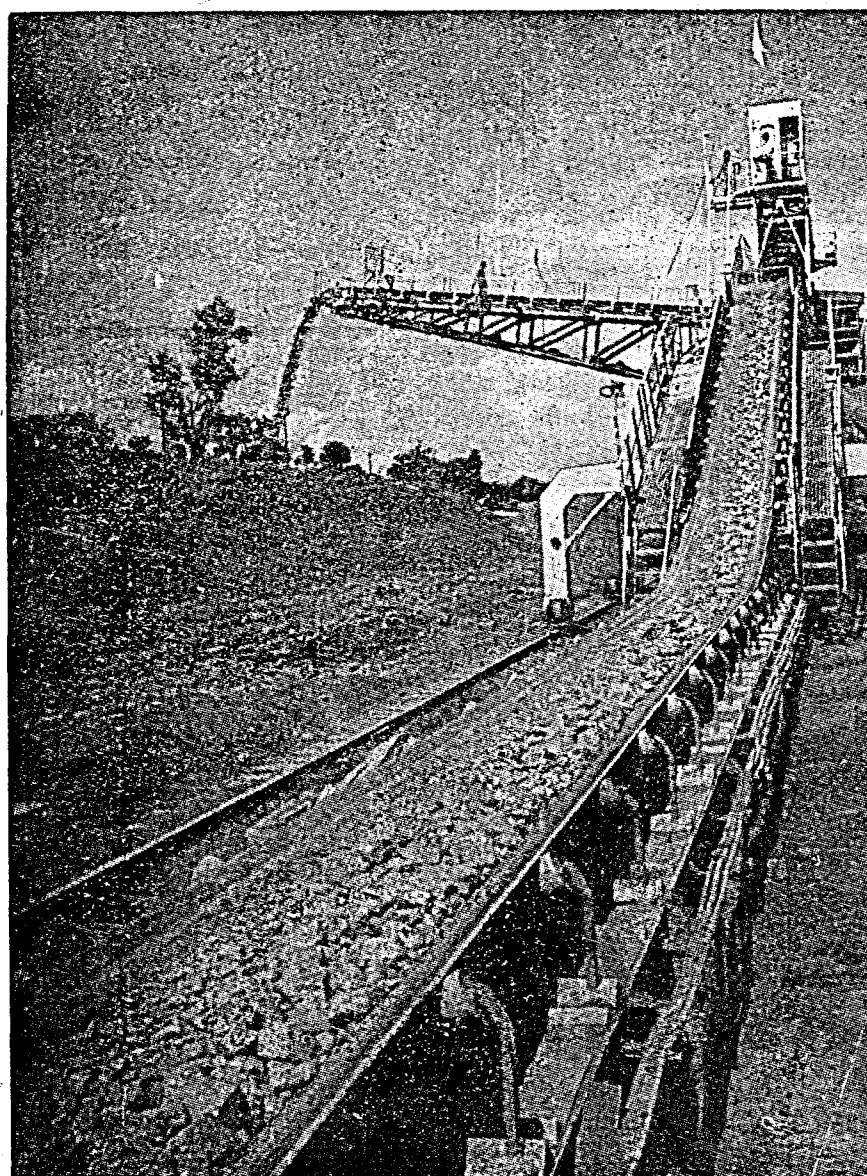
The survey was conducted in 29 discotheques and restaurants in the Swedish town of Gothenburg. It was found that about 30 per cent of the employees complained about hearing disorders. One among 15 youth attending discotheques became hard of hearing. The City's health department is now thinking of imposing a ceiling of 90 decibels on the music played in these establishments.

A NEW ALPHABET

A new alphabet of 29 single-sound letters has been devised by a retired army accounts officer. The alphabet, consisting of seven vowels and 22 consonants, and made of four kinds of horizontals on the left and right of a perpendicular, has been claimed to be useful for writing any language easily, quickly and inexpensively.

BAILADILA SPELLS BOOM

Rs 100 crore in foreign exchange will be earned by exporting 15 million tonnes of iron ore every year



This conveyor belt carries the iron ore over to the stacker. The Bailadila deposits are estimated at 3,000 million tonnes.

Right: Automatic machine fills the open rakes with the ore. Laden with ore, the train streaks forward to Visakhapatnam for shipment to Japan. By 1975, four million tonnes of iron ore will have been shipped to that country.

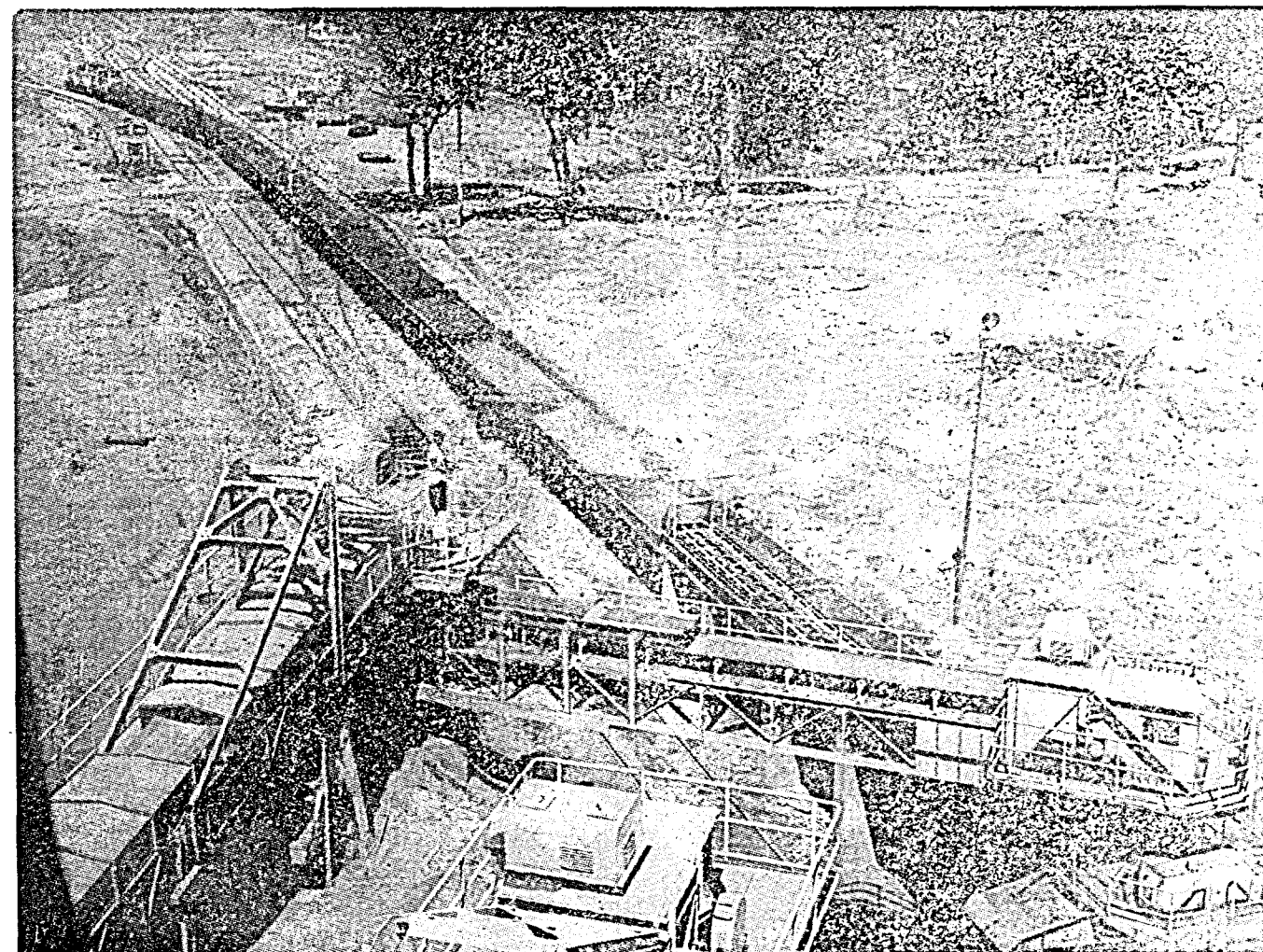
Photographs by Trilok Chand Jain, Photo Division

M. V. KHER

BAILADILA, meaning 'hump of an ox' in the local dialect of Bastar district, is a hillock 32 km in length and about four km in width, rising up to a height of about 1,250 metres above sea level. Though the Bailadila deposits had already been located by an Indian geologist, Mr. J. N. Bose nearly 75 years ago, these were investigated by Mr Asada, a leading Japanese expert, in 1957 when prospecting of the ore was conducted in the area. The survey revealed the existence of nearly 3,000 million tonnes of rich iron ore of 65 per cent density. The breakdown for each deposit is as follows: No 14: 130 million tonnes, No. 11: 215 million tonnes, No 5: 206 million tonnes and No. 13: 100 million tonnes.

In 1960, an agreement was concluded with the Japanese Steel Mills Association to supply to Japan four million tonnes of iron ore annually. In 1961, exploitation of the mines was transferred to the National Mineral Development Corporation. In 1963, the survey of Deposit No. 14 revealed the existence of 160 million tonnes of the ore. Next year, work started on this deposit which was commissioned four years later. This deposit has a capacity to produce four million tonnes of iron ore and the entire output is being despatched to Japan, yielding an annual return of Rs 28-30 crore. The ore in Deposit No. 5 is of better quality with a higher iron content but exploitation poses difficulties in that hilly tracts have to be traversed. However, it is hoped that the full rated capacity of four million tonnes of iron ore per annum will be reached soon.

The foreign exchange involved in the construction work of Deposit No. 14 was Rs 6 crore out of a total expenditure of Rs 23 crore while for Deposit No. 5 it will be only Rs 4 crore out of a total cost of Rs 38 crore. Deposit No. 5 of Bailadila, is going to be India's first "Swadeshi" Iron Ore Plant. It is expected to earn foreign exchange to the tune of Rs 30 crore from ore shipments to Japan. By 1975 the



plant will have despatched four million tonnes of iron ore to that country. The entire construction work in Deposit No 5 is to be done by Indian engineers and experts who have done the planning and designing of the deposit.

Total reserves in the Deposit are 206 million tonnes, including 106 million tonnes in South block, 36 million tonnes in North block and 40 million tonnes in the North-West block.

This Deposit will have two big crushing plants with an annual capacity of six million tonnes. Four million tonnes of lump ore could be exported to Japan and the remaining two million could be converted into palates or exported to Japan. Like Deposit No. 14, Deposit No. 5 will also have Screening Unit, Wagon Loading Unit and Fine and Disposal Sections. The Plant at Deposit No.5 will

also have a capacity of 1,500 tonnes per hour while it would also have production capacity of 500 tonnes good type of fine ore per hour.

Largest Tunnel

Deposit No. 5 is to have two tunnels, the second one will be the world's largest—2,150 metres, to carry the iron ore through the Conveyor system. The Conveyor will carry the mineral ore to the Screening Plant located near Bachel which will be the nerve centre of all the operations at Deposit No. 5. Fine ore and lump ore will be worked out here and the lump ore will be stocked.

The South-Eastern Railway has planned a big marshalling yard at the loading side which in course of time will cater not only to Deposit No. 5 but also to Deposit Nos. 4, 11 and 10. This will be world's biggest marshalling yard handling eight mil-

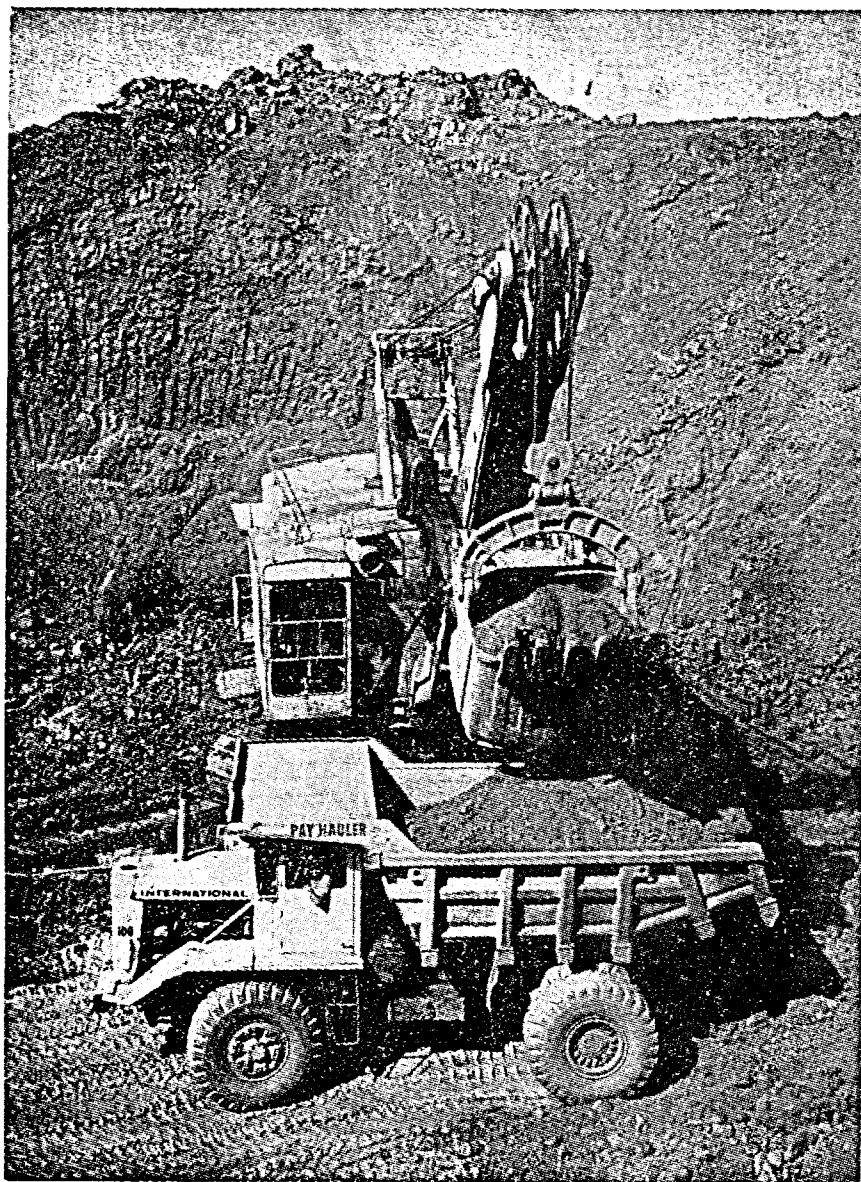
lion tonnes of ore annually.

Township

The Bachel township will be developed on the lines of Chandigarh on a 58.58 hectare site. The Master Plan of the township provides for 2,280 houses out of which at least 90 per cent will be double-storey blocks. Out of the total 2,280 houses, 1,300 will be required for Deposit No. 5 and the rest for Deposit No. 4.

The township will have all utility services, schools and a modern 40-bed hospital with provision for doubling the capacity. The population of Bachel township is expected to be around 15,000.

The Master Plan also provides for a lawn in front and kitchen garden at the back of every house. Every house in the township will have a separate kitchen, bath and



Giant shovels operated mechanically unload the ore in huge trucks.

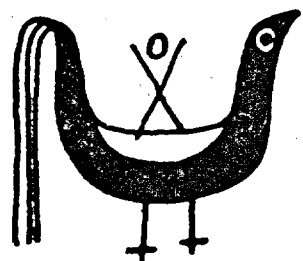
sanitary facilities. The township will have round-the-clock water supply.

A dam is to be built on the Gulli Nala Valley to meet water requirements of Deposit Nos. 5 and 4. A 33 KW High Tension Power Line is also being laid from Deposit No. 14 to No. 5 for supply of power. A huge workshop is also being set up initially for Deposit No. 5 but later on for other deposits too, including Nos 4, 11 and 10.

Biggest Earners of Foreign Exchange

The Bailadila Deposits will in course of time become the biggest

foreign exchange earning mines of India. With the commissioning of Deposit No 5 in 1973-74 these Deposits will earn for India foreign exchange to the tune of Rs 60 crore to Rs 65 crore. Deposit No 4 has been surveyed and is expected to be commissioned by 1976-77. It is actually a continuity of Deposit No. 5. All the three deposits—Nos. 14, 5 and 4—will then earn foreign exchange of the order of Rs 100 crore by producing 150 lakh tonnes of iron ore. The royalty earnings of Madhya Pradesh Government, at the rate of Rs 1.50 per tonne, will also go up bolstering the State's financial resources.



QUOTATION BOX

The era of the sucker is still-with us, as witness the regular sale of secondhand tanks, destroyers, submarines and other war surplus to the 'developing' countries. Portugal is trying to make champagne (disregarding French objection), California is making French wines, and Spain is said to be considering large scale distillation of Scotch. So it goes—the fascinating cycle of trade. How much Indian ink do we still import?

—From an Editorial in *The Times of India*.

Migrants may be from inside or outside the British Isles and from a police point of view fall into one, or more, of the following categories: (i) intellectuals; (ii) workers (though this is not to imply that intellectuals do not work); (iii) white; (iv) non-white; (v) English-speaking; (vi) non-English-speaking

—From 'This England' feature in *New Statesmen*.

Scientists think of a device of breaking the ice of the North Pole by means of heat bombs. We suggest that it would be cheaper to make two socialists land there and make them discuss what socialism really is.

—From the *Punch*.

Living next to the United States is in some ways like sleeping with an elephant. No matter how friendly or even tempered is the beast, one is affected by every twitch and grunt.

—Mr. Pierre Elliott Trudeau, Prime Minister of Canada.

A Situation is brewing that would eventually turn India's Green Revolution an angry shade of red.

—From the *Newsweek*.

With a hundred hands produce, with a thousand hands distribute.

—From the Jan Sangh Economic Charter, quoted in *Blitz*.

HOW FARMERS CAN BE HELPED TO ADOPT HIGH-YIELDING VARIETIES PROGRAMME

K. N. SINGH and S. M. S. HAQUE

THE introduction of the High-Yielding Varieties Programme is expected to go a long way in solving the country's food problem. The total area under high-yielding varieties has increased from 18.9 lakh hectares in 1966-67 to 85 lakh hectares in 1969. A five per cent per annum compound growth rate in agriculture has been envisaged and a production target of 129 million tonnes of foodgrains by 1973-74 has been fixed. It is also hoped that the import of PL-480 grains will be stopped by the end of 1971. To meet these targets a wider coverage under high-yielding varieties with a total adoption of their cultivation practices has to be attained in almost all the food crops.

From 1966-67 to 1968-69, the coverage under wheat increased from 5.4 lakh hectares to 48 lakh hectares, under paddy from 8.9 lakh hectares to 26 lakh hectares, under maize from 2.02 lakh hectares to 3.07 lakh hectares, under jowar from 1.9 lakh hectares to 6.9 lakh hectares and under bajra from 1.5 lakh hectares to 7.2 lakh hectares. These data clearly show that excepting wheat the coverage under different crops has been restricted. In proportion to their potential for yields the average actual yield of paddy, wheat, maize and pearl millet has been in the ratio of less than 1:11. This has been so because the technological recommendations for cultivation practices have not been adopted by the farmers due to various reasons. Further, the knowledge of these high-yielding varieties has not uniformly reached all farmers. In view of these problems, the researchers, the extension workers and the policy-makers have a vital role to play to make the cultivators adopt the recommended technology and boost up the yields of food crops.

Several researches have indicated the extent of adoption of the high-yielding varieties and the practices recommended for their cultivation. The report on Evaluation of the High Yielding Varieties Programme (Kharif 1968) by the Programme Evaluation Organisation covering 44 Blocks in 12 States mentioned that only 22.5 per cent of the total paddy growers had grown high-yielding varieties, while a less number of cultivators, as compared to that of the previous year, had grown high-yielding varieties of jowar and bajra. Another study by I.A.R.I. indicated that in villages around Delhi about 58.46 per cent farmers adopted the high-yielding varieties.

The Directorate of Evaluation, Uttar Pradesh (Rabi programme 1966-67) and the Agro-Economic Research Centre of Andhra University (1969) in their reports for paddy said that a large number of farmers applied only partial doses of fertilisers. The Programme Evaluation Organisation (1968-1969) further reported that even the doses of nitrogenous fertilisers were not applied as per recommendations. The phosphatic fertilisers were applied to 35.2 per cent of the paddy plots and the average dose applied to these plots was about half of the recommended dose in irrigated areas and about one-third in unirrigated areas. Only 1/10th of the plots were given potash but the average dose applied was never nearer to the recommended dose.

A recent study in the Union Territory of Delhi reveals that even in cases of high-yielding varieties of wheat, the actual adoption practices fell below the recommended practices. The average seed rate used by the farmers was 74.66 kg/ha. as against the recommended dose of 100-115 kg/ha. In case of fertilisers the average dose (in kg/ha) of N.P.K.

was 58.75, 21.75, and 15.77 respectively as compared to the respective recommendation of 100-125 kg of N., 45-60 kg of P₂O₅ and 30-40 kg of K₂O. Only 43.33 per cent of the farmers treated their seeds and 2, 4-D was used by only 18.89 per cent of the respondents. The average number of irrigations applied by farmers was only three as against the recommended five.

Another study by I.A.R.I. in Kerala reported that the adoption of practices for paddy was far below the recommended level. Only 12 per cent of the participating farmers adopted the seed treatment. Though 99 per cent of the farmers applied nitrogenous fertilisers, the actual dose applied by the majority of them was less than half of the recommended dose. Only 45 per cent of the cultivators applied more than 50 per cent of the recommended dose. The recommended full dose was applied by a mere 6 per cent of the participating farmers. Seventyone per cent of the farmers used phosphatic fertilisers but majority of them applied less than 50 per cent of the recommended dose and excepting one farmer nobody applied the full dose. Potassic fertiliser was applied by 60 per cent of the farmers but there too nobody applied full dose. Nine per cent of the participating farmers adopted three practices; seed-treatment, fertilisers and plant protection in combination.

Still another study conducted at I.A.R.I. (1969) in Delhi area reported that only 3 per cent farmers adopted all the six practices recommended, and the rest of them were adopting 2 to 5 practices. It was found that respondents did not apply in full, even the most-adopted practices.

The average dose of application of the nitrogenous fertilisers was 20 kg per hectare in *bajra* crop. As rega-

rd the phosphatic fertilisers, the average dose of application was 10 kg/per 40 hectare in wheat crop as against 6 kg per 40 hectare in *bajra*. The findings also reported low level of adoption of the seed treatment, chemical control of weeds and the number of irrigations.

Recent studies of the Programme Evaluation Organisation, the Indian Agricultural Research Institute and the Indian Institute of Management (Ahmedabad), have brought out several problems faced by farmers, participating and non-participating in high-yielding varieties programme.

For farmers growing high yielding varieties the reasons behind partial or non-adoption of the recommendations are inadequacy or non-availability of fertilisers and lack of high quality seeds, low market price of the produce and low level of consumer's demand, high cost of inputs and lack of adequate supply of credit, high incidence of pests and diseases, lack of sufficient irrigation, shortage of labour and less straw and *blusa* for consumption of the cattle.

The reasons given by the farmers who did not grow high-yielding varieties were inadequate and untimely supply of fertilisers, non-availability of seed, low market value of the produce and lack of local market for the same, non-availability of short-term loans, lack of irrigation facilities, preference for indigenous variety from the consumers' side, larger capital investment, lack of finance to meet the cultivation cost and less profit, shortage of labour and non-availability of family labour, high incidence of pests and diseases, loss of fodder and straw and lack of technical know-how about the cultivation of high-yielding varieties.

A Package Programme

Keeping in view these different facets of the problems the following suggestions can be made. The extension workers should persuade the farmers to adopt the recommended practices and make available to them the technical know-how and supplies of fertilisers, seeds and insecticides in a timely and proper manner. Furthermore, the Government should take steps to ease the timely and adequate supply of credit to farmers. This can be arranged through the Nationalised Banks in the rural areas.

For combating the pests and plant diseases in case of paddy, jowar, maize and *bajra* crops the researchers can recommend suitable insecticides for pests and develop strains of the crops which have resistance to the pest incidence. The extension workers should help in arranging the pesticides and educate the farmers about their proper and timely use. The new varieties should be thoroughly checked against pests and diseases before they are released.

There is a need for area-based research and development effort, both technical and socio-economic, so that the fluctuations in the production are minimised.

About 47 million hectares of land in India falls under the low rainfall zones and so there is a basic necessity for stepping up the food production in these areas. There is a great need for taking up irrigation programmes, for tapping ground water and for utilising surface water and soil conservation measures. Research in drought-resistant varieties and the release of these strains at a suitable time can go a long way in solving the problem of crop failure in the years of scarcity. Through suitable package practices in dry farming areas and by passing on the same to the farmers of such regions, the problems of dry farming areas could be solved and the farmers could grow more than two crops a year.

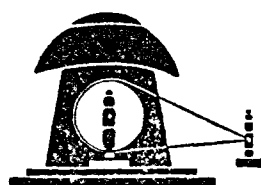
The cultivation of high-yielding varieties requires costly inputs and the small farmers feel financially handicapped, being unable to arrange supplies of inputs or to hold back his produce till market prices become favourable. Their problems have to be tackled from different fronts. The small holdings have to be consolidated, irrigation facilities and other inputs have to be provided, and for this credit schemes have to be decided. Irrigation facilities can be provided through small irrigation schemes. The loans can be granted to the farmers for digging tube wells in their fields. Tractors and power tillers may be provided to these small farmers through a custom service unit, as these are beyond their purchasing power. Finally, there is a need for a programme for small farmers for the country as a whole, because no uniform solution is applicable to the whole country.

Efficient co-ordination between different agencies is necessary to achieve good results on this front. A beginning has already been made in this direction in selected districts. It is hoped that this programme will succeed and expand.

High price for indigenous type of cereals, specially of wheat and rice at local markets is another factor retarding the adoption of high-yielding varieties. This problem could be tackled by proper consumer education about high-yielding varieties and through a uniform price structure, controlling the price of indigenous and high-yielding varieties. In cereals like wheat and rice, the cooking quality and consumer preference should also be taken into consideration while evolving new varieties.

Another reason behind the restricted adoption of high-yielding varieties is that farmers lack technical know-how for cultivation of these varieties. For this it is necessary that the latest technical information should reach all categories of farmers quickly and in an understandable manner. Full use of mass media like radio, press, movies and audio-visual aids should be made in proper combination. The National Demonstration Scheme should be fully utilised as an educational medium for communicating the technology. The new scheme for Farmers' Training and Education and its linkage with the National Demonstration Programme is a step in the right direction. However, its implications have yet to be seen.

Lastly, the extension agency with increased professional competence at all levels, the agricultural universities and the research institutions have to play vital roles in convincing the farmers through their local leaders and other extension methods so that the wide gap between the recommendations and the extent of adoption is bridged, the production increases and the growth rate is sustained.



EDUCATION FOR THE SEVENTIES

from PAGE 4

"...we have requested each local community to assess its own educational situation at present, to identify any programme of local educational development, however small, which it can put across with its own unaided effort during the current year, and to see that it is implemented. This will secure the largest action-oriented participation of the people and provide the base on which programmes of further development can be built successfully."

The national will for a national and international effort will be built up by launching various programmes in conjunction with the birthdays of those people who have dedicated themselves to the cause of these programmes. The campaign for pre-primary education will be launched on August 31, marking the birth centenary of Madam Montessori; the programme for improved teaching of languages with the birthday of Acharya Vinoba Bhave in September and the programme emphasising Gandhian values in education will be linked with the birthday of Mahatma Gandhi.

The IEY should thus give an added impetus to India's efforts at building up an adequate educational system, quantitatively and qualitatively, which is central to her planned development.

TASKS OF EDUCATION

A University stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards even higher objectives. If the universities discharge their duties adequately then it is well with the nation and the people.

Jawaharlal Nehru

Education is the principal tool of social development and unless all societies are provided with the right type of education, adequate in quantity and quality, it will not be possible to tackle satisfactorily the problems of ignorance, ill-health and poverty which afflict the majority of human beings in the world.

V. V. Giri

Knowledge will be growing so fast or present knowledge will be growing obsolete in so short a time that the emphasis in education will have to shift from the imparting of knowledge to such objectives as awakening of curiosity and building up a deep and abiding habit of self-study, which receive comparatively less attention at present...

V.K.R.V. Rao

TO OUR READERS

There will be no issue of YOJANA dated October 4, 1970. This issue will be incorporated with our Special Number (October 18) on the 25th Anniversary of the United Nations.

PRE-PRIMARY EDUCATION IN DEVELOPING DEMOCRACIES

from PAGE 6

its mission and it has to extend from the children to their parents and relations. Contact between the adult and the school comes quite naturally where pupils are very young. This natural contact, which is not imposed, does not therefore meet with any of the psychological resistance which, even when the intentions on both sides are absolutely sincere, is a salient feature wherever third parties try to promote it in social work. The very young children themselves are eminently efficient and effective co-operators in all social welfare work. They are the first to respond to its challenge, with infectious enthusiasm, and exercise an influence insidious in its innocently penetrative capacities on all those around.

OUR CONTRIBUTORS

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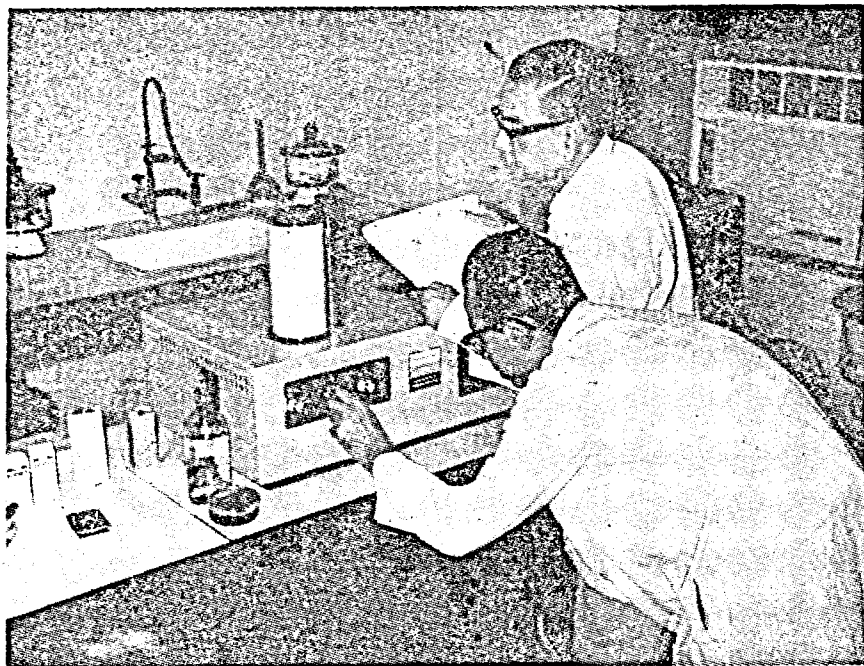
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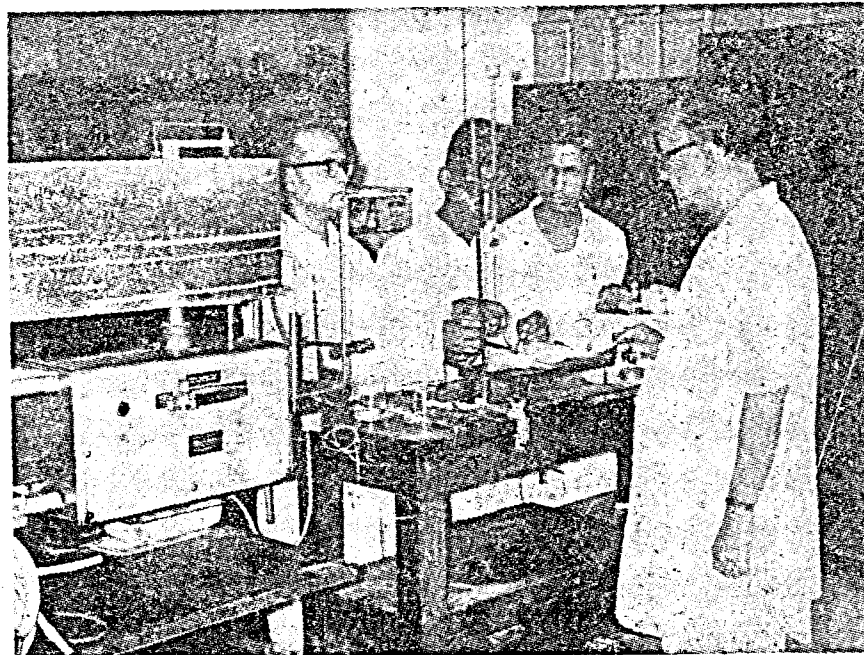
DR. K. N. SINGH Head of the Agricultural Extension Division, IARI, and S.M.S. HAQUE, IARI, New Delhi

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CENTRAL DRUGS LABORATORY

WHERE DRUGS GO FOR A CHECK-UP



This laboratory tests nearly 4,000 samples of medicine every year. It acts as a watchdog against the production of sub-standard medicines. As a training centre it is imparting skills in drug-testing besides functioning as the Indian repository of W.H.O.

Report by
S. C. BASU
Our Calcutta Correspondent

THE Central Drugs Laboratory, Calcutta, is a 23-year old institution engaged in quality control of drugs and pharmaceuticals in order to check adulteration and manufacture of sub-standard medicines. The Drugs Enquiry Committee (1930) had recommended the setting up of such an institution. A Biochemical Standardisation Laboratory was started in 1937 as a wing of the All India Institute of Hygiene and Public Health, Calcutta, to test drugs and pharmaceutical preparations whenever referred to it by Government. In April 1947, it was renamed as the Central Drugs Laboratory. In case of imported drugs samples from consignments awaiting unloading at Indian ports are sent to the Laboratory for testing. If these are found to be sub-standard or inferior to the prescribed quality the consignments are returned to their countries of origin.

According to the Drugs and Cosmetics Act (1940), which is based on the recommendations of the 1930 Enquiry Committee, State Governments are responsible for quality control in drug manufacture within their own areas. But since most States do not yet have adequate laboratory facilities and the required technical skills, the testing of indigenously produced drugs is also undertaken by this Laboratory.

With the enormous expansion of the Indian pharmaceutical industry there has been a steady rise in the volume of testing work undertaken on behalf of the States. At the end of the Third Plan, the investment in the pharmaceutical industry was Rs 150 crore as against Rs 24 crore at the end of the First Plan. The value of production also rose from Rs 34 crore in 1954 to Rs 220 crore in 1969. Correspondingly, the number of samples referred to the Laboratory by the States—except Gujarat, Maharashtra and Tamilnadu where facilities exist for drug testing and analysis—rose from a bare 50 to over 1,500 between 1955 and 1966. Today the Laboratory receives nearly 4,000 samples in a year from various sources, such as the ports, State Inspectorates, Government medical stores and the Central Drug Control Administration. These drugs belong to all the systems of medicine in vogue in the country.

A team of 66 scientific staff handles this job with the help of highly sophisticated precision instruments.

Complicated Process

Drug testing is a complicated process and needs some degree of expertise. This is particularly true of the modern synthetic drugs and complex pharmaceutical formulations, the introduction of which on a large scale has completely revolutionised the testing technology. The Laboratory has five broad divisions dealing with pharmaceutical chemistry, bio-chemistry, pharmacology,

bacteriology and pharmacognosy. It also maintains a large air-conditioned animal house for a sizeable stock of laboratory animals.

The Research Division of the Laboratory is exploring the possibilities of what may be called fingerprinting of homoeopathic medicines by recording their ultra-violet light absorption characteristics. The division also undertakes toxicological testing of drugs on animals and has catalogued up-to-date information.

The analysis of the new drugs introduced abroad and permitted to be imported into the country often raises the problem of quality control, as specifications for such medicines are not available in the pharmacopoeias. The Drugs Selection Wing of the Laboratory collects from the manufacturers abroad physico-chemical specifications, methods of assay and authentic specimens of such drugs so that their regulatory testing can be done promptly.

Collaboration With WHO

The Laboratory collaborates with the World Health Organisation in various quality control measures, besides acting as WHO's Indian repository and the distributing agency of international drug standards and reference pharmaceutical preparations. It helps W.H.O. in the formulation of these standards and policy for laboratory quality control of drugs, and international pharmacopoeias. The Laboratory, along with five other institutions from the advanced countries, made significant contribution towards the drafting of requirements of "good practices" in drug manufacture. These were adopted by the 22nd World Health Assembly in July last year and recommended to the member-States for adoption.

International reference standards being in short supply, the Laboratory has established national reference standards for various drugs and maintains reference pharmaceutical substances. National standards for a number of vegetable and

important drugs have been established. Besides, about 250 authentic samples of various drugs, chemicals, hormones, enzymes, antibiotics, etc. were added to the collection of "CDL reference substances".

Free Supply of Standards

A notable service rendered by the Laboratory to the drug industry is the free supply of the national and international standards and reference preparations and also the cultures of micro-organisms for drug analysis and quality control at the manufacturer's level. This enables the industry to test the quality of their own products before marketing them in a dosage form.

The Laboratory also provides facilities for training drug analysts deputed by the State Governments and industry in the latest methods of drug testing and analysis. During the Fourth Plan, a full-fledged teaching and training unit will be set up for drug analysts and inspectors.

The Laboratory will soon be housed in a new building which is estimated to cost Rs 20 lakh.

TWO NEW FFHC AID PROJECTS FOR INDIA

Contracts for two new aid projects under the United Nations Freedom From Hunger Campaign programme have been signed.

The two projects involving 191,600 dollars in aid from the Danish government include the installation of a pilot rice mill in Kaira District, Gujarat, and of a plant for the utilisation of carcasses of fallen animals in the Bombay suburban areas. The Indian FFH Society will contribute 318,000 dollars in cash.

FAO will provide three experts and consultants, and various equipment.

The Kaira project is aimed at improving paddy harvesting and storage, milling and marketing of rice. The second project, to be set up in Borivli, near Bombay, will utilize the carcasses of fallen animals for the recovery of hides, and for the production of bone and meat meal as concentrated feeds for pigs and poultry and for use in fertiliser production.

Above left: Chemists estimating the percentage of inactive component of an antibiotic drug used in the treatment of typhoid, with the help of infra-red spectrophotometer.

Below left: A trainee learns assaying of drugs using laboratory animals.

INDIA-BURMA TRADE HAS SCOPE FOR DEVELOPMENT

Need for Diversification to Increase Volume

D. S. ARORA

PROXIMITY of distance, cultural heritage and sustained economic and commercial ties mark the trade relations between India and Burma.

Being an agro-based economy, Burma mainly depends on the export earnings of rice, which account for nearly 65 per cent of the total value of her exports. Other items of export from Burma include teak and hardwood, pulses and beans, metals and small quantities of rubber, cotton, jute and gems. In 1969-70, Burma's total exports amounted to Rs 113.77 crore as compared to Rs 199.67 crore in 1961-62. The steady decline in the country's exports in the last eight years was halted last year. This was largely the result of intensified efforts at diversification, both in terms of commodities and countries. Apart from rice and rice products, Burma now exports jute, leather, gems and groundnut cake. Also, more exports are now being made to non-traditional markets. For instance, Burma's exports to Africa went up from Rs 84.78 lakh in 1960-61 to Rs 5.43 crore in 1967-68, and to Southern Europe from 1.52 crore to Rs 2.65 crore.

In imports, there has been a decline in foodstuffs valued at from Rs 1.9 lakh in 1960-61 to Rs 48199 in 1967-68. During this period, the import of beverages and tobacco slumped from Rs 6,123 in 1960-61 to only Rs 157 in 1967-68. Imports of chemicals and machineries, and transport equipment however increased during the period. There had also been an increase in imports from North America (from Rs 7.17 crore in 1960-61 to Rs 9.23 crore in 1967-68), from

Southern Europe (Rs 3.39 crore in 1960-61 to Rs 5.12 crore in 1967-68) and Eastern Europe (Rs 6.9 crore in 1960-61 to Rs 11 crore in 1967-68). But there was a steep fall in imports from Africa (Rs 6.08 crore in 1960-61 to Rs 26 lakh in 1967-68).

This visible transformation in the pattern, volume and composition of Burmese foreign trade has had a significant effect on the country's trade with India. In 1970-71, exports from India to Burma amounted to Rs 16 crore as against Rs 11.9 crore in 1968-69 and Rs 3.8 crore in 1967-68. This sharp rise in India's exports to Burma in recent years is mainly due to the large off-take of engineering goods. For instance, exports of our railway locomotives and rolling stock parts to Burma increased from Rs 12.9 lakh in 1967-68 to Rs 59.9 lakh in 1968-69. In addition to railway equipments, other items which contributed to the increase since 1968-69 were cotton yarn, coal, paper and paper products. This trend is continuing and it is expected that exports during 1970-71 will rise further to about Rs 20 crore. The principal items contracted during 1970 are cotton (Rs 12 crore), cotton textile (Rs 2 crore) and coal (Rs 2 crore); other items are expected to be worth about Rs 2 to 4 crore.

Although there has been a substantial increase in India's exports to Burma in recent years, real growth in the promotion of sustained Indo-Burmese Trade will largely depend upon how far the two countries can diversify their exports. So far as India is concerned, rice is the principal item of import. In 1968-69, out of India's total imports from Burma valued at about Rs 16 crore, nearly Rs 15 crore were accounted for by rice. However, in view of

improvement in agricultural production, India is expected to have a surplus stock of rice in the near future. As such, there will be no substantial imports of rice in the years to come.

On the other hand, according to an estimate prepared by the National Council of Applied Economic Research, there is scope for increasing India's rice exports to Asian countries and nearby areas from 1 million dollars to about 15 million dollars by 1973-74. Viewed in this context, it will be necessary for both countries to seriously think in terms of trade diversification to increase the two-way trade between India and Burma.

Items which offer scope for increased export from India include cotton yarn, readymade garments, jute manufactures, iron and steel products, machinery and machine tools, electrical equipment, wires and cables, rubber manufactures, coal and tea. There are also other items like road rollers, mining machinery and their spare parts, vegetables, and hydrogenated oils, pumps and pumping sets, compressors, storage batteries, and house service meters, which India can supply at competitive prices.

New High Yielding Paddy Strains

Two new varieties of fine quality of paddy (No. 8066 and 8054) have been evolved by the Rajasthan Agriculture Department at its Kota research station. Demonstrations on the farmers' fields will be laid out during coming *kharif* season for field trials, and final release. The new high yielding types have fine grains like *Basmati*, which will fetch higher price than I.R.=8 and Taiching Native 1. Also, the yield is 1 1/2 times higher than that of the *Basmati* varieties.

BOOKS

KHADI AND VILLAGE INDUSTRIES

Annual Report (1968-69) of the Khadi and Village Industries Commission, Gramodaya, Bombay. Pages 243, with a 96 page supplement of statistical statements.

The Khadi and Village Industries Commission has assisted industrial activities of about 15 State Khadi and Village Industries Boards, 1,585 registered institutions and hundreds of co-operative societies, scattered over a lakh of villages. This is revealed in the annual report of the Commission for 1968-69. The decentralised industrial sector, of which Khadi and village industries form an important segment, employs about 7.2 per cent of the rural labour force, representing about 16.3 million people. Of these, nearly 11 million are engaged in traditional household industries.

In the context of the need to reduce the number of persons who depend entirely on agriculture from the present 73 per cent to about 50 per cent in the next few years, the Khadi and Village Industries Commission is playing an important role. The Report points out that this will imply the transfer of surplus agricultural labour to the decentralised industries mainly concerned with processing agricultural raw materials and other ancillary industries, including Khadi and village industries.

The Commission has already been assisting 14 major village industries, besides Khadi. It has now taken up seven minor industries to provide avenues of employment in the forest and tribal areas. These industries include the collection of medicinal forest plants, manufacture of shellac, gum, resin and *kattha*, fruit processing and preservation, and making cane and bamboo articles.

The Report shows that total value of Khadi and village industries products rose in 1968-69 to Rs 105 crore from about Rs 98 crore in the previous year. Of this amount, Khadi accounted for about Rs 23.33 crore. Also, the number of persons employed in these industries increased from 20.93 lakh to 21.46 lakh; the Khadi industry alone accounted for 13.35 lakh employed persons.

During the year, the Commission

laid stress on improved technology. New model *Charkhas*, embodying some of the basic principles of modern spinning techniques and improved looms, were introduced to increase production and enable workers to earn more in wages. As a result the cost of Khadi cloth came down from Rs 4.25 to Rs 2.70 per metre. An artisan working on the new model *Charkha* unit can earn from Rs 1.50 to Rs 2 a day.

A Primer in Political Development

Nation-Building and Citizenship by Reinhard Bendix. Wiley Eastern Private Ltd., New Delhi. Pages 314. Rs 13.20.

B. N. NAIR

Teachers of political science in Indian Universities have shown a demurely traditional modesty in their intellectual approaches and have not, with the exception of a few, followed Horace's dictum and 'dared to be wise', after Independence. Many had not, until recently, fully recovered from the dope of revivalist political zeal of the *Arthashastra* variety with its sterile sociological implications. For those who are now straining themselves to become political scientists and are anxious to formulate theories of political development *a la mode*, their natural choice of a *guru*, particularly in the absence of competently written text books here, falls on Reinhard Bendix, former chairman of the Research and Training group in Comparative Developmental Studies, Institute of Industrial Relations, University of California, Berkeley. This cheap Indian edition of his major work, which first appeared in 1964, has made it possible to reach a wider circle of interested readership in this country than ever before and benefit from its broad perspectives.

The seven perceptive studies given in this book include a chapter on India also, under the title 'Public Authority in a Developing Political Community'. Indian Community Development programmes and poli-

Technical improvements in other village industries included the use of a power-operated small sheller for the processing of paddy, hydraulic crushers for the manufacture of *gur* and *khandsari*, a hydraulic press for making handmade paper, improved bee boxes and honey extractors for bee-keeping, making of bricks with sand and lime, power-driven wheels with geared motor for pottery, and fabrication of suitable Raspador machine for extraction of fibre from pineapple leaves. These improvements have led to increased productivity, better quality of products and more wages for the artisans.

cies have been examined from the stand-point of "an effort to organise mass support for the programme of modernisation in India," with comparisons and contrasts drawn from western experience. The moral to be drawn is that in terms of political development we, in India, have many *long miles to go*. This has already become a familiar theme of those persons and institutions which suffer from infantile delusions of quantophrenia in economic planning and development.

According to Reinhard Bendix, "time will tell whether the foundations of a Nation State have been laid firmly (in India). Although uniquely favoured by relatively viable political institutions, India yet shares this uncertainty with a large number of countries for which independence is but a first step on the road to nation-building." (p. 299). Let us recall that a good deal of the current interest in the study of local institutions and politics (Panchayati Raj), the sociology of politics, and, above all, the critical appraisals of administrative behaviour, stem from the findings of comparative studies of the type dealt with and popularised by the author. And judging from their recently issued news letters, these are apparently proposed to be carried forward by the Indian Council of Social Science Research (ICSSR), New Delhi, with a select team of scholars already inducted into the subtleties of the U.S. approaches.

Political development under transnational inducements has the underlying purpose of filling up certain

vital gaps in developing countries such as India. To wit, nation-building in newly independent countries, including India, has been rendered a stupendous task for those in authority because there were no viable structural alternatives provided by the European powers when they left. Hence, true to the gloomy prognostications of Reinhard Benedix, we are passing through a period of history in which only fragments of nation-building are tackled piecemeal and without an immediate prospect of a definite outcome.

Comparative studies and macro-sociology are the two operational techniques of academic research in contemporary historical sociology in the context of development. What is apt to be forgotten in the new angled enthusiasm for the stimulating analytical approaches and insights, that characterise the writings of European 'emigre' intellectuals of the U.S.A.

Towards Better Population Data

A Demographic Study of Six Urbanising Villages by S.N. Agarwala. Asia Publishing House, Bombay. Pages 195. Rs 20.

DIPAK B.R. CHAUDHURI

In another few months, the country will observe the centenary of the decennial census operations, the largest administrative operation anywhere in the world. The 1971 census will be under a new statute, which came into force last April. Under this all births and deaths throughout the country have to be compulsorily registered.

The census, which is the principal source of demographic data, provides valuable information on a number of topics like age, religion, occupation, marital status and the like, but does not cover information on age at marriage, age-specific fertility, sub-sterility, incidence of widowhood and such other topics of demographic interest.

The book under review presents the findings of a series of village fertility surveys conducted by the Demographic Research Centre of the Institute of Economic Growth in Delhi. The surveys were conducted in six villages in the Union Territory of Delhi from 1958 to 1960. The delay in publishing the findings of the surveys hardly justifies the expenditure on printing. The com-

in these fields, is the undercurrent of vulgarisation and the sense of moral debasement that they normally entail or overly cause to our ideas of national dignity and self-respect and also, sometimes, the foreclosure that they seek to make of our independent researches in the field of emotional integration and political communication. Phrases such as 'under-developed', 'developing', 'backward' etc. have been bandied about *ad nauseum* inducing a sense of inferiority complex as well. Thus, while the writings of Reinhard Benedix open up fresh avenues of thought and are in some respects unmatched for their depth, insights and incisiveness, their personality consequences on our younger band of political scientists are replete with unpredictable possibilities of elitist pretensions and national subversion in the name of data collection with a scientific frame of reference.

pulsory registration of births and deaths in the Delhi area came into operation only in January 1960. There was thus little meaning in the expense and effort involved in order to locate the deficiency in the registration system prevalent in the fifties. However, an important objective in undertaking these demographic surveys in the villages was to develop the methodology of data collection on fertility and related topics in the context of the rural situation.

Dr Agarwala and his survey team analysed differential fertility based on the maternity history of 1,636 married women. They found that: (1) on an average women gave birth to seven children during their reproductive period; (2) there was no significant difference in fertility because of caste and occupation; and even service and profession classes did not have lower fertility; (3) though information on income was not collected, it could be said that there was no differential fertility by income, because of insignificant fertility differences by caste and occupation; and (4) the fertility of women belonging to a nuclear family was slightly higher than in the case of those living in a joint family.

The publication also provides information about another aspect of the research survey. This relates to the attitude of the villagers towards

family planning. However, these findings are already available in another publication brought out by the Institute of Economic Growth in 1962.

It will be interesting if another survey is conducted in these very Delhi villages to find out the impact of the programme.

The volume carries an appendix on methodology of 'correction of age data', which will be of lasting value to all demographers.

Foreign Trade

Foreign Trade Bulletin. Monthly Vol. I No. 1, July 1970. Pages 14. Price Rs. 1.50 a copy.

This is a new monthly journal brought out by the Indian Institute of Foreign Trade. It provides detailed information regarding different aspects of India's foreign trade, including a balance-sheet of the current export performances of traditional and non-traditional commodities. It surveys the current news of trade around the world, examines India's trade agreements and possibilities of joint ventures with other countries and explores prospects for newer markets for India's export products. The tables on the cover pages of the journal, showing at a glance the statistics of India's exports and imports and the impressive chart on monthly trend in Indian exports will be quite useful to the readers.

The price at Rs 1.50 per copy appears to be high. Some good articles on foreign trade could have been incorporated in the journal, which could have stimulated reader's interest in this new journal.

P. G.

CORRECTION

The following corrections may please be made in the article "Increased Agricultural Production No Answer to Problem of Malnutrition" by A. K. Bhattacharyya, published in our issue dated August 9, 1970.

Page 5, column 3, 5th line read 46.5 grams instead of 216.5 grams; 16th line, 455.5 grams instead of 454 grams; 17th line, 11.1 grams instead of 0.39 ozs. Same column para 2, 8th line, read 0.23 ozs in place of 23 ozs.

LETTERS

CAMPUS CULPRITS

Our Editorial (Yojana, August 9) on student indiscipline has evoked widespread comments. A number of readers have written to us to express approval or disapproval of the views expressed by us. In this issue we are publishing two of these comments, and we propose to publish a few others later.

—Chief Editor

I have read your editorial and am encouraged to find that persons like you fully support the position that we have been taking and do not feel that it was improper on our part to have called in the police to handle the situation. I find that, while most teachers are in agreement with the action taken, few of them are willing to speak up in public in support of what has been done. Expressions of support from outside are, therefore, particularly welcome and heartening to those of us who had to take this unpleasant decision.

K. N. Raj
Vice-Chancellor
Delhi University

Delhi

I am happy to hear your thundering and patriotic voice raised against the shameful and painful manifestation of student unrest in the Delhi University Campus.

But, why are the students angry today? I think the fault lies not with us but with our parents and teachers. The student unrest is a product of conflict of generations. The old do not care for the young. Our teachers are selling their knowledge like shopkeepers. They have forgotten that their main duty is nation-building. On the other hand, they are exploiting students. Educational institutions are manufacturing certificate-holders and not moulding honest citizens. That 43.70 lakh persons are jobless is a slur on our planning system. Is it not a waste of human resources?

Our educational system, like our way of life, needs drastic change. If you want to arrest student unrest, give us employment.

—Jyoti Ranjan Jha
M. A. (Previous) Economics
Bhagalpur University

Bhagalpur (Bihar).

U. N. INSTITUTE IN BANGKOK

Your report on the U. N. Asian Institute at Bangkok (Yojana, July 14) gives detailed information on Asia's apex training centre for development personnel and planners. The Institute provides training and research facilities in development finance, project analysis, econometrics, agricultural planning, highway transport programming, development of human resources, industrial development and health planning. Till recently only economic aspects of planning were included in the training programme but now its social aspects have also been given due significance. It is, however, surprising that no course in "Regional Science" and "Regional Planning" is arranged at the Institute.

The prevailing 'scales' of planning are local, State and national. The planning at State level is generally not self-generative as States are primarily administrative units and they lack homogeneity in physical and socio-economic characteristics. The States, thus, are not regarded as conducive 'planning units'. Instead 'regions' have been preferred and planning of such regions has been widely accepted as the right course to achieve national and local goals together. Even the United Nations has recommended that "to achieve an integration of plans and actions, the scale of planning should be regional. The region, being a link between the national and the local community, provides a suitable frame of reference for a balanced integration of development projects of national significance and those based on local initiative". The national or local plans without regional level plans (as distinct from State plans) are likely to fail miserably.

The Institute should, therefore, also introduce advanced training facilities in "Regional Science" and "Regional Planning" to government officials and others connected with such projects.

B. D. Bhattacharaya
Bikaner

IGNORAMAN HAS A FRIEND

I like your feature "IGNORAMAN". It is the first thing I look for in Yojana. I wonder if you would introduce the same in your other language editions. Bengali readers, for one, will like it immensely. I am also taking this opportunity to suggest the following ideas for the same feature:

1. Ignoraman wants to know whether Public Sector consultancy agencies have consultants from Private Sector.
2. Whether Planning Commission needs a Fourth Plan of its own.

It is a pleasure to read Yojana to know about the country's development.

A. K. Mukherjee
New Delhi

LURE OF NICOBAR

I have read with interest Mr M. Veerabahu's article "Call from Nicobars" in Yojana (July 12). I wish to settle in one of the beautiful Nicobar islands. Kindly send me the particulars of procedure in this regard.

P. H. Isaac
Kottayam

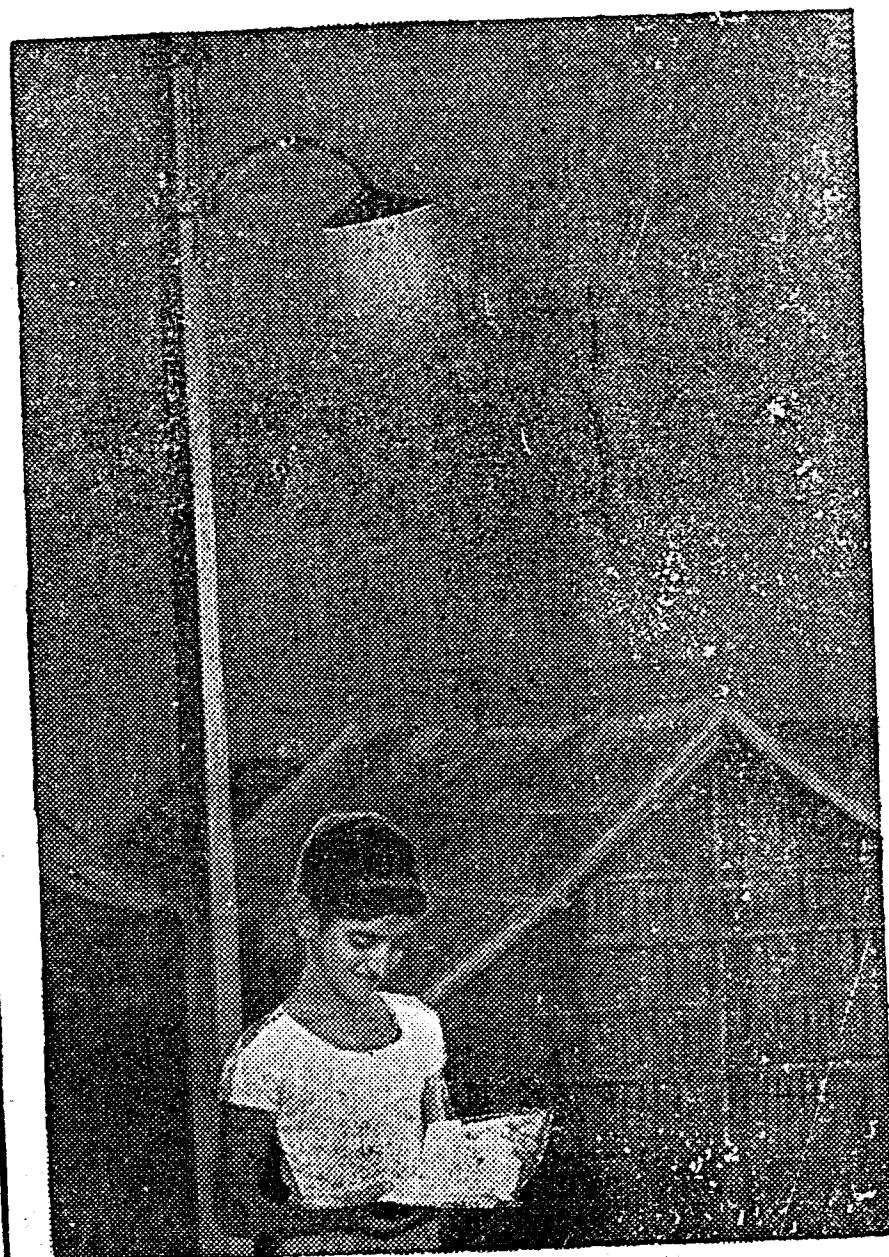
YOJANA'S NEW FEATURE

I appreciate your novel idea of introducing the feature "THIS I LIKE ABOUT NEW INDIA". I like to suggest, however, that another feature, diametrically opposite to the above, should also be introduced so that we have a glimpse of both sides of the coin. This will provide a balanced view of life in our country. This self-examination should be objective and impartial so that the facts revealed may help us to rectify the shortcomings.

A. S. Dakshina Murty
Jangareddigudem
(Andhra Pradesh)



HAS SEEN THE LIGHT AND MILLIONS IN VILLAGES BENEFIT



Now Ramu makes light of his work

There were days when poor Ramu used to toil with his school book in poor light. There were days when he used to skip reading because not even an oil lamp was available.

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With power to the village came water from the tube wells. The green revolution had begun. Also came the flour mill, the rice mill, etc. The manual operation had become mechanical and more efficient and fast.

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YOJANA September 6, 1970 Page 28

Development Diary

* The Export Inspection Council has decided to establish a Regional Pilot Test House in Bombay for providing testing facilities for export items. While the equipment for the project will be supplied by UNIDO, the Maharashtra Government will provide land at the Marol Industrial Estate in Andheri.

* Under an agreement signed with India, Norway has made a grant of Rs 3.77 crore for the purchase, insurance and transport of fertilisers to India during the next three years. During 1970, the Norwegian Government will supply CAN Fertilisers and in 1971 they will provide Urea. The quantity and type of fertilisers for 1972 will be decided later. The rupee value of the fertilisers will be used in India for development schemes to be mutually evolved by the two Governments.

* The Indian Cotton Textiles have made a successful break-

through in West Africa despite tough competition from China, Formosa, South Korea, Japan and Pakistan. Orders worth over Rs 3 crore have been obtained and supplies are being made to Textile firms in Senegal, Ivory Coast, Upper Volta and Camerouns.

* The per hectare yield of maize in Punjab has gone up from 565 kg in 1950-51 to 1,400 kg in 1968-69. The total production of the crop in the same period rose from 142,000 tonnes to 706,000 tonnes.

* In 1969-70, 2,764 villages were electrified and 67,370 tube-wells were energised in Haryana as against 1,464 villages and 45,370 tube wells during 1968-69.

* The first micro-film camera to be made in India has been put into operation. Excepting for the lens the rest of the camera has been made from indigenous parts and will save the country considerable foreign exchange.

* India and the USSR have signed an agreement for a long-term joint rocket launching programme for meteorological investigations. The solid fuelled rockets which will be supplied by the USSR will have a range of about 100 kms. Till now, atmospheric investigations in the country, mostly carried out by weather balloons, have not gone beyond 30 kms.

* Under a Financial Protocol signed between France and India France has granted 152.7 million francs (Rs 26.6 crore) to India for purchase of French goods and services. This includes 27.7 million francs for debt relief.

* The new micro-wave link between Asansol, Dhanbad and Ranchi has been inaugurated. The first such system in the country to be commissioned with indigenously designed and manufactured equipment, the new link will extend the existing Calcutta-Asansol microwave system to the heart of the industrial complex of Bihar.

* Exports of Indian handicrafts rose from Rs 6.50 crore in 1955-56 to over Rs 94 crore in 1969-70.

FAMOUS | ASSAM FORESTS OFFER

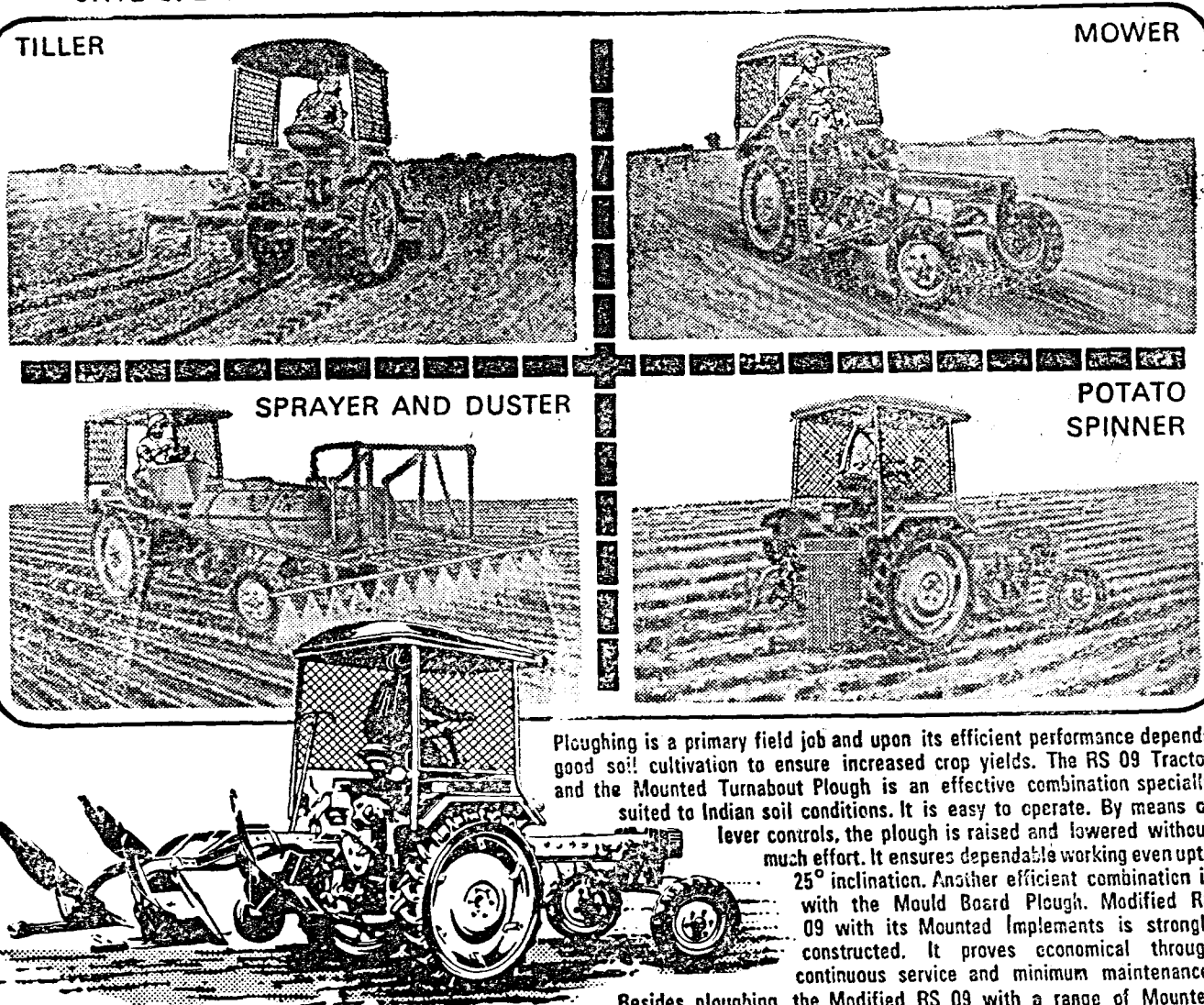
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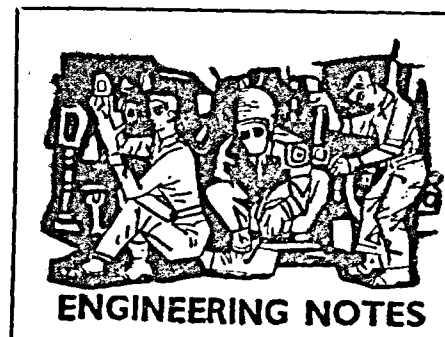
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Creative Unit 229



BHEL Manufactures the Largest Turbogenerator

Bharat Heavy Electricals, Hyderabad, has successfully carried out a trial run recently of the first 110,000 KW hydrogen cooled turbogenerator (3,000 rpm.). This generator is the largest and the first of its kind to be manufactured and completed in India. It embodies the latest design features and rated guaranteed efficiency of 98.42 per cent, which compares very favourably with the best generators manufactured anywhere in the world. It has a total weight of about 146 tonnes and an overall length of 12.6 metres.

The BHEL plant, which is equipped with excellent testing facilities to ensure high quality, has carried out rigorous inter-stage production tests. These include ringflux test, applied high voltage test, and dynamic balancing and overspeed test at 3,600 rpm for 5 minutes. BHEL is equipped with a highly sophisticated balancing machine and other facilities which make it possible to achieve vibration levels as low as 10 microns. The test room of BHEL for final testing is a fully-equipped and self-contained unit with driving machines, control equipment, lubricating, cooling hydrogen and oil systems. These help pre-determine the performance of the generator, its efficiency, temperature increase at various hydrogen pressures, and sudden short circuit capacity.

During the trial run, the mechanical run of the generator was found to be excellent with vibration levels not exceeding 6 microns at rated speed, against the permissible value of 50 microns.

The successful completion of the generator closely follows another achievement of the Hyderabad plant—the manufacture and testing of the 110,000 KW turbine.

BOOSTER TRANSFORMERS FOR RAILWAYS

A special type of transformer, known as 'Booster Transformer' for railways has been indigenously developed by Heavy Electricals (India) Ltd. This will result in saving valuable foreign exchange for the country.

The Indian Railways have ordered four such transformers of 100.8 KVA each.

The booster transformers are installed in series with 25 KVA.C. traction overhead line at suitable intervals to reduce inductive interference in the adjacent telecommunication circuits.

Special efforts were made by HEIL to procure 800-cycle test equipment for the boosters indigenously. Prior to despatch from our works, the booster transformers, like our other products, had to undergo rigorous tests. They passed the routine and special type tests laid down

by the inspectors of the Research, Design and Standard Organisation of the Indian Railways at Lucknow.

TELCO DIESEL TRUCKS

The Tata Engineering and Locomotive Company's production of diesel trucks crossed the two lakh mark in June this year.

TELCO trucks, now plying in a number of countries in Europe, Asia and Africa, have so far earned a foreign exchange of Rs 14 crore.

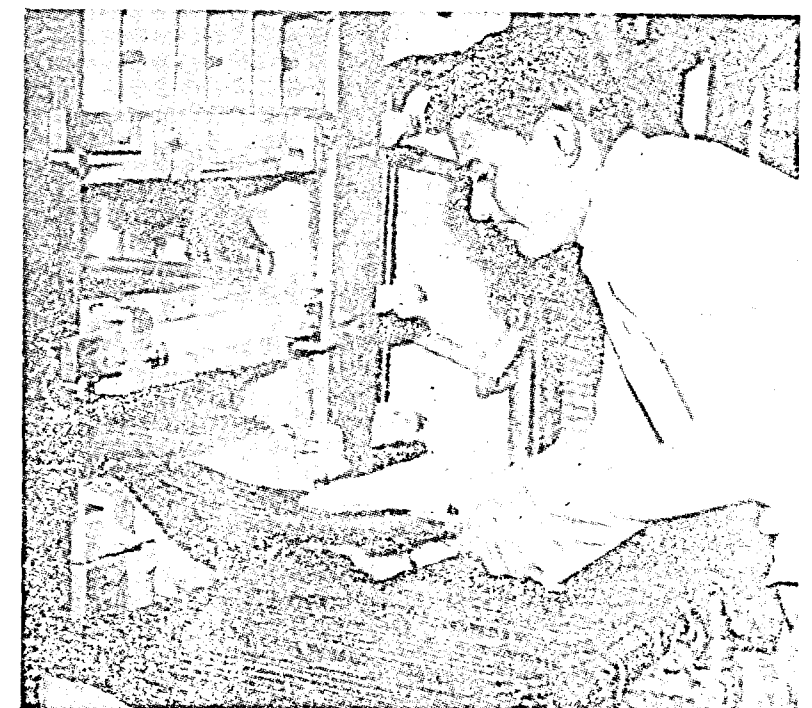
The production of these trucks started in 1954 in collaboration with the Daimler-Benz Company of West Germany with the initial target of 3,000 vehicles per year. With phased increase in the turnout, the present rate of production is 24,000 per year.

The 15-year collaboration ended in June 1969 and since then TELCO has been independently producing the trucks, which now have a 98 per cent indigenous content.

GROOVED PAD FOR RAILWAYS

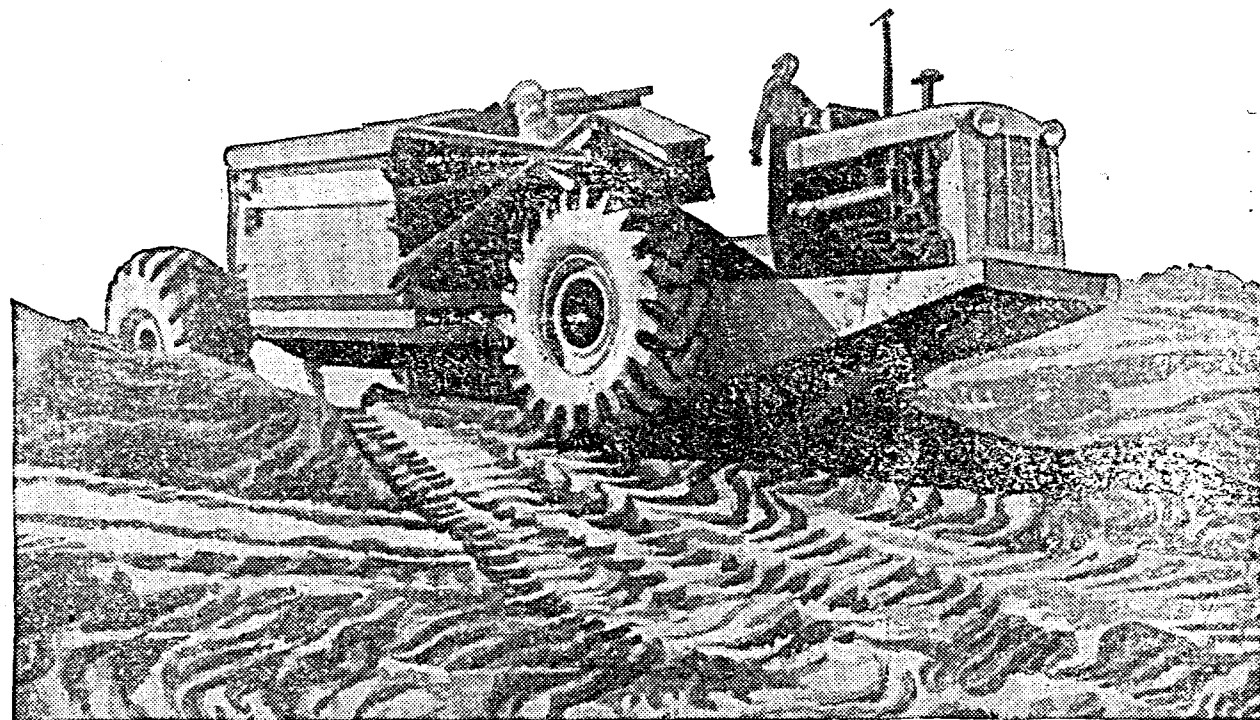
Dunlop India has introduced grooved rubber pads exclusively for the Indian Railways, which are being used with a new design of steel and concrete sleeper to facilitate

faster running of trains. The pad, manufactured by Dunlop at the Sahaganj Factory, acts as an insulation and vibration damper between the rail and the sleeper.



A stage in the manufacture of grooved rubber pads at Sahaganj Factory.

The new XL Tread Compound gives even longer life to Dunlop Off-The-Road Tyres



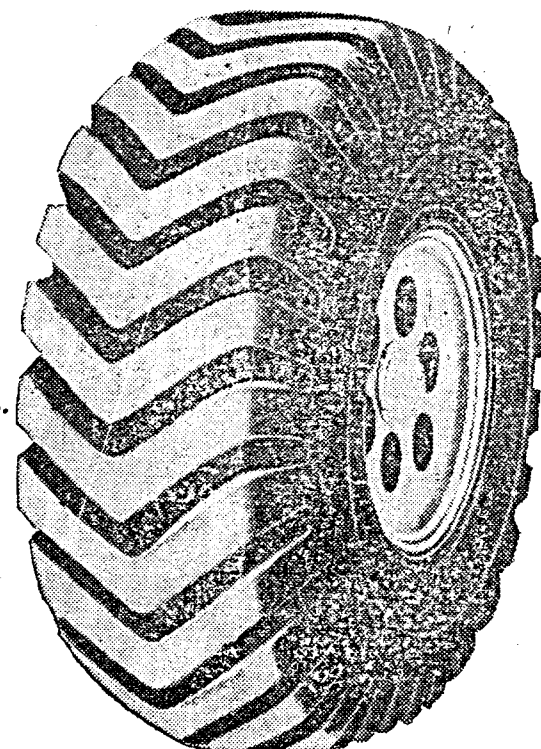
To meet the exacting conditions of large scale project site work, Dunlop Off-The-Road Tyres are now manufactured with the new XL Tread Compound.

This harder tread compound increases tread life and offers even greater resistance to cuts and other damages caused by the hazards on project sites.

Dunlop Off-The-Road Tyres with the new XL Tread Compound offer outstanding service at the lowest cost in multipurpose projects, construction jobs, coalfields, mines and quarries.

These tyres are available in a wide range of sizes including the extra large 24.00-25 and 26.5-29.

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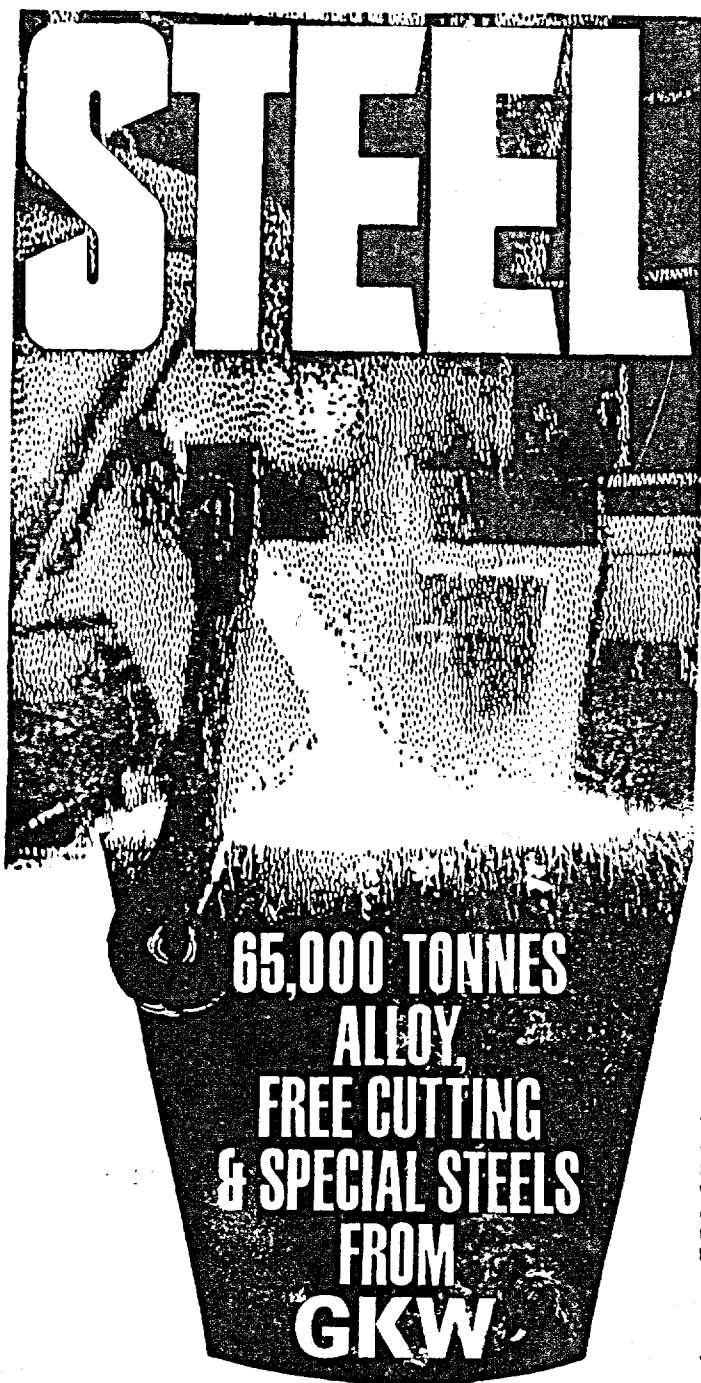
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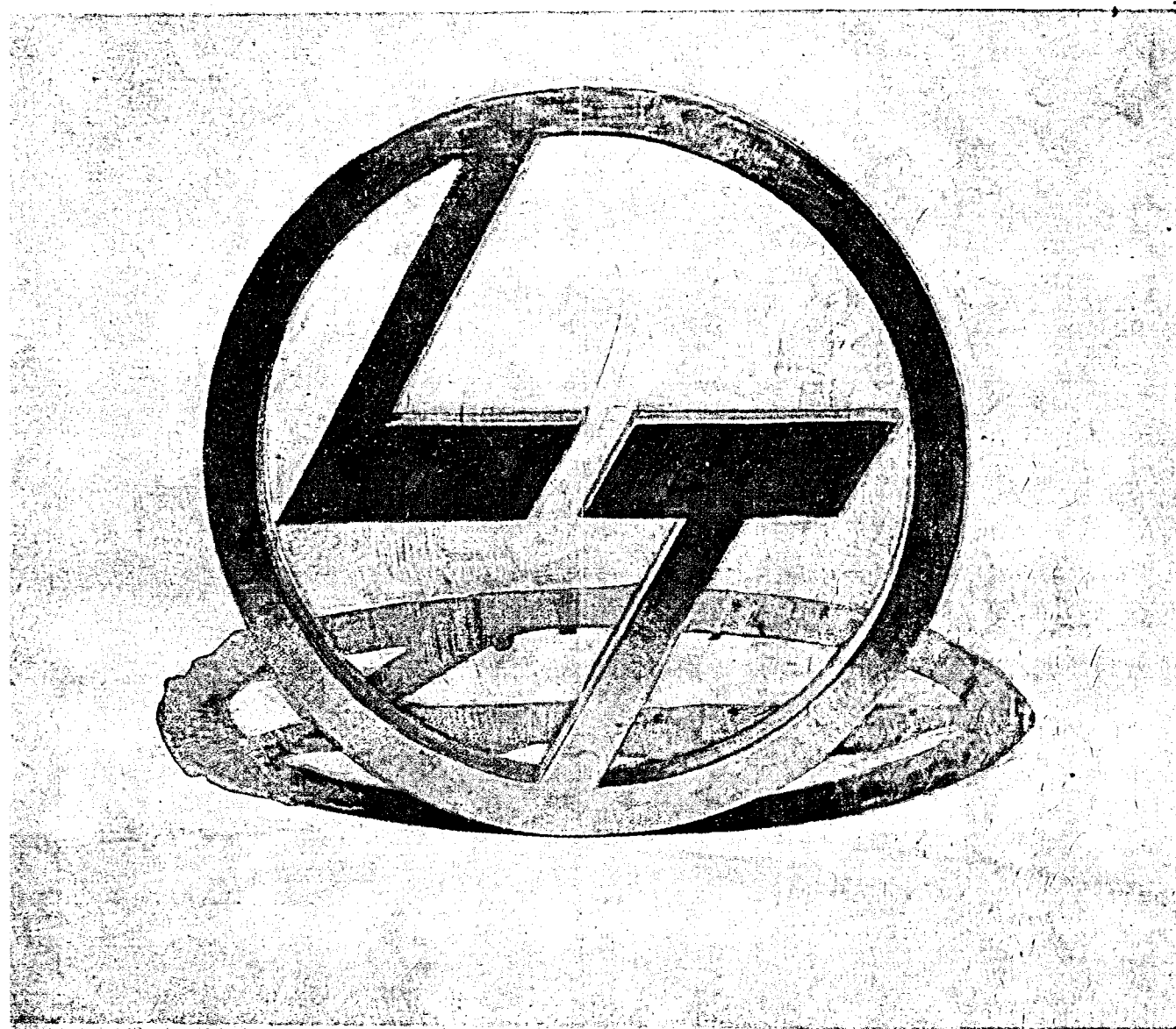
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LEST WE FORGET

For us in India the need for scientific and technological training is not just a desirable end, but is necessary for our very survival...Both should be related to national needs.

—Indira Gandhi

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RELEVANCE OF VIVEKANANDA.

ON September 2, the first citizen of India inaugurated an impressive temple built on a lonely rock about 500 metres from the southernmost tip of the mainland and washed by the waters of the three seas—the nation's memorial to one of its greatest sons, Swami Vivekananda. Just about a month before this historic occasion, in Calcutta, the city of Vivekananda's birth, the marble statue of the Swami was defaced in the course of an orgy of vandalism unprecedented in the country's history. The unknown criminals, when they painted the face of the Vivekananda statue with coal tar, only blackened their own faces and tarnished the fair name of Bengal. This is a tragic symptom of the depravity of a section of our people who seem to take pride in denigrating some of the greatest and noblest sons of the soil, whose place in the country's history cannot be obliterated by the thoughtless acts of a few misguided people. Indeed, the erection of the rock temple dedicated to the memory of Vivekananda and the deep reverence in which the Swami is held by the vast majority of our countrymen, is a fitting answer to those who were responsible for the Calcutta incident.

Yet, the Calcutta incident has a significance. Although still in a small minority, it represents new trends that are emerging in our society—the trends to disown the past and the established values of life, to search for a new utopia of human existence, to deny all religion in the name of science, to seek to establish a new political ideology alien to our national genius. Whatever the basic differences among these trends, they have one thing in common, that, is they are all non-conformist and pose a question: Have Vivekananda and his religious ideas any relevance for modern India? Hasn't religion fostered, and even sanctified, the inequality among men and thereby helped the privileged to exploit and oppress the poor and the unprivileged?

The answer requires a close scrutiny of the words and deeds of Swami Vivekananda in the context of his own times. The scrutiny will reveal that he was not only a man of supreme spiritual attainments, which a modern rational man may discard as mere hallucination, or, at best, a personal gain which has no use for society. He was also a great revolutionary thinker and social reformer of his age. He fought the orthodoxy of religion and its social ramifications, and tried to evolve a universal religion, epitomising the basic truths of all religions, which are the fountain of all human existence and its development. He preached a religion which embraced different types of minds and methods. In the social field, he preached justice and equality, and advocated education for eradicating all kinds of ignorance. An outspoken critic of existing religious practices, he said that the traditional ways of worship had only spread inaction, ignorance and inequality, and there was need for a new orientation of

religion to bring about a social regeneration. His heart was deeply pained at the abject poverty and sufferings of his countrymen and wanted them to rise up against all exploitation. He said, "My heart aches to think of the conditions of the poor...So long as the millions live in hunger and ignorance, I hold every man a traitor who, having been educated at their expense, pays not the least heed to them. Our great national sin is the neglect of the masses and that is the cause of our downfall."

In an age when politics has become the paramount pre-occupation of our people, Swami Vivekananda's views are especially relevant. He said: "No amount of politics would be of any avail until the masses in India are once more well educated, well fed and well cared for." With this objective in view, he gave the clarion call, "Let New India arise out of the peasant's cottage holding the plough, out of the huts of fisherman, the cobbler and the sweeper. Let her spring from the grocer's shop, from beside the oven of the fritter-seller. Let her emanate from the factory, from the marts and from markets."

Is this "New India" of Swami Vivekananda's vision less socialistic than the socialism of our times, which has become an excuse for some people to justify the destruction of all institutions? Is it less secular and democratic than our present ideas of secularism and democracy? And yet, this "New India" has still remained only a dream. How can we forget the teachings of Vivekananda till it becomes a reality?

No doubt, all these thoughts of Swami Vivekananda about social and economic reconstruction of India sprang from a religious conviction. Even his secularism was seated in religion when he said, "We have to give them (the people) secular education.....Impart even secular knowledge through religion." But, for him, religion was only a set of eternal truths that sustain and sublimiate human life. It was only a by-product of the deepest realisation of the highest spiritual ideals—the Ultimate Reality. This may not be comprehended, and hence likely to be misunderstood, by the imperfect and so-called rational minds. But the self-proclaimed non-conformist rebel seeker of truth today cannot afford to disregard it. And, isn't the present world, groaning under its own affluence and scientific advance, groping for the light which will bring peace to its tortured soul? In all probability, Vivekananda had attained this light and held it high to guide succeeding generations of his countrymen. That the highest spiritual truth of life was in perfect tune with the wordly happiness of mankind for Vivekananda is evident in his words, "The best way to serve and seek God is to serve the needy, to console the stricken, to help the fallen and friendless, to attend and serve those who are ill and require service". What greater inspiration can we have in the task of building up a "New India"?

Economic Consequences of Commonwealth Immigration in Britain

K. RANGACHARI

THE meteoric rise of Mr Enoch Powell was one of the major factors in British politics before the last general election which owed its success to the systematic efforts made by his followers and a section of the British press to play up the alleged dangers of unchecked immigration of coloured peoples from Commonwealth countries. There were social and cultural problems which were complicated enough, affecting the immigrants in their community life and places of work and in the education of their children; discrimination in jobs (like the rule against turbaned Sikhs) and housing aggravated some latent racial tensions. The British Government had the Sovereign right, both for these reasons and even otherwise, to regulate immigration into its territories; but as part of the campaign for placing strict curbs on the entry of Commonwealth citizens, the Powellites raised a bogey about the economic dangers of immigration on the basis of isolated examples, real or fancied, which were then exaggerated and built up into theories about future trends.

Exaggerated Fears

Such theories could not then be easily disproved even by those who seriously doubted their validity. Much independent research was needed to discover the facts about all economic aspects of immigration and this has since been undertaken by Messrs K. Jones and A.D. Smith for the National Institute of Economic and Social Research, London with the help of a grant from the Department of Economic Affairs.* The results are heartening since they show that on almost all major counts, the authors have been able to prove that the dangers of immigration were either non-existent

or highly exaggerated. Far from doing damage to Britain as alleged, Commonwealth immigration in the early Sixties (1961-66, the period taken up for inquiry) might even have made a positive contribution to British growth and productivity.

Since the authors are engaged in a piece of economic research in a field in which clear-cut statistics were not always available, persons shown as born abroad included many white descendants of British civil servants; there was also under-enumeration of immigrants at the last census. A good part of the study, therefore, is devoted to the refinements in concept and methodology required to make estimates of various kinds to test the validity of theories prejudicial to the immigrants. These methods will be of interest only to experts; but the broad conclusions will help to dispel the many prejudices on which immigration policies have been based, and support Commonwealth Governments in taking up with the British Government its harsh and discriminatory treatment of their citizens.

Ratio

The immigrant population of Britain in 1966 formed about 5 per cent of the total, or 2.6 million out of a total population of 52.3 million. Excluding those from Australia, New Zealand, Canada, the Irish Republic, U.S.A. and the Continent, etc., immigrants belonging to what the authors describe as the New Commonwealth (India, Pakistan, British Caribbean and some Mediterranean areas) and resident in Britain in 1966 numbered 853,000; the annual rate of their entry had increased from 31,000 (out of a total annual immigration of 81,000) during the decade 1951-61, to 65,000

(out of a total of 96,000) during 1961-66. This sudden rise in the rate of influx of immigrants from the New Commonwealth is attributed to the availability of jobs in Britain; with the restrictions against entry into Canada, Australia and the United States, emigrants looked for other areas. Britain offered prospects of full employment along with unimpeded entry until recently. (Later, it appears, the expectation of a restrictive policy in Britain caused a spurt in the rate of immigration till 1966). The immigrants from the New Commonwealth consisted predominantly of males, in the active working age groups; it was only when entry was restricted to those with work vouchers and dependents that the proportion of women and children increased. (And because of the continuing labour shortage in Britain when New Commonwealth immigration declined, owing to several restrictions, immigration from Europe showed an increase.) It is found that to the total increase in the British labour force between 1961 and 1966, the New Commonwealth immigrants contributed 22 per cent.

Last-in, First-out

There is evidence to suggest that these immigrants are more vulnerable to unemployment when it is increased during a deflationary phase of the economy. This was not so much because they were engaged in employment sectors which were basically unstable but because due to racial discrimination and the application of the "last-in-first-out" principle of redundancy, they were the first victims in new jobs. In any case, there is no appreciable difference between the indigenous and immigrant unemployment rates so as to increase disproportionately the financial cost to the Government of social benefits to immigrants.

In dealing with fears expressed in the public and the press that the immigrants would swamp the country

*The Economic Impact of Commonwealth Immigration by K. Jones and A. D. Smith. Cambridge University Press, 1970. 177 Pages. Price £ 1.75 or \$ 6.00.

or parts of it so as to reduce the numbers or importance of the indigenous population, the study points out that even where they are highly concentrated as in the South-East, they do not exceed a tenth of the population. Immigrants are basically town-dwellers, though many of them come from rural areas of India and Pakistan. They tended to go to regions of high labour demand where jobs were vacated by the indigenous working population. The availability of housing, even old and discarded houses, was an additional attraction, which meant that the immigrants' demand on Britain's social capital was not as high as was often assumed by their critics.

Social Implications

Nor did the industry-wise concentration of the New Commonwealth immigrant labour exceed 3 per cent in 1961; by 1966 it had risen in some cases to the maximum of 5½ per cent. But in some smaller segments, such as in the woollen worsted trade, it was as high as 11 per cent; among the national hospital domestic staff 10 per cent was coloured but in the London leading hospitals the proportion was 37 per cent. A very significant observation in the survey is that the absence of economic concentrations as high as geographical concentration may go far towards explaining the evidence that "the level of social acceptance is higher in the works environment than in the community. A positive social implication of this conclusion is that any policy for dispersing the geographical location of the coloured immigrants will not involve any serious disturbance to the British industrial structure or occupational pattern.

Nor can it be said that the immigrants as a whole take more out of the British economy than they give. A sample survey of the income and expenditure of their households shows no great difference between their savings retained in the country (8 to 12 per cent) and that of the indigenous population. It is true, however, that their propensity to consume is somewhat less than that of the latter because of their remittances to their country of origin, which is about 8 per cent of their income. Their contribution to the

Constituting only 5 per cent of Britain's population, the influx of immigrants has spared the recipient country of much of the cost of capital, social and industrial, already embodied in them.

revenues may be somewhat lower than that of the local population because of the allowances for the larger number of dependents they have. But it is also clear that except in health and educational requirements, immigrants make much smaller demands on the social services because of their age structure, showing a low proportion of old people. This position is likely to continue for several years to come.

Fewer Demands

In sum, the average immigrant receives about 80 per cent of the social security current expenditure and benefits available to the indigenous population. Housing requirements per head of the coloured immigrant are 29 per cent less because of their use of old houses, which would in the normal course have been demolished; their hospital requirements are 21 per cent less; but school requirements are 36 per cent higher than those of the indigenous population. Thus, social capital needs as a whole are 19 per cent below, while industrial capital requirement is 15 per cent higher. Immigrants took up jobs for which there were not many local takers, possibly because of conditions of full employment, so that there is little evidence of "a negative impact on the standard of living as a consequence of New Commonwealth immigration in the early 1960s." Nor is there much

substance in the theory of the inflationary impact of immigration. On the other hand, the influx of professional workers from Asia and West Indies spared the recipient country of much of the cost of capital, social and industrial, already embodied in them. It was "a perverse" movement in the sense that developing countries were subsidising the skills required in a developed country while they badly needed it themselves. New commonwealth immigration "substantially mitigated a fall in the rate at which the indigenous (British) labour force was increasing, at a time when economists were beginning to identify inelasticity in total labour supply as a cause of poor growth and productivity performances."

The main conclusions of the study are that further advance planning of capital expenditure will be needed in future years to raise immigrants' living standards close to those of the indigenous population, that geographical dispersal of immigrants involves no economic loss and, finally, that the economic cost of an unduly restrictive immigration policy could well be high since the expansion of the British labour force up to 1980 will be lower than in the past. It speaks highly of the objectivity of economic research in Britain that such impartial conclusions could be reached in the midst of a general atmosphere of prejudice against all coloured immigration.

TO OUR READERS

There will be no issue of YOJANA, dated October 4, 1970. This issue will be incorporated in our Special Number (October 18) on the 25th Anniversary of the United Nations.

PAKISTAN'S FOURTH PLAN An Assessment

A. N. PRABHU

IN the long, unending race for planned progress, both India and Pakistan must doubtless have their relays of hares and tortoises on the five-year tracks. It would, therefore, be a fatuous exercise to gloat over a spirited sprint here or wail over a restful nap there.

The acid test for the success of a nation's effort at achieving planned progress is how nearer the planners are getting to the ultimate goal of the greatest good of the greatest number of people. For, neither of the groups of the planning elite of the two countries, whether working for a "guided democracy" or for the free parliamentary system, can verbally deny that this old-fashioned maxim of optimum community benefit is the objective and rationale of planning.

Planning is no longer the exclusive strategy of Communism or the sole monopoly of Socialist states. Since the Soviet Union ushered in the famous Electricity Plan of Lenin or the United States inaugurated T.V.A. programme, much water has flowed down the Volga and the Hudson and indeed the Indus and the Ganga. Many countries have accepted the need for planned development; they have recognised the necessity to assess the available resources and put them to the best use to achieve the maximum economic prosperity in the minimum possible time.

CONTROL ON VITAL SECTORS

Planning has gained relevance, more than ever, to the underdeveloped countries, which have to break the vicious circle of poverty, lack of internal saving arising out of paucity of investment bringing in its wake more unemployment and greater poverty. No more are the days when *laissez faire*, even when faintly thought of, is promptly modified or totally abandoned even by the champions of a free economy, in favour of a certain measure of control in the vital sectors. This is inevitable for protecting the interests of the nation in the climate of a severely competitive world economy.

Planning as such has acquired the connotation of centralised control: something directed from the top, guided and managed from the apex, with the line of control extending down below to the village level. It was in India, however, that the theory of rigid centralised control in the planning process was disproved. Indeed, it would even seem that in India decentralisation has been almost carried to an excess. And this has happened in spite of the fact that the federal structure of the Indian political set-up and the pattern of democratic planning adopted by India make the task of the planners extremely difficult.

Development planning, for its success, has to depend upon the consent and co-operation of all the States of the Indian Union. Asoke Chanda sums up the position thus: "This democratic concept of planning and the federal structure of the State implied that the planning

apparatus must function on the basis of advice and consent of the States. It was not intended that a plan or programme should be imposed on the States or that they should be induced by pressure or financial assistance to embark on schemes not directly beneficial to their economy or social needs."

It would, however, be unrealistic to examine or analyse development plans from this point of view. The regional structure in Pakistan is totally different from that of India; in no modern State could one find the economy in two component units so disparate as between East and West Pakistan. And since this disparity is not merely determined by geography but overwhelmingly by political considerations, the planning process becomes easily distorted.

Pakistan's First Plan with an outlay of Rs. 6,929 million could hardly touch the fringe of the new nation's vast economic problem. A Pakistani commentator, Dr. Mahbub Ul Haq, conceded (Pakistan Times: Jan 6, 1964) that in the First Plan, major failures were experienced in agriculture, transport, mining and housing and education. "The financial investment and administrative effort that went into agriculture was far too small to make any difference to the stagnant character of agriculture in Pakistan," he added.

Pakistan's planning under "guided democracy" could make little headway in development of transport which, Dr Haq added, "continues to be the bottleneck in the way of a rapid expansion of economy as was a dire neglect of inland water transport in East Pakistan and road transport in West Pakistan." He also noted that only 3,000 tubewells were sunk in East Pakistan where the need for these was "the greatest." "The progress of sewerage and drainage work was equally disappointing," he added.

DISPARITY IN REGIONAL DEVELOPMENT

So far as regional development was concerned, the disparity in the allocation of money for the two wings of Pakistan was too glaring to be missed by anyone. The percentage share of East Pakistan during the Second and the Third Plans was 31 and 36 as against 69 and 64 of West Pakistan.

The table on the next page gives an idea of "region-wise development" of the two wings of Pakistan.

But this state of affairs could not last long. Loud and incessant became the demand from the East Pakistan Awami League for an adequate share of planning and development benefits for the far-flung Eastern wing. In June 1964, the Awami League announced an 11-point draft manifesto reiterating its stand for long-term planning to remove economic disparities between the two wings. The demand gained momentum and the

Pattern of Regional Allocations

(Rs in million)

	Second Plan		Third Plan		Fourth Plan	
	East Pakistan	West Pakistan	East Pakistan	West Pakistan	East Pakistan	West Pakistan
Public Sector	6,700	10,800	11,300	13,700	25,000	20,000
Private Sector	3,000	10,000	5,500	16,000	12,000	18,000
Total	9,700	20,800	16,800	29,700	37,000	38,000
% distribution	31	69	36	64	49	51

Pakistani planners had to bow to popular pressure to increase East Pakistan outlay to 49 per cent as against 51 per cent of West Pakistan in the Fourth Plan presented to the nation in July last.

The "dramatic" success claimed during the Second Plan period was a 24 per cent increase in Gross National Product, but population increase continued to cause worry. Pakistan's population increased from 78.8 million in 1949-50 to 98.9 million in 1959-60 and shot up to 128.5 million in 1968-69. Pakistan, which claims to have imported no foodgrains in 1949-50, has become a net importer of an estimated 17 million tonnes of foodgrains this year.

NO POPULAR CONSENSUS

A national debate to arrive at a democratic consensus before formulating Plan priorities is unknown in Pakistan. In India, Plan schemes and targets under agriculture, development cooperatives, village industries, rural water supply, elementary education and public works programme have to be formulated, in the first instance, at the state level (based on the recommendations from the districts) and then broken up to the extent possible according to districts and blocks. "... district and block plans are of the greatest value as tools of implementation for the State and national Plan."

Pakistan has also been steadily stepping up its defence expenditure. According to reports, Government expenditure in 1965 alone has been "Rs 1,050 million more on defence than was budgeted for." The Fourth Plan document of Pakistan says that the expenditure on Defence during the Third Plan was projected at Rs 6,890 million against which accepted expenditure by the end of the Plan is estimated at Rs 12,348 million due to Indo-Pakistan conflict and "suspension of US military aid." The Defence expenditure, according to the document, increased by 125 per cent during the Third Plan as against projected increase of 21 per cent during the Fourth Plan period.

A hopeful feature of Pakistan's economy is the fairly steady high rate of domestic savings, at 70.6 per cent for the Third Five Year Plan period as a whole. The target

for the Fourth Plan is 76.6 per cent. External resources, which were as high as 35.9 per cent in 1964-65 dropped to 27.6 per cent in 1969-70 and have taken credit for 17.8 per cent for 1974-75.

Planning with the essential ingredients of democracy, though a painful process, demands as a prerequisite freedom of thought and expression that can obtain only in a free society. Though quick results may be achieved for a short period through guided planning as it were, the entire process runs the risk of proving unavailing because it lacks the people's sanction and involvement so essential for ensuring the enduring benefits of planned development.

It is neither wrong nor unrealistic to hope that Pakistan, at present going through the convulsions of a political upheaval, might yet get a chance to go through the democratic process of planning. Planning under a "guided democracy" may not be entirely barren of benefits but democratic planning would seem to be infinitely better, at least after the people have been "guided" long enough on the right lines to political maturity. Both systems have their good and bad aspects. It is for the people to decide what it will, or should have.

CALLING ALL READERS

Yojana invites contributions from its readers to its new feature "This I like About New India". We desire to encourage our readers to tell us about the country's achievements which are significant.

Contributions, not exceeding 300 words, should deal with some positive aspect of individual or collective endeavour in New India. Contributions stating age and field of activity and address of the contributor, should be addressed to:

Chief Editor, Yojana
Yojana Bhavan, Parliament Street
New Delhi-1

ANNUAL PLAN FOR 1970-71

Greater Reliance on Internal Resources

Increased Outlay on Public Sector

Accent on Price Stability

Rate of Investment to be Raised to 13 per cent

THE ANNUAL PLAN FOR 1970-71 IS INTENDED TO BE AN OPERATIVE INSTRUMENT OF IMPLEMENTATION OF THE FOURTH FIVE YEAR PLAN. IT SEEKS TO CARRY FORWARD THE PROCESS OF ECONOMIC GROWTH INITIATED DURING THE LAST ANNUAL PLAN.

Approach and Objectives

The principal objectives of the Annual Plan for 1970-71 are to increase the rate of investment from 12 per cent in 1969-70 to a little over 13 per cent in 1970-71 and to step up the net investment in the public sector by 25 per cent over last year's level.

A rate of growth of 5.5 per cent in national income has been envisaged. This will be achieved through a 5 per cent increase in net output from agriculture and an 8 per cent rise in production in the organised industry.

The current year's Plan also aims at stabilising the general price level through increased production of foodgrains and other agricultural raw materials and through appropriate management of their supplies. A 7 per cent expansion in exports will be achieved through an active policy of export promotion.

The Annual Plan for 1970-71 is intended to subserve the objective of making the Annual Plan an operative instrument of implementation and accordingly detailed guidelines, identifying specific programmes, have been issued to the Centre and the States.

Resources

The Annual Plan for 1970-71, with an outlay of Rs 2822.20 crore, incorporates significant changes in the pattern of financing as compared to the Plan for 1969-70. These include resources to be raised by the Food Corporation of India for building up buffer-stocks of foodgrains, and by term-lending institutions like the Industrial Development Bank, the Industrial Finance Corporation, the Industrial Credit and Investment Corporation and the Agricultural Refinance Corporation and other institutions like the Indian Dairy Corporation, Damodar Valley Corporation, Agricultural Refinance

Corporation, Rural Electrification Corporation and Central Power Generation undertakings.

PATTERN OF FINANCING

The following table shows the scheme of financing the Annual Plan 1970-71.

	Rs in crore
Total domestic budgetary resources	2034
Budgetary receipts corresponding to external assistance (net)	563
Deficit financing	225
Aggregate Resources	2822

In addition, the total external assistance both PL-480 and other than PL-480 will amount to Rs 563 crore.

The Annual Plan for 1970-71 places greater reliance on domestic budgetary resources, which account for nearly 72 per cent of the total outlay as against 57.4 per cent in the 1969-70 Plan.

Similarly external assistance component with Rs 563 crore shrinks to 20 per cent of the total outlay as compared to 31.4 per cent in the last year's Plan.

Deficit financing has been brought down to Rs 225 crore which forms only 8 per cent of total Plan outlay as compared to 11.2 per cent in the Annual Plan for 1969-70.

Additional resources mobilisation by the Centre and by the Railways and Post and Telegraphs are expected to yield a total of Rs 302 crore in 1970-71.

The States' efforts in 1969-70 are likely to yield Rs 84 crore in 1970-71 with the hope of raising another Rs 82 crore through budgetary measures in 1970-71.

Outlays

The Annual Plan for 1970-71 provides an outlay of Rs 2822.20 crore in the public sector as against an outlay of Rs 2270.47 crore in the Annual Plan for 1969-70.

The outlay in the second year of the Fourth Plan accounts for 17.7 Per cent of the total public sector outlay, as compared to 14.3 per cent in the first year of the Plan.

DISTRIBUTION OF OUTLAYS

	(Rs in crore)		
	Outlay in 1969-70	Outlay in 1970-71	Increase over 1969-70
Centre	1173.84	1456.08	302
Centrally sponsored Programmes	99.00	118.78	
States	932.01	1168.59	237
Union Territories	65.62	78.75	13
Total	2270.47	2822.20	

The increase in the States' outlay is wholly on account of the additional resources to be generated by the States themselves - a marginal increase of Rs 10 crore having been made in the case of Central assistance.

The Plan outlay of the States and Union territories for 1970-71 is Rs 1247.34 crore.

STATE-WISE ALLOCATION

	(Rs in lakhs)	
	Outlay in 1970-71	Central Assistance
Andhra Pradesh	8006	4356
Assam	4809	3994
Bihar	8569	6134
Gujarat	8600	2864
Haryana	4000	1423
Jammu & Kashmir	2934	2629
Kerala	4600	3175
Madhya Pradesh	6720	4756
Maharashtra	15672	4451
Mysore	6500	3137
Nagaland	776	635
Orissa	4184	2902
Punjab	4987	1835

Rajasthan	5386	3994
Tamil Nadu	7930	3664
Uttar Pradesh	17919	9544
West Bengal	5267	4007
Total	116859	63500

Union Territories

Andaman & Nicobar Islands	309
Chandigarh	175
Dadra & Nagar Haveli	46
Delhi	2867
Goa, Daman and Diu	743
Himachal Pradesh	1705
Laccadive, Amindivi and Minicoy Islands	45
Manipur	519
NEFA	385
Pondicherry	264
Tripura	817
Total	7875

SECTOR-WISE ALLOCATION

	Rs in crore	
	Outlay in 1970-71	Outlay in 1969-70
Agriculture and allied programmes	470.90	332.16
Irrigation and flood control	203.45	155.55
Power	482.41	367.12
Industry and minerals	622.33	579.61
Village and small industries	43.43	38.48
Transport and communications	556.00	447.65
Education	123.13	96.80
Scientific Research	23.61	21.60
Health	63.45	55.31
Family Planning	52.00	41.90
Water Supply and Sanitation	63.50	45.73
Housing and Urban Development	42.49	24.16
Welfare of backward classes	21.64	19.25
Social Welfare (including Public Co-operation)	5.45	4.44
Labour Welfare and Craftsmen training	6.90	6.34
Other programmes	41.51	34.37
Total	2822.20	2270.47

Plan Performance in 1969-70

Plan Objectives Largely Realised

The Annual Plan document for 1970-71 points out that the year 1969-70 carried forward the process of economic growth with a fair measure of success in many fields. The growth of real national income is likely to reach the target of 5.5 per cent and the rates of domestic savings, and investment approximate to what was envisaged in the Annual Plan 1969-70. The production of foodgrains is estimated to have increased to 99.5 million tonnes from 94 million tonnes during 1968-69. The output of some commercial crops, particularly sugarcane and raw jute, also recorded sizable increases.

The rate of growth of industrial production improved further to around 7 per cent from 6.2 per cent achieved in 1968-69 though it fell short of the Annual Plan target of 8 per cent. Exports recorded an increase of 4 per cent, 3 per cent short of the target.

INVESTMENT AND SAVINGS

The rate of investment, which had remained at 11.3 per cent in 1967-68 and 1968-69, is estimated to have risen to 12 per cent in 1969-70.

The proportion of external assistance (net of debt repayment) to national income, which declined from 3.5 per cent in 1967-68 to 2.5 per cent in 1968-69, further scaled down to 2.1 per cent in 1969-70.

There is, therefore, need for a sharper step up in the rate of domestic savings from 9.9 per cent in 1969-70 to over 11.2 per cent in 1970-71.

AGRICULTURAL PRODUCTION

The production of foodgrains is to be stepped up to 106 million tonnes, of oilseeds to 9 million tonnes, and of cotton and jute to 6.5 and 6.7 million bales respectively.

To attain these levels, the area under high-yielding varieties is to be extended to 15.05 million hectares and an additional area of 2.24 million hectares will be covered under multiple cropping programme. The coverage of area under the package schemes in case of commercial crops, aiming at improving per hectare yields, will be further extended. Consumption of chemical fertilisers and their balanced use will also be promoted.

INDUSTRIAL PRODUCTION

Industrial production recorded an increase of around 7 per cent during 1969-70, against 6.2 per cent during 1968-69. Recessionary conditions in most of the industries lifted and improvement occurred in the performance of a wide range of consumer and intermediate industries. Larger availability of raw materials, owing to an increase in agricultural production, liberalised import policy, increase in domestic demand due to

larger incomes, sustained rise in export demand and liberal credit facilities contributed to this recovery.

The import policy for 1970-71, would further facilitate the supply of imported raw materials and components particularly for the export-oriented and priority industries. A programme of improvement and renovation of Hindustan Steel has been initiated to augment the existing supply of steel. The production of fertiliser is to be raised further. As a result of increase in demand for machinery and equipment the capacity utilisation is expected to improve both in the public and the private sectors. On the whole, Industrial production is likely to increase further by 8 per cent in 1970-71.

PRICES

During 1969-70 the general price level increased slightly due to a fall in agricultural production during 1968-69, and faster increase in aggregate demand in 1969-70.

The average index of wholesale prices for the year consequently rose to 171.5. It was higher by 3.7 per cent over the preceding year, and 2.6 per cent over that for 1967-68.

The rise in wholesale prices during 1969-70 was primarily due to the rise in the index of 'industrial raw materials', 'chemicals', and 'manufacturers' which went up by 14.5, 8.6 and 8.1 per cent respectively. The increase in foodgrain prices during the year was only 3 per cent.

The increases in agricultural and industrial output envisaged in the Annual Plan are likely to have a salutary effect on prices in 1970-71. The stock of foodgrains with the public authorities amounted to 4.2 million tonnes at the beginning of 1970-71 and with further addition to stock from the Rabi crop it should be possible to operate on these stocks to maintain stability in foodgrain prices.

Buffer stock operations in jute will be continued. A Cotton Corporation has been set up for the purchase, sale and equitable distribution of domestic cotton and also for canalisation of cotton imports. Monetary and fiscal policies will also be geared towards the objective of price stability.

EXPORTS AND IMPORTS

The export performance in 1969-70 fell short of expectations. Compared to 1968-69, the value of exports rose by only 4.1 per cent to a level of Rs 1,413 crore.

A number of steps were taken in the Central Budget for 1970-71 in order to accelerate the growth of exports. Export duty on tea was abolished and that on certain varieties of jute manufactures reduced. The import policy for 1970-71 has been further adapted to promote

KERALA'S FOURTH PLAN

PRIORITY SHIFTS TO INDUSTRY

Report by

ROSSCOTE KRISHNA PILLAI

Our Trivandrum Correspondent

KERALA's Fourth Plan envisages a total outlay of Rs 258.40 crore, which represents an increase of more than Rs 77 crore over the Third Plan outlay of Rs 181.62 crore.

Among the major objectives of the State's Plan are : (1) raising per capita income to the all-India level within 15 years; (2) self-reliance in food; (3) full ownership rights to the actual tillers of land ; (4) fuller employment ; (5) narrowing the development gap between the different regions of the State; and (6) ensuring an increasing share for the vulnerable sections of the community in the fruits of development.

The dominant urge in the formulation of the State's Fourth Plan, is the building up of a socialist pattern of society. The over-riding importance given to industry as against agriculture is because "there is little scope for development in the agricultural sector". Also, as the Plan points out, industrialisation, which "has long been neglected in Kerala" is the only way to increase employment opportunities, productivity, and for raising living standards. Although the Fourth Plan will aim at maximising production through the fullest utilisation of available resources, its main emphasis will shift from agriculture to industry.

During the first three Plans and the three Annual Plans, the State's economy remained relatively stagnant except on the agricultural front. Of the major economic and social problems, only the fringe was touched. The Plan outlay on large and medium industries during the first two Plans was only Rs 1.27 crore out of the total outlay of Rs 117 crore. Kerala's share of the Central investment in industries in the Second Plan amounted to less than Rs one crore out of a total of Rs 653 crore.

The emphasis in the first two Plans was on relatively non-priority sectors like social services. In the Third Plan, however, crucial sectors like agriculture, irrigation and power, and industry received sizeable allocations. As in other parts of India, in Kerala, too, agriculture has achieved a break-through, thanks to modern and increased inputs. The foundation of quite a few industries was also laid during the Third Plan. The Central outlay in industrial projects showed considerable increase. The actual investment came to Rs 49.2 crore, although initially an outlay of Rs 71 crore had been approved. The Cochin Refinery (Rs 30 crore), the third stage expansion of FACT (Rs 11 crore), and HMT

- * Total Outlay : Rs 258.40 Crore
- * Higher Per Capita Income
- * Self-reliance in Food
- * Ownership Rights to Tillers
- * Fuller Employment

factory at Kalamassery were the results of this increased Central investment. Work was also begun on Cochin Fertilisers, another major industrial plant.

Small industries also made considerable headway during the Third Plan. At the end of the Plan more than 3,000 small units employing about 30,000 persons had been registered.

Under the first three Plans Kerala's average annual rate of growth of income was 3.1 per cent, as against the all-India rate of 2.6 per cent. The per capita income rose at an annual rate of 1.1 per cent as against the all-India rate of 0.5 per cent.

Although rice output increased from 10.68 lakh tonnes in 1960-61 to 12.5 lakh tonnes in 1968-69, Kerala depends even now for more than half its total requirements of cereals on other States, mainly because the State grows the more remunerative cash crops on about half its net cultivated area.

The most outstanding achievement of planning in Kerala in the last 18 years has been the meteoric rise in the total installed capacity of hydro-electric power. The capacity has increased from 18.5 MW to 546.5 MW. With the commissioning of the Idikki Project in central Kerala, which was started in 1968 and which is expected to almost double the existing capacity, "the State will soon face the problem of the disposal of surplus energy."

Another field in which the State has made remarkable progress is fisheries. Kerala accounts for over 40 per cent of the national output of marine products; 85 per cent of the foreign exchange is earned from this source. In the last eight years the earnings from the State rose from Rs 2 crore to Rs 25 crore. However, fishing in off-shore waters beyond 15 kms is still very meagre. Some progress has been achieved in mechanising and modernising fishing techniques. A Master Plan for fisheries development, which is expected to add significantly to the general uplift of the economy is being implemented.

The sectors which received comparatively greater attention under the Plans were education and health. In the first eight years of the sixties the annual expendi-

PHYSICAL TARGETS

Agriculture and allied sectors—(Outlay : Rs 470.90 crores)

Foodgrains	106.0 million tonnes
Oilseeds	9.0 million tonnes
Sugarcane (gur)	13.20 million tonnes
Cotton	6.5 million bales
Jute	6.7 million bales
High-Yielding varieties programmes	15.05 million hectares

Consumption of chemical fertilisers :

Nitrogenous	1.73 million tonnes
Phosphatic	0.56 million tonnes
Potassic	0.25 million tonnes
Minor irrigation (additional)	1.76 million hectares

Irrigation and Flood Control— Outlay : Rs 203.45 crore

Irrigation (major and medium)—potential (gross)	20.01 million hectares
Utilisation (gross)	18.14 " "

Power—Outlay : Rs 482.41 crore

Installed capacity	16.8 million KW
Pump sets energised	1609000 (nos)

Village and Small Industries—Outlay : Rs 43.43 crore

Production of handloom powerloom and khadi cloth	3900 million metres
Raw silk	2.50 million kgs

Industry and Minerals—(Outlay : Rs 622.33 crore)

Steel ingots	7.6 million tonnes
Finished steel	5.7 million tonnes
Aluminium	170,000 tonnes
Nitrogenous fertilisers	940,000 tonnes
Agricultural tractors	25,000 (nos)
Commercial vehicles	48,000 (nos)
Crude Petroleum	7.1 million tonnes
Machine tools	Rs 350 million
Cotton cloth	4,350 million metres

Transport and Communications (Outlay : Rs 556 crore)

Railways : traffic originating	217.1 million tonnes
Major ports : traffic handled	60.0 million tonnes

Education (Outlay : Rs 123.13 crore)

Additional enrolment—	
Classes I-V	3.09 million
Classes VI-VIII	1.41 million
Classes IX-XI	0.73 million

Health and Family Planning (Outlay : Rs 115.45 crore)

Hospital beds	266,000 (nos)
Sterilisation	2.6 million (nos)
IUCD insertions	0.9 million (nos)

exports and production for exports. The State Trading Corporation and the Minerals & Metals Trading Corporation are organising bulk imports of raw materials for supply "off-the-shelf" and an Industrial Raw Materials Assistance Centre is being set up to assist in this.

The declining trend in imports, which had set in from 1966-67, became more pronounced during the year with imports amounting to only Rs 1,568 crore as compared to Rs 1,909 crore in 1968-69 and Rs 2,008 crore in 1967-68. The decline was 18 per cent as compared to about 5 per cent during 1968-69. Good agricultural performance resulting in improved availability of foodgrains in the country enabled a further reduction in foodgrains imports.

Non-food imports registered a decline of about 17 per cent compared to 5.5 per cent in 68-69. This was mainly due to lower imports of fertilisers, machinery and transport equipment. This is a significant development in the background of an increase of about 7 per cent in industrial production during the year. Under the import policy for 1969-70, imports of 316 items or groups of items were banned as these could be produced domestically.

The sharp reduction in aggregate imports together with a small increase in exports markedly improved the trade balance. The trade deficit of Rs 550 crore recorded in 1968-69 declined to Rs 154 crore in 1969-70.

SOCIAL OBJECTIVES

The social objectives set out in 1969-70 Plan were vigorously pursued. The measures included curbing monopoly growth, channelising organised credit to more socially desirable spheres through nationalised banks, financial institutions and co-operatives, and providing incentives to new and small entrepreneurs. Two small farmers' development agencies were set up in Bihar and West Bengal during the year. The State Bank's credit schemes also encouraged the development of small-scale industries and facilitated training to the engineer entrepreneurs for starting small units.

Apropos to the spirit of the Fourth Plan the Annual Plan for 1970-71 lays special emphasis on programmes for increasing the income and employment opportunities for the weaker sections and to promote greater social and economic equality. Programmes for small cultivators and agricultural labourers would be initiated during the year and 9 projects taken up for the development of dry areas.

In addition to generating greater employment potential in rural areas, labour-intensive rural works will be taken up in the chronically drought-affected areas.

Other special programmes include provision of nutritional services to pre-school children in tribal blocks and slum areas, increased funds for housing for low and middle income group and improvement of slums, and a substantially higher provision for expansion of drinking water facilities in the rural areas.

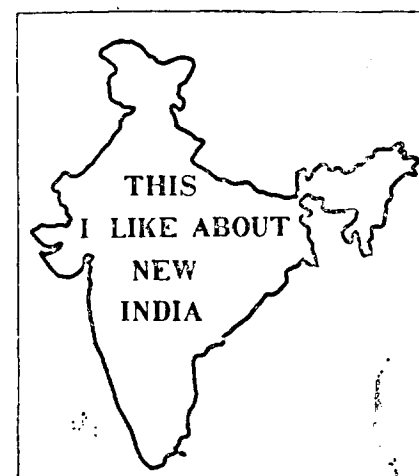
ture on education rose from Rs 18 crore to Rs 41 crore. During the Third Plan the number of colleges rose from 82 to 142. This has made the problem of educated unemployed more acute. The Fourth Plan lays special emphasis on small industries to solve this problem.

At the beginning of the Fourth Plan it was estimated that there were seven lakh unemployed persons in the State. During the Fourth Plan nine lakh new entrants will be added to this force. The Plan aims at absorbing part of this increase by setting up a number of small industries and by organising rural works on a large scale. The very large number of under-employed persons in the rural sector are sought to be given part-time or seasonal employment by rehabilitating the traditional industries like coir and cashew.

A very special problem facing Kerala is unemployment and under-employment of the professionally qualified. The Fourth Plan started with a backlog of 2,100 unemployed graduate engineers and about 4,300 engineering diploma-holders. The programmes envisaged under the Plan will be able to absorb only 1,760 graduate engineers and about 3,200 diploma-holders. Thus at the end of the Fourth Plan, the State will be left with over 5,000 unemployed graduate engineers and over 10,000 unemployed diploma-holders. The number of medical graduates seeking employment at the end of the

Plan Period is placed at 1,000. Because of the limited scope for further expansion of schools, it is estimated that there will be 5,000 B.Ed. degree holders and 15,000 Trained Teacher's Certificate holders among the unemployed. The Fourth Plan, therefore, stresses the urgency of "a more realistic and scientific manpower planning" in the educational sector.

The Plan outlines a number of positive measures intended to "attract the highly qualified personnel into self-employment". The State Government will give preference to engineering graduates in providing loans to start their own industries. The existing Industrial Training Institutes will be converted into production-training centres and successful trainees who pass out, will be allowed to use the Institutes' machines during off-hours to produce marketable consumer goods. Some of the minor and medium engineering works owned by the State Government will be entrusted to Engineers' Co-operatives, instead of to contractors, and the societies will be given financial assistance. In the case of medical graduates, too, loans and grants will be given to help them set up private practice. Also, fairly well-equipped dispensaries will be provided in suburban areas to groups of five or six doctors to practise their profession on their own. Government will also help organise co-operative medical stores in villages and provide facilities to doctors to practise there.



JOSEPH CARDINAL PARECATTIL Development of Villages

THE development of villages is what I like most about New India. It is the realisation, at least in part, of Mahatma's vision of a "Gram Swaraj".

Years ago, our villages were deplorably lacking in transport facilities. Since Independence, a number of new bridges and roads have been constructed and older roads have been widened and improved. Some two decades ago villages in the interior in Kerala could not be reached by car, but today a well-planned road system links practically all our villages with cities. However, much remains to be done in respect of our transport system.

With the introduction of better fertilisers, hybrid seeds, tractors and other modern agricultural implements, a 'green revolution' is now in full swing in many parts of the country. The network of canals, which is now a common feature of villages, has made the irrigation of fields considerably easy, so much so that it has been possible to bring several hectares of barren land under cultivation and to increase the number of crops in already cultivated lands. Subsidies given from public funds have also accelerated the pace of the green revolution. Taking advantage of the 50 per cent subsidy, our Archdiocese was able to distribute

more than 380 pump-sets to the peasants.

Progress in education is another bright feature of New India, especially with reference to villages. Now even the children of the poorest families are able to complete their high school education without much financial burden.

The availability of medical aid has added another dimension to village life. The fact that the average span of life of an Indian has increased from 27 in 1947 to 51 in 1970 speaks volumes for the progress made in this direction.

Under the auspices of the Social Welfare Board and with the help rendered by it, the lot of the "wailing widow and the weeping orphan" is much better in New India as compared to earlier times.

V. S. KRISHNAMURTHY Scientific Research

BEFORE Independence, the scope for science study, let alone higher study and research, was very limited. Research facilities were remote and were available only in foreign countries. But today the scene has undergone a revolutionary change. Apart from the University laboratories, there are over twentyfive major scientific laboratories in the country, either owned by Government or managed privately. Science and its allied studies have acquired an honourable place. For a nation steeped in traditionalism and orthodoxy, poverty and superstition, only a scientific approach can pull its people out of their old rut and pave the way for prosperity and happiness.

The people have also risen to the occasion. Sufficient amounts of investments have been made for the popularisation of science and Indian Scientists, working in India as well as abroad, have brought name and fame to their Motherland. Thousands of young men and women are engaged in deep researches which would help in alleviating human misery. We are no more tradition-bound and superstitious. There is a stupendous awareness of this fact and a brighter future is emerging and this I like about New India.

VIJAY

More Schools

BEFORE Independence, my village had nothing but a primary school with three teachers taking care of 150 children drawn from three nearby villages. Muddy streets were scattered with heaps of rubbish. But now the village life has undergone a change and this I like most in New India. The old primary school has been upgraded and made a high school. It has 15 trained teachers and the number of boys is 850. Funds are being collected to build a separate middle school for girls. In the common land, where we used to play, a primary health centre has come up. Lanes have been made *pucca*. Electric supply has made it possible to install two flour mills, 15 tube wells, 37 radio-sets and 15 electric fans. One hundred and fifty households are today consuming electricity.

There is a Village Co-operative Society which is not always effective but occasionally distributes sugar, fertilisers and new seeds. *Kuchcha* houses are being replaced by 'self-designed' unplastered brick-homes.

T. SULOCHANA

Greater Awareness of Problems

I like one thing particularly about New India: it is people's awareness of the happenings around them and their desire to be happy. Big improvements made in the modes of transport have helped people to travel away from their native places and occupations. It seems as if a nation is on the move. Fatalism has yielded place to rational thinking. People no longer accept that misery, poverty and unemployment are the handiwork of an unseen force. This is a revolutionary change.

In every age group people are showing greater awareness of the problems facing them. Mass contact devices like the press and the radio have made the people problem-conscious and they are now craving for a better social order.

STEADY INCREASE IN INDO-JAPANESE TRADE

INDIA'S trade with Japan has been increasing steadily in recent years. Exports to Japan rose from Rs 40.33 crore in 1961-62 to Rs 179.32 crore in 1969-70 while imports from Japan increased from Rs 58.61 crore to Rs 115.39 crore during the same period. At present Japan ranks third among India's customers.

Despite increase in exports, the share of India in Japan's overall imports is hardly 2 per cent. This position indicates considerable scope for further expansion of trade between the two countries. For promoting the expansion of trade as well as economic collaboration, there is need for studies of materials and labour-intensive products which India can supply to Japan.

Since 1958 Japan has given 472 million dollars by way of Government-to-Government loans. Yen credits have financed both public and private sector projects in India. In addition to official credits, Japanese exporters have been extending sup-

(Rupees in Crore)			
	Imports	Exports	Balance of Trade
1961-62	58.61	40.33	-18.28
1962-63	62.75	34.03	-28.72
1963-64	65.87	58.85	-7.02
1964-65	77.33	60.16	-17.17
1965-66	79.19	56.98	-22.21
1966-67	107.49	107.44	+00.04
1967-68	106.90	135.92	+29.02
1968-69	115.39	158.16	+42.77

pliers' credits for import on deferred payment basis. Major imports financed out of the suppliers' credits were plants of ammonia, urea and sulphate, trucks, tractors, power tillers, diesel engines and ships. In the field of agriculture, Japan has established model farms in the main rice-growing States in India for the purpose of demonstrating Japanese techniques in rice-growing. Apart from providing experts, Japan has also provided at each of the centres machinery, equipment, tools, spare parts and other materials required for the operation of the centres.

The recent visit of Japan's Foreign Minister, Mr Kiichi Aichi, has opened up new avenues for strengthening economic relations between the two countries. Addressing a press conference, Mr Aichi stated that India's request for softening the terms of the yen credit would be favourably considered. Further, Japan would also offer Indian agricultural implements and equipment under the Kennedy Round Aid. The Japanese Foreign Minister stated that in addition to co-operating in the Dandakaranya agricultural project, Japan would provide suppliers' credit for the purchase of a ship to carry iron ore to Japan from Visakhapatnam outer harbour which is being constructed with Japanese assistance.

Contributors are requested to use only metric system of weights and measures.

RECORD FOODGRAINS PRODUCTION

104.5 MILLION TONNES ESTIMATED IN 1970-71

In its latest report the Agricultural Prices Commission has indicated that the foodgrains production in 1970-71 would be 104.5 million tonnes provided the weather continues to be favourable. This would be higher by nearly 5 million tonnes over the 1969-70 record production of 99.5 million tonnes. The report—on Price Policy for *kharif* Cereals for 1970-71—says that the output of *kharif* cereals might be an all-time record with an increase of about 3 million tonnes over last year's 65 million tonnes. It also envisages an increase in wheat production during the ensuing *rabi* season by another 2 million tonnes.

The Commission has emphasised the need to maintain the existing public distribution of foodgrains on an adequate scale, as it feels that the imbalances between domestic production of and the demand for foodgrains at the existing prices would continue over the next few years. It has also recommended domestic procurement of foodgrains on a commensurate scale to fulfil the twin objectives of reducing the country's dependence on imports and augmenting the buffer stocks. The Commission has recommended a target of 5.5 million tonnes for procurement of *kharif* cereals comprising 4.7 million tonnes of rice and 0.8 million tonnes of coarse grains.

While fixing the procurement prices for 1970-71 the Commission has recommended that considerations of procurement and the paramount need for ensuring price stability should be kept in view because of the likely impact of the good prospects of *kharif* crops on the behaviour of market prices.

TO KNOW INDIA
READ YOJANA

CONTRIBUTION OF STATES

The State-wise and crop-wise break-up of foodgrains production in 1969-70 is given below (in thousand tonnes);

Andhra Pradesh: Rice 4700; Jowar 1351.3; Bajra 320.0; Maize 309.6; Ragi 267.4; Small Millets 184.7; Wheat 4.0; Gram 20.6; Tur 85.7 and Other Pulses 156.3.

Assam: Rice 2057.5; Maize 14.5; Small Millets 3.1; Wheat 7.1; Gram 1.0; Tur 2.7; Other Pulses 32.8.

Bihar: Rice 4009.0; Jowar 5.1; Bajra 7.5; Maize 865.6; Ragi 80.8; Small Millets 102.5; Wheat 1200.0; Barley 167.0; Gram 156.8; Tur 145.4; Other Pulses 806.0.

Gujarat: Rice 447.4; Jowar 386.6; Bajra 1204.4; Maize 289.1; Ragi 55.4; Small Millets 114.7; Wheat 591.6; Barley 2.2; Gram 20.0; Tur 43.5; Other Pulses 66.1.

Haryana: Rice 371.0; Jowar 55.0; Bajra 516.0; Maize 138.0; Small Millets 0.1; Wheat 2119.5; Barley 180.0; Gram 1143.0; Tur 4.5; Other Pulses 40.3.

Jammu & Kashmir: Rice 482.1; Jowar 0.1; Bajra 7.0; Maize 363.0; Small Millets 8.3; Wheat 250.0; Barley 10.0; Gram 0.5; Tur 0.2; Other Pulses 30.3.

Kerala: Rice 1214.9; Jowar 0.6; Ragi 7.6; Small Millets 3.5 Tur 3.5; Other Pulses 12.5.

Madhya Pradesh: Rice 3201.6; Jowar 1467.5; Bajra 167.8; Maize 417.7; Ragi 5.4; Small Millets 369.8; Wheat 2216.0; Barley 165.7; Gram 893.2; Tur 318.3; Other Pulses 546.1.

Maharashtra: Rice 1431.3; Jowar 3214.2; Bajra 762.9; Maize 57.5; Ragi 130.0; Small Millets 85.6; Wheat 390.5; Barley 2.5; Gram 101.9; Tur 321.4; Other Pulses 416.1.

Mysore: Rice 2290; Jowar 1800; Bajra 226.6; Maize 104.9; Ragi 855; Small Millets 73.4; Wheat 136.3; Barley 2.9; Gram 90.7; Tur 124.2; Other Pulses 186.7.

Nagaland: Rice 49.8.

Orissa: Rice 4316.6; Jowar 13.5; Bajra 2.5; Maize 60.8; Ragi 159.2; Small Millets 62.3; Wheat 18.9; Gram 13.3; Tur 18.6; Other Pulses 367.2.

Punjab: Rice 572.9; Jowar 3.0; Bajra 221.9; Maize 826.8; Small Millets 0.2; Wheat 4800; Barley 80.0; Gram 400.0; Tur 1.0; Other Pulses 30.9.

Rajasthan: Rice 98.9; Jowar 413.9; Bajra 807.8; Maize 518; Small Millets 19.3; Wheat 1275.3; Barley 511.7; Gram 782.6; Tur 8.8; Other Pulses 313.2.

Tamil Nadu: Rice 4532.2; Jowar 575.1; Bajra 309.9; Maize 13.9; Ragi 336.7; Small Millets 361.3; Wheat 0.4; Gram 2.2; Tur 24.1; Other Pulses 83.2.

ALL-TIME HIGH IN 1969-70

India's total foodgrains production touched a new high this year when it reached 99,501.3 thousand tonnes. This is an all-time record and represents 5.8 per cent increase over last year's production of 94012.6 thousand tonnes. The crop-wise break-up is (in thousand tonnes): rice 40,429.7; Jowar 9,721.0; Bajra 5,326.8; Maize 5,674.3; Ragi 2,117.2; Small Millets 1,732.0; Wheat 20,093.3; Barley 2,716.3; Gram 5,545.6; Tur 1,842.2; and other pulses 4,302.9.

The total cereals production was 87,810.6 thousand tonnes, which marks a 5 per cent increase over the last year's figure of 83,594.8 thousand tonnes. The total pulses production was 11,690.7 thousand tonnes representing an increase of 12.2 per cent.

Rice production in the country was a record—40,429.7 thousand tonnes. West Bengal topped the list with a record production of 6,350 thousand tonnes. The second best rice producing State was Andhra Pradesh (4,700 thousand tonnes), with Tamil Nadu (4,532 thousand tonnes) taking the third place.

Uttar Pradesh: Rice 3532.9; Jowar 431.4; Bajra 752.7; Maize 1192.2; Ragi 195.4; Small Millets 317.4; Wheat 6314.3; Barley 1467.0; Gram 1775.9; Tur 716.1; Other Pulses 851.9.

West Bengal: Rice 6350.0; Jowar 0.3; Bajra 0.1; Maize 45.5; Ragi 7.3; Small Millets 7.8; Wheat 400.0; Barley 49.8; Gram 133.7; Tur 23.4; Other Pulses 345.9.

Andaman & Nicobar Islands: Rice 9.6. **Dadra & Nagar Haveli:** Rice 10.8; Ragi 1.5; Tur 0.5.

Delhi: Rice 4.1; Jowar 3.1; Bajra 17.6; Maize 0.9; Wheat 69.4; Barley 2.5; Gram 4.4; Other Pulses 1.2.

Goa, Daman & Diu: Rice 66.3.

Himachal Pradesh: Rice 113.8; Jowar 0.2; Maize 443.5; Ragi 10.6; Small Millets 18.0; Wheat 300.0; Barley 75.0; Gram 5.8; Tur 0.1; Other Pulses 15.3.

Manipur: Rice 232.0; Maize 12.8. **N.E.F.A.:** Rice 45.2.

Pondicherry: Rice 55.1; Jowar 0.1; Ragi 4.9; Bajra 2.1.

Tripura: Rice 234.7; Tur 0.2; Other Pulses 0.9.

NATIONALISED BANKS FORGE AHEAD

Y. W. BLESSED SINGH

ONE of the main objectives of bank nationalisation was to embark on a branch expansion programme, particularly in the rural areas, with a view to carrying the banking habit to economically backward areas. This would also help to tap the savings of the rural people. At the time of nationalisation of the major banks, out of the 600,000 villages in the country only 5,000 had banking facilities and most of the banks were co-operative banks. The nationalised banks have taken energetic steps during the year and 1,043 branches have been opened by the fourteen banks in addition to the 413 branches opened by the State Bank of India and its subsidiaries. On an average, these banks are opening 127 branches per month i.e. more than four offices per day. This is no mean achievement.

The nationalised banks have a big branch expansion programme for the next twelve months with particular emphasis on unbanked centres. The Banking Development Department of the Reserve Bank of India has already worked out the detailed plan and out of the 1,300 branches proposed for the year 1970-71, 1,139 will be in unbanked centres, mostly in rural areas.

A notable feature since nationalisation is the formulation of the Lead Bank Scheme under which banks are not only to provide banking facilities but also to undertake socio-economic surveys of the area allotted to them. About 265 surveys of this type have been completed. This type of work will fulfil one of the vital objectives of bank nationalisation, namely the removal of regional disparities.

The other objective of nationalisation is diversification of credit to priority sectors, particularly the agricultural sector. At the time of nationalisation, the total direct credit granted to agriculture was just Rs 27 crore and the number of borrowers was 1,35,000. After nationalisation banks have come out with various schemes for assisting agriculturists and other small borrowers. During the last one year, banks have advanced over Rs 54 crore as fresh advances and the total of advances made to agriculture today stands at Rs 81 crore. It is also to be noted that direct advances to agriculture are growing at the rate of Rs 6 crore per month. With their new zeal, banks will go a long way to replace the traditional village money-lender.

SMALL TRADERS

The quantum of credit given to small-scale industries is also very large. During the one year of nationalisation Rs 51 crore have been sanctioned as additional cash credit limits in the nationalised banks and the outstanding on these accounts was over Rs 199 crore at the end

of March 1970. This rise indicates a growth rate of Rs 5.5 crore per month. The retail traders, in particular, have been treated with great concern by the nationalised banks as can be seen from the increase in the number of accounts and the credit limits sanctioned to them. About Rs 48 crore have been spread over 57,000 accounts to benefit the small traders.

The year of nationalisation has also been a bountiful year to taxi-drivers and other transport operators. Over Rs 17 crore have been made available to these self-employed persons to own their vehicles and operate them on profit. Other self-employed persons and students have also secured loans and the total non-traditional advances of the fourteen banks, which stood at Rs 202 crore by the end of June 1969, has moved to Rs 345 crore at the end of June 1970. A significant feature of these loans is that their average size is fairly small; in agriculture it is around Rs 2,500, in retail trade about Rs 5,000, and in advances to professional people Rs 3,000.

The amount under small advances is increasing at the rate of Rs 16 crore per month and it is estimated that the share of small advances to total credit would be around 20 per cent today. In the coming months it is expected that the process of credit diversification will gain further momentum. There is also a significant change in the lending policies of the banks in respect of small borrowers. There is enough evidence that the banks have started taking cognizance of the viability of the project rather than the security that can be offered or the social status of the borrower. It is his capacity than his capital, his character than his collateral, that should matter in granting loans.

DEPOSIT MOBILISATION

In the matter of deposit mobilisation, the performance of nationalised banks cannot be branded a failure, even though there is room for improvement. Deposits of the nationalised banks did not go down as feared by some, but have risen by Rs 584 crore during the past one year. This works out to a 12.5 per cent increase as compared to the previous year. During the corresponding period a year ago, deposits increased by Rs 625 crore and the percentage increase then was 15.5 per cent. Though the pace of deposit accretion has fallen by Rs 41 crore, the mobilisation of additional deposits of Rs 584 crore during the first year of nationalisation has to be accepted as a record considering the conditions of the money market and the fiscal manipulations in the Central Government budget, particularly the decline in the budget deficits. The past year has also been a year of revival in the share market, bullion

market, foreign exchange market and the commodity market. No wonder these markets have been buoyant and they have attracted the savings of the community to a sizable extent. Competition from non-banking companies has also been very severe and they have attracted deposits by offering rates of interest higher than those offered by the commercial banks. There have also been withdrawals of a few private sector banks from the Inter-Bank Agreement in order to lure the depositors by offering interest rates higher than those allowed under the agreement.

Deposit mobilisation, however, remains a sphere in which much work is to be done and the success of the deposit drive depends on efficient and quick customer service. Attractive bank stationery, suitable advertisements, incentives to small depositors and the like will also be helpful in attracting deposits. Attracting rural deposits really poses a problem in view of the villagers' shyness to deal with the banks. It is expected that the nationalised banks will meet this difficulty through public relations.

Yet another field in which the nationalised banks have to do a great deal is the eradication of the evil of under-invoicing, allegedly practiced by some exporters with a view to pilfering foreign exchange.

TRAINING OF EMPLOYEES

The training of bank employees at all levels has also been taken up in right earnest by the nationalised banks. In addition to the training colleges and schools run by the individual banks, they have set up the National Institute of Bank Management which conducts workshops, seminars and studies on various banking problems from time to time. The reports prepared by the Institute are very valuable for bank officers and other employees.

The creation of the Banking Department in the Ministry of Finance is another land-mark in nationalised banking. This department and the Reserve Bank of India have provided constant help and guidance to the nationalised banks in their new endeavours. The National Credit Council, set up under the scheme of social control has also been functioning as an advisory body to lay down the priorities for bank lending. The presence of experts in this body representing various sectors of the economy has been very valuable indeed. It is believed that this institution will be continued even though social control as such is applicable only to foreign exchange banks and the few small banks in the private sector.

The future of these banks entirely depends on the employees. Therefore, efficiency of the employees is a matter of great importance. Proper training of the staff at different levels is called for and this can be done only by proper recruitment, suitable training and offer of sufficient incentives. For the higher managerial posts direct recruitment can be made through the Indian Economic Service or by setting up a new service which may be called the Indian Banking Service.

FAMILY PLANNING

Facts At A Glance

I. POPULATION (in million)

1961 census	439
1970-71 estimate	554
Annual increase	13
Density per sq. km. (Mid-year estimate 1970-71)	174

II. ANNUAL GROWTH RATE (per thousand)

	Birth Rate	Death Rate	Growth Rate
1901-10 (Census)	48.1	42.6	5.7
1951-60 (Census)	41.7	22.8	21.5
1961-65 (Projected)	41.0	17.2	23.8
1966-70 (Projected)	38.6	14.0	24.6
1971-75 (Projected)	35.1	11.3	23.8
1976-80 (Projected)	28.7	9.2	19.5

III. LIFE EXPECTATION AT BIRTH (In years)

	Males	Females	Overall
1901-10 (Census)	22.6	23.3	22.9
1951-60 (Census)	41.9	40.6	41.2
1961-65 (Projected)	48.7	47.4	48.1
1965-70 (Projected)	53.2	51.9	52.6
1971-75 (Projected)	57.3	56.0	56.6

IV. ACHIEVEMENTS

Total sterilisations up to May, 1970	7,410,052
Total IUCD insertions up to May, 1970	3,361,564
Total condoms distributed (1969-70)	98,387,692

V. ESTIMATED NUMBER OF BIRTHS PREVENTED (in '000)

1961	32	1965	209
1962	53	1966-67	524
1963	86	1967-68	898
1964	124	1968-69	1,417

VI. FAMILY PLANNING CENTRES

No. of Urban Centres run by	
(a) State Governments	1,022
(b) Local Bodies	368
(c) Voluntary Organisations	371
Other Urban institutions doing Family Planning work	1,926

No. of Rural Centres	
(a) Main Rural Family Planning Centres	4,812
(b) Sub-centres functioning	28,912
(c) Other medical institutions	7,427

Mobile Units for	
(a) Sterilisations	419
(b) IUCD	443

Side Track

A TEMPLE ON THREE SEAS

THE three seas of India meet here to wash the sacred feet of Kumari, the daughter of the exalted Himalayas, the snowcapped abode of gods. On this rock, she practised penance to propitiate Lord Shiva, whom she desired as her consort. Kumari, the Eternal Virgin, symbolises purity and chastity, and her consort the embodiment of Absolute Good. The divine couple lived in unison on the Kailasa peak of the Himalayas, but here they remained two separate entities—the seeker and the sought.

Then another seeker came to this rock, which is hallowed by the timeless legend of Kumari. He had the vision of Infinity and now sought its manifestation in the finite. For him, life had lost its meaning after the worldly demise of his Master, Ramakrishna Paramahansa, and now searched for a new meaning. For two years he had travelled as mendicant throughout the country and had seen the misery and sufferings of his countrymen, and his soul was yearning for their redemption.

From the tip of the mainland he swam over to the rock, 500 metres away, and stood on it. Before him, at the confluence of the three seas where the east and the west dance hand in hand on the waves of the waters, he saw the sun that rises and sets every day on India and reflected within himself. He worshipped the feet of the Kumari and fell into meditation. After three days of looking into

himself, a new truth emerged out of his own depths. He saw that India had lost herself as a nation and that was the reason of all her sufferings. India must regain her self; her people must awake again into the light of prosperity. He himself had to do it. And he made it his life's mission. This was in October 1892. Soon after, he attended the Chicago Parliament of Religions and proclaimed the message of peace and unity for all mankind.

This was Swami Vivekananda, a great spiritual leader of the modern times. He brought enlightenment to his countrymen and raised this country in the estimation of the world. We owe a great deal to him. A fitting memorial to him is only an expression of our gratitude and a necessity for our own uplift. The rock where he visualised a new India is the most appropriate site for such a memorial.

The memorial, which was inaugurated by the first citizen of the country on the second date of this month, is the fruit of six years of labour by hundreds of workers and artisans.

In our present zeal for modernity, we have been defacing many a beautiful landscape and corrupting many a noble tradition while erecting big monuments to our national heroes. But, thanks to the organisers, this monument has retained the sanctity of its purpose. It is built in the ancient architectural and sculptural traditions of this land and represents a



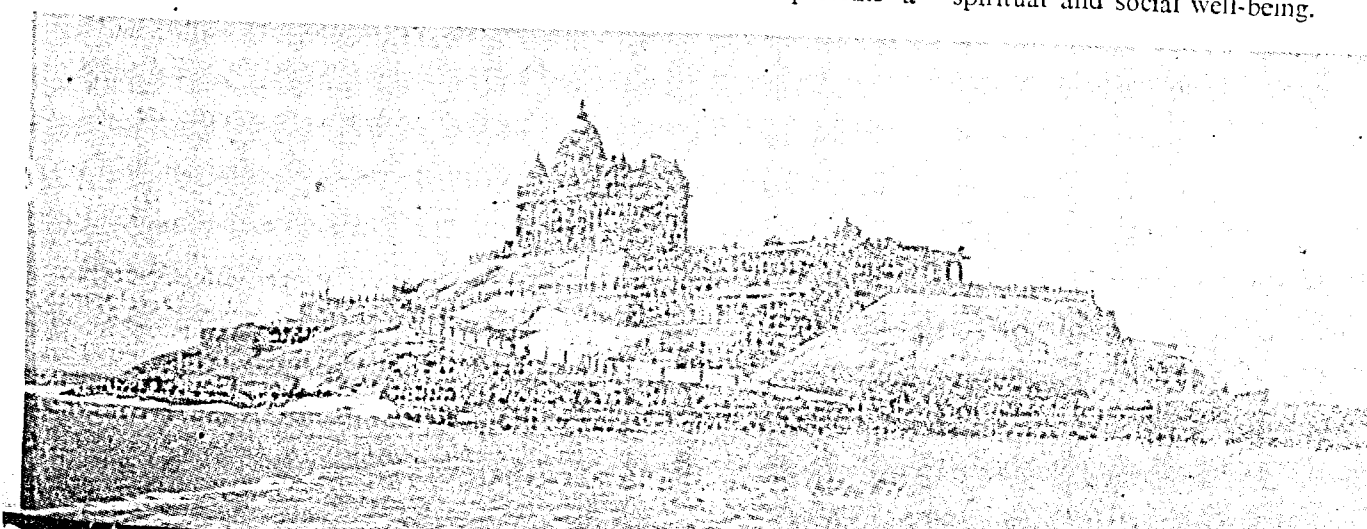
IGNORAMAN

Wants to Know

Whether
he too can stake
his claim to have
a separate flag

synthesis of the best of them.

The chief architect of this memorial, Mr Karpakkam Acharya, belongs to a family of traditional architects, called Sthapatis. And the brain behind the entire memorial project is Mr Eknath Ranade, whose untiring efforts and imagination have given us such a magnificent monument. He is the Organising Secretary of the Vivekananda Rock Memorial Committee. He has also plans for founding a service mission for laymen and non-Sanyasis. A centre will be established to train an all-India cadre of dedicated men and women who will work among the people for the promotion of their spiritual and social well-being.



AGRICULTURAL FINANCE IN BIHAR

CHAKRADHAR SINHA

The economy of Bihar has a predominantly rural bias with 92 per cent of its population residing in villages. It has 112.75 lakh hectares of land under crops. At present Bihar produces 85 lakh tonnes of foodgrains annually. Providing for an annual rate of growth of 6 per cent in the production of foodgrains, it is estimated that by the end of the Fourth Plan, Bihar would be producing 115 lakh tonnes of foodgrains per year.

The depression caused by two consecutive droughts is now lifting. The State is on the threshold of a new era of promise. The accent is now primarily on the adoption of scientific techniques of agricultural production. There is growing demand for High-Yielding Varieties and Multiple Cropping Programmes. There is, however, one major obstacle: it is the lack of adequate credit availability to the farmers. Most of them are small farmers depending on the produce of their lands for their maintenance. They do not have adequate funds for procuring agricultural inputs and implements, the demand for which continues to grow. There is another angle also of looking at farm credit. In a broader sense it includes investments in agriculture in terms of infrastructure like provision of major and minor irrigation, electricity, building of roads, markets, storage facilities etc.

Soil and water conservation measures require heavy initial investment. Nearly 1.32 lakh hectares of agricultural land in Purnea and Saharsa districts needs to be reclaimed and the plateau region of the State deserves to be given better attention for agricultural development. The resources of the farmers of this region, who are largely tribals, are meagre and they need financial assistance on easy terms. Thus a rational method of farm financing based on production potentialities

is vitally needed to provide adequate credit to the farmers. The small farmers need more liberal credit facilities as they are the actual tillers.

Even at the present level of agricultural development, the requirement of farm credit in Bihar has been assessed at Rs 200 crore per year. By the end of the Fourth Plan, this figure is likely to rise to Rs 400 crore. The State Government and the Co-operative Credit Agencies have together been able to provide only Rs 20 crore at present. By the end of the Fourth Plan, the existing sources will be able to contribute not more than Rs 50 to 60 crore. Thus there will be a large gap between the requirement and availability of farm credit. This gap has to be bridged.

Commercial Banks

This brings into focus the very important role which the commercial banks have to play. The contribution of these banks to the financing of agricultural credit requirements of the State has so far been rather insignificant. The farm sector failed to attract the commercial banks due to several reasons, such as unorganised nature of this sector, uncertainty of agricultural production, illiteracy among the farmers and legal and institutional obstacles in collecting overdues. With the nationalisation of fourteen top banks conditions have become favourable for diverting the flow of bank credit to the farm sector.

In Bihar, the commercial banks are expected to take advantage of the new situation in assisting the 'Green Revolution.' Their assistance in the field of farm finance can be broadly classified as 'direct' and 'indirect'. Direct assistance includes: (i) working capital loans for purchasing seeds, fertilisers, pesticides, insecticides and other agricultural inputs; (ii) instalment credit loans for purchasing tractors and other agricultural machinery and implements; and (iii) term loans for the modernisation of farms, provision of irrigation facilities, construction of farm structures and other development loans. Indirect financing would include assistance pro-

vided to the Agro-Industries Corporation, the Bihar State Electricity Board, the Land Mortgage Bank, the Marketing and Processing Co-operative Societies, dealers of agricultural inputs etc. To begin with, Kosi, Gandak and Sone areas may be selected for intensive operations. The bank may introduce some useful schemes like the one suggested by the Rural Credit Review Committee or a farm graduate scheme designed to assist farm graduates and other qualified persons, or a special scheme of loans to cane and potato growers.

Other Agencies

There are 270 *Vyapar Mandals* in the State and a large number of multi-purpose co-operative societies and also other societies. With the need for increase in storage and pledging facilities and marketing of inputs, these societies require bigger funds. The *Vyapar Mandals* do not have sufficient funds to help the farmer at the right time. Commercial banks can do very good work here. They can provide funds to the *Vyapar Mandals*, processing societies and other solvent societies against pledging of stocks purchased. The hypothecated grains can be kept at the *Vyapar Mandal's* godown or the bank's own godown by mutual agreement. This is a safe investment which the commercial banks can make in the field of farm finance.

In agricultural finance, the problem is not merely quantitative but also one of coverage, organisation and personnel. There must be close co-operation between commercial banks and other institutional agencies to build up an integrated credit structure. The All-India Rural Credit Review Committee has suggested the setting up of a Committee at the State level to co-ordinate all agricultural programmes and deal with problems of co-ordination in connection with institutional credit. The State level co-ordination committee should consist of representatives of the State Co-operative Bank, the Apex Land Development Bank, the State Marketing Society, the State Government, the Agricultural Finance Corporation, the Reserve Bank, the State Bank and

other nationalised commercial banks. There should also be co-ordination committees at district and block levels. Area surveys and studies may be conducted with a view to formulating and appraising projects which could be taken up immediately by the institutional credit agencies.

The "village adoption approach" now being followed by the State Bank group, may be followed by other banks for extending schemes of agricultural financing effectively over large areas in a short period. The villages selected should ordinarily be those where the co-operative credit institutions have not made much headway. In these villages efforts should be made to assist all the viable or potentially viable farmers to meet all their requirements of agricultural development. It would be necessary to study legal and procedural difficulties involved in extending short-term, medium-term and long-term credits to agriculturists. It is also important that the process of advancing loans to farmers is simplified. Efforts are needed to secure end-use of credit. Like Britain, a qualitative team of agricultural advisory service should guide the farmers on matters relating to proper farm management, accurate book-keeping, efficient marketing organisation etc. Emphasis should be laid on resources mobilisation and training of personnel. There is a case for rural banking to ensure smooth and steady flow of credit to the rural areas. In brief, new dimensions have to be added to the schemes of farm financing to remove poverty and unemployment and to accelerate the pace of economic growth in the State.

FAMILY PLANNING AMONG T. B. PATIENTS

Special facilities for family planning among T.B. patients have been provided at the T.B. Hospital at Jamnagar in Gujarat. Men and women suffering from T.B. can undergo surgical operations so that they are free from the fear of enlarging their families. Besides, care will be taken of the children of T.B. patients so that they may not contract the disease.

EXPENSIVE CROSSINGS

A PLANNING FORUM SURVEY

IN big cities, railway level crossings are the places responsible for heavy traffic delays. Thousands of people waste several hours daily due to gate closures. Economic losses due to traffic delays, which include loss of time, loss of fuel and wear and tear, are simply astounding. The reason usually advanced for the lack of over-bridges or fly-overs at railway crossings is that the Government cannot afford the expenditure. However, the pertinent question is whether we can afford not to have these aids for uninterrupted flow of traffic.

Under the guidance of Dr (Mrs) Satya Jangid, the Planning Forum of the Kalindi College, New Delhi, made an exhaustive study of the traffic interruptions at the Shadipur and the Sarai Rohilla railway level crossings in Delhi. According to their findings the total economic loss per year caused to 23,340 persons and 5,250 vehicles, who were really interrupted during the total effective period of 8 hours (from 8 a.m. to 4 p.m.) of observation at both these crossings was nearly Rs one crore. This did not include loss of fuel or wear and tear.

At both these crossings, the time lost by the persons detained due to gate closure was the most important factor for calculating economic loss.

Out of the total observation period of 480 minutes (8 a.m. to 4 p.m.) in a day, it was found that the gate was actually closed to vehicular traffic at Shadipur crossing for about 162 minutes (i.e. 33.75 per cent of the total observation period) and at Sarai Rohilla crossing for about 244 minutes (i.e. 50.83 per cent of the total observation period). If the period during which the effect of gate closure continued after the halt period is also taken into account, the percentage of time lost is as high as 43.75 and 59.37 at Shadipur and Sarai Rohilla crossings respectively.

The financial loss per year due to the gate closures at two railway level crossings in Delhi is nearly Rs one crore.

At Shadipur, though 3,500 vehicles had to halt due to gate closure during the observation period, 500 cycles cleared by using side-gates. Therefore, the actual number of vehicles which were obliged to wait was 3,000.

Similarly, at Sarai Rohilla level crossing, out of 1,750 vehicles stranded, 250 cycles cleared by side-tracking while 1,500 vehicles had to wait.

At Shadipur, the vehicles affected were 745 auto-rickshaws, 400 cycles and cycle-rickshaws and 350 scooters. At Sarai Rohilla the figures were 550 cycles and cycle rickshaws, 230 scooters and 140 trucks.

The average time lost per vehicle due to gate closure was 9 minutes at Shadipur crossing and 7.39 minutes at Sarai Rohilla crossing. If the period during which the effect of congestion continued is added, the total time lost came to 11.66 minutes and 8.63 minutes for Shadipur and Sarai Rohilla respectively.

According to an estimate made by the National Council of Applied Economic Research, the per capita income of Delhi for the year 1960-61 was Rs 871.06 at current prices. Assuming that all the passengers interrupted were earners, who were affected in equal measure, the total loss per minute came to 0.5 paise. The loss of money per person was 105 paise and 142.5 paise during the total effective period at Shadipur and Sarai Rohilla respectively. The total loss of money for all the persons who were really interrupted (23,340) at both the level crossings, amounted to Rs 26,219.50 per day during the total effective period of halt and congestion.

Eighth All-India Basic Literature Competition

ENTRIES in the form of manuscripts/books (including dramas) on the under-mentioned subjects are invited from Indian authors for the Eighth All-India Basic Literature Competition of the Government of India.

SUBJECTS—1. Rural Leadership and Panchayati Raj Movement (based on concrete examples of village leaders); 2. Complementary Roles of Panchayati Raj & Cooperative Institutions. 3. Devolution of Resources and Power to Panchayati Raj Bodies—how to accelerate the process; 4. Youth Participation in Rural Reconstruction—how to foster the programme; 5. How to Mobilise Panchayati Raj and Cooperative Institutions for Solving Rural Unemployment and Underemployment; 6. Drinking Water Supply in Rural Areas; 7. A Story of Rural India with Accent on Efforts by Backward Classes to Improve Their Lot; 8. A Drama Highlighting Role of Women in Rural Development; 9. New Trends in Cooperative Rural Credit; 10. How to Improve the Performance of Marketing Cooperatives; 11. Apna Bazar—in the Service of the People; 12. A Play Highlighting the Cooperative Way of Living; 13. Role of Panchayati Raj & Cooperative Institutions in Utilising Electricity for Agricultural and Industrial Development in Rural Areas; 14. Cooperative and Panchayati Raj Institutions for Mobilising Rural Savings; 15. Cooperative Farming; 16. Organising Cooperatives for Milk Supply and Production of Dairy Products; 17. Developing Cooperative Poultry.

PRIZES—Prize winners will be awarded Rs 1,000 each.

LANGUAGES—Entries may be in any of the following languages :

Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Malayalam, Marathi, Oriya, Punjabi, Sindhi, Tamil, Telugu and Urdu.

STYLE—Each entry should be in simple, lucid style so as to be understood by, and to appeal to, the workers connected with the Community Development, Panchayati Raj and Cooperation Programmes for whom it is meant.

SIZE—Length of the manuscript should be about 10,000 words or about 40 pages if printed on demy-octavo size in not less than 16-point type. If books, they should be adequately illustrated.

COPYRIGHT—Copyright of the prize-winning entry shall be transferred to the Government of India, free from all encumbrances. Suitable amount, mutually agreed to, will be paid for the copyright.

ENTRY FEE—Rs 3 for each entry submitted by author.

LAST DATE for receipt of entries is **2nd December, 1970.**

Detailed particulars regarding the rules of the Competition and other instructions can be had on application from :

The Director (Basic Literature)
MINISTRY OF FOOD, AGRICULTURE, COMMUNITY
DEVELOPMENT & COOPERATION
(Departments of Community Development & Cooperation)
GOVERNMENT OF INDIA
Krishi Bhavan, New Delhi

davp 70/270

SOIL TESTING A PRE-REQUISITE FOR HIGHER YIELD OF RICE

ARVIND SWAMINATHAN

Despite the introduction of high-yielding varieties, the rice crop, in general, has not witnessed a breakthrough in production, as, for example, the wheat crop has done with the Mexican varieties. In many areas cultivators are still shy of the new varieties, because they feel the new varieties are not more remunerative than the old local ones. The new varieties are expensive to grow and the yield is not high enough to make them significantly more profitable than the local varieties.

At research institutes, however, very high levels of yield have been achieved, establishing the potential of these new varieties beyond doubt. It should, therefore, be possible to reduce substantially the great disparity between the yield levels at the institutes and at the cultivators' fields. Indeed, it is imperative to pin-point the reasons for these disparities quickly, otherwise the adoption of the high-yielding varieties may remain rather limited.

One clue to the reason for this disparity may be found in the data presented in support of the proposal to release two new varieties—Jamuna (BC 6) and Sabarmati (BC 5)—at the All India Co-ordinated Rice Improvement Projects' (AICRIP) Workshop at Cuttack in May this year. The recommendations read as follows:

"This strain lodges at maturity if fertiliser doses exceed 100 kg of nitrogen per hectare. The safe dose for BC 5 and BC 6 is 80 kg of nitrogen per hectare".

A closer look at the data shows that these experiments were conducted on highly fertile soil where Jaya, in this comparative test, yielded 6.6 tonnes per hectare without any nitrogen being added. Most cultivators cannot get this sort of yield even after adding 100 kg of nitrogen per hectare.

On checking the soil test results from the Indian Agricultural Research

Institute, it was noted that the organic carbon content was 0.922 per cent. According to the soil test maps, more than 90 per cent of the known soils in this country are either medium or low in nitrogen, i.e. having an organic carbon content of less than 0.75 per cent. It is quite probable that something similar happened to IR 8, and hence its limited impact in India.

Recommendations for the cultivators have been formulated on the data from research institutes, and are based on optimum conditions, such as, in most cases, on relatively High Nitrogen Soils. Thus 100 kg of nitrogen per hectare on these soils may be equivalent to 150-200 kg of nitrogen per hectare on the majority of cultivators' soils in this country. But most recommendations do not appear to have taken this factor into account. We still do not know the optimum level of nitrogen for medium and low nitrogen soils, even with excellent management.

It is, however, encouraging to note that Tamil Nadu appears to have noticed this, and has altered its recommendations to about 185 kg of nitrogen per hectare for IR 8. This is more consistent with their soil test results, which show that very few blocks in the whole State have, on an average, soils with more than 0.75 per cent of organic carbon. Most of the high nitrogen soil blocks are in the Nilgiris.

GENERAL MANAGEMENT

One or two other questions come to mind, explanations for which can, at best, be mere guesses, as there is not enough experimental evidence to answer them satisfactorily.

In some areas, transplanting is recommended at 25 to 30 days, in others, it is 18 to 21 days after seeding the nursery. Also, a spacing of 20x15 cms is generally accepted as optimum for IR 8. Leaving

the question of soil fertility for the moment, how many cultivators can or do practise these recommendations? If transplanting is delayed, what must they do to maintain high yield levels?

Again, referring to the data supporting the recommendations for the release of the Jamuna and Sabarmati varieties, there appears to be no significant difference in transplanting at 18, 35, and 42 days. Also, there was no significant difference in spacing trials, where the spacing varied between 10x10 and 30x30 cms. However, these trials were conducted on very high nitrogen soils with 100 kg N/ha added. From these data, it is very wrong to recommend a general spacing of 10x10 to 30x30 cms, along with a fertiliser rate of 80 to 100 kg N/ha, on most cultivators' soils, as inferred by the Tonnage Club Supplement, June 1970 (Vol. IV. No. 6). We do not know, as yet, whether a high fertility or just high nitrogen availability corrects other factors such as seedling age and spacing.

Results from a set of District Varietal Trials, conducted in the West Godavari District on cultivators' fields during *kharif* season of 1969, point out another trend. The yields obtained suggest that there comes a stage, during which the Jaya, Padma, and IR 8 varieties become very sensitive to any shock, such as of transplanting. If this is a characteristic of these varieties, especially at relatively lower levels of fertility, then what should a cultivator do to maintain high yield levels when he has to transplant at this sensitive stage? Is it possible to maintain high yield levels by increasing the fertiliser rate, or by closer spacing, or both? Or is there nothing that can be done, and a lower yield has to be accepted?

In the West Godavari District trials, both early and late transplanting gave higher yields. With late transplanting, the higher yields might have been a result of what could be

termed as "cultivator psychology". Knowing that he was late, the cultivator might have used closer spacing, or applied a little more fertiliser, or done both. But this is only a guess. Surely these variations in yield could have been caused by the different levels of fertility, especially soil fertility. However, the fact remains that we are still guessing, we do not have sufficient experimental evidence from cultivators' fields to substantiate these conclusions.

REMEDIAL MEASURES

A comprehensive experiment is necessary to answer these questions. All the variables should be incorporated in the experiment to find out whether significant interactions exist. Such an experiment should include at least six seedling ages, four different spacings, three fertiliser rates, and at least two varieties of different durations, for example, Jaya (or IR-8) and Hamsa. A proposal for such an experiment has already been made to the Indian Council of Agricultural Research.

The aim of such experiments should be to evolve definite recommendations for the cultivators for each variety and for each district. In course of time, it may be possible to recommend nitrogen dosage for a variation of every 0.1 per cent in organic carbon in the soil.

Such specific recommendations would enable the cultivators to have greater flexibility in management and still maintain yields at relatively high levels. This would also help small farmers, as much as the big ones. For example, a big farmer, with enough finance, could maintain high yields by just increasing his fertiliser rate, while a small farmer, with limited acreage and resources, would have to pay more attention to other management factors to get similar yields with a relatively lower fertiliser rate.

SOIL TESTING

Thus, soil testing is of great importance as an aid to efficient utilisation and management of costly inputs for obtaining higher yields. It will increase our knowledge of

the interactions between native soil and applied fertility levels, seedling age and spacing for each new variety. Plant protection does help in raising yields considerably; but before one can protect a crop, one has to have a variety worthy of increased management risks, and has to grow it well enough to be worth protecting.

We have suitable varieties. It is now the question of learning to manage them efficiently. IR-8, for instance, may not be the right grain type, but it can serve as a means of educating cultivators and training them in management for future high-yielding varieties which have a more acceptable grain type.

Also, trials carefully planned and executed on cultivators' fields, with data properly compiled and more complete, can bring much closer co-operation between cultivators and extension and research staff, as is happening in the two districts of West Godavari and Thanjavur. Indeed this is a prerequisite for any real agricultural development in India.

CHANGING PATTERN OF ENERGY CONSUMPTION

A. K. MUKHERJEE

ENERGY sources have been classified as :

(a) **Primary sources of energy**, which comprise coal, lignite, natural gas and oil, nuclear energy, geothermal energy from hot springs, and hydro-electric power. Energy from these sources is normally supplied to consumers by commercial undertakings and is, therefore, termed as "commercial energy".

(b) **Secondary sources of energy** include coke (from coal), briquettes (from coal and lignite), gasoline, diesel oil, kerosene fuel oil etc. (from crude oil) and thermal electricity (from coal). These also reach the consumer through trade channels and, therefore, fall under the same category.

(c) **Other primary sources of energy** are bagasse, firewood, charcoal, lumber-mill wastes, dung, straw, paddy husk and vegetable and wood wastes, which are normally utilised for industrial power generation and are used largely by the producers themselves at site. These are classified as non-commercial fuels. However, firewood, charcoal and dung are not totally non-commercial but their contribution to commercial energy is very negligible.

The pattern of energy consumption in India reveals that non-commercial forms of energy, which constituted about 75 per cent of the total consumption at the beginning of the First Plan, gradually came down to about 50 per cent at the beginning of the Fourth Plan and is expected to fall substantially by the end of the current Plan period.

Among the commercial fuels, during the first three Plan periods, the rate of growth per annum of coal was about 6 per cent, of petroleum products about 9.5 per cent and of electricity about 12.5 per cent. From 1965-66 onwards, the rate of growth of coal has fallen, whereas that of oil has gone up to about 11.7 per cent. The proportion of oil in the Indian energy

PERCENTAGE SHARE OF DIFFERENT ENERGY FORMS

	Coal	Electricity	Oil	Total		Grand Total
				Commer- cial	non-Com- mercial	
1965-66	17.00	9.62	19.58	46.20	53.80	100.00
1968-69	14.97	9.83	22.95	47.75	52.25	100.00
1973-74 (projected)	12.69	13.03	30.83	56.55	43.45	100.00
Average rate of growth per annum from 1965-66 to 1973-74	1.9	11.9	12.2	8.4	3.0	5.8

economy has gone up from 20 per cent in 1965-66 to about 25 per cent in 1968-69 and it may be around 33 per cent by 1973-74. The proportion of coal is gradually going down and would be about 20 per cent by the end of 1973-74.

By the end of 1973-74, nuclear energy will contribute to the energy market substantially and may continue to progress further in subsequent Plan periods.

Oil Replaces Coal

In terms of coal replacement by 1973-74, oil in the commercial energy sector will occupy about 40 per cent of total coal replacement.

About 60 per cent of the oil requirement will have to be met by imports involving a foreign exchange of about Rs 160 crore during 1973-74.

Coal is losing ground (see table above) as a primary source of energy in the country. The rate of growth in oil is the maximum. There are several reasons for this. One is the development of road transport, both in goods and passenger traffic. Road transport in goods traffic has grown to 40 billion tonne-km in 1968-69 from 17 billion tonne-km in 1960-61 and is expected to handle 84 billion tonne-km by 1973-74. In case of passenger traffic, road transport has grown

from 57 billion passenger-km in 1960-61 to 98 billion passenger-km in 1968-69 and may touch 140 billion passenger-km by 1973-74.

Dieselisation of railway traction is the second factor. Owing to the shortage of good grade coal, right from the beginning of the First Plan efforts were made to reduce the utilisation of coking coal and to gradually switch over to diesel or electric traction. Steam locomotion has an efficiency of only 5 per cent while diesel and electric traction is four to five times more efficient. Diesel traction, which was 19,200 route-km at the end of 1968-69, will grow to 22,000 route-km by the end of the Fourth Plan.

The Shift

The third factor for the increase in the use of oil as a source of energy is the shift to kerosene and LPG as domestic fuel in towns and cities in preference to electricity and coal (including soft coke).

Fourthly, the demand of diesel or petrol-operated pumps and engines in agriculture is continuously growing. The tube-well, lift irrigation system and other farm machinery also require coal replacement for energy. With the intensification of rural electrification programme, demand of diesel/oil operated pumps/engines may come down but not during the current Plan period.

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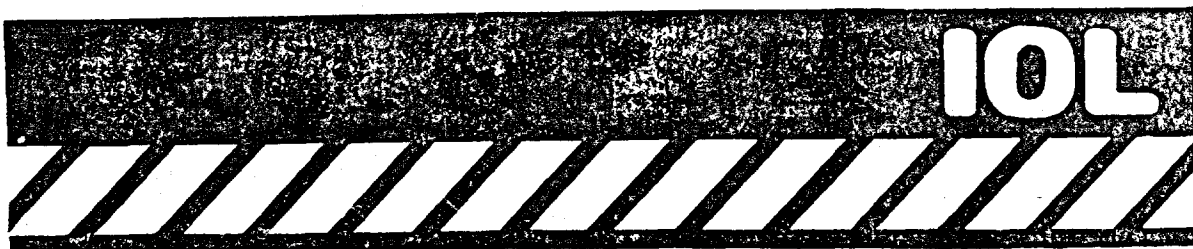
WELDING IS A THREE-LETTER WORD

That needs some explanation.

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SECTOR-WISE CONSUMPTION OF COMMERCIAL ENERGY

(in million tonnes of coal replacement)

	1960-61	1964-65	1965-66	1966-67
Transport	30.7	42.1	45.5	46.8
Industry	38.5	56.0	61.0	63.2
Agriculture	3.4	4.1	5.3	7.5
Domestic	17.2	22.6	22.3	23.2
Commercial	2.4	4.0	4.6	5.2
Collieries and refineries	4.2	10.4	11.4	11.9
Total	96.4	139.2	150.1	157.8

The rate of consumption of energy, both for industrial and domestic purposes, would increase at a faster rate during the Fourth Plan period owing to increase in the national income as well as per capita income. The rate of industrial growth is anticipated to be 8 to 10 per cent compound per year. This calls for a balanced developmental programme for energy consumption. The following factors are of operative significance in formulating such a programme.

Maximum utilisation must be made of the indigenous natural resources like coal, lignite, water, crude oil, atomic minerals, etc., both for primary and secondary sources of energy.

If indigenous natural resources are not tapped fast, imports of crude oil, kerosene and other forms of energy will have to be continued. However, we should make vigorous attempts to eliminate future imports of such vital raw material and make the country self-reliant in the matter of energy resources.

There must be judicious utilisation of energy, eliminating, by stages, dependence on non-commercial energy, which may be diverted as input for intensive agriculture and for other uses.

Dieselisation

The dieselisation of traction requires fresh thinking in view of the acute shortage of indigenous crude oil vis-a-vis complete dependence on imports. In this connection two important issues require consideration:

(a) Utilisation of coal for thermal power generation and switch-over to

electric traction. As a result of this, indigenous coal mining industry will expand and ensure employment of engineers and technicians. It will also help the completion of the national grid of transmission lines, which will again build up demand for indigenous aluminium and electrical equipment.

(b) Research and development work towards production of gasoline/diesel at economic cost from low grade coal. The Central Fuel Research Institute has already achieved some progress in this direction.

Adequate fiscal measures will be needed to curb the growth of energy demand in the field of oil, where heavy foreign exchange drain is involved in importing crude oil and kerosene. We may also have to think of curb on using kerosene as domestic fuel and also as adulterant for H.S.D. oil.

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Women Social Workers of Bhilai Steel City

Just about 13 years ago, when the "Steel City" of Bhilai was still in its infancy, about 50 ladies banded together to form the "Bhilai Mahila Samaj". They were wives of engineers, executives and workers employed in the giant steel plant. Their object was to promote social, cultural and welfare activities for the benefit of women and children in the growing industrial complex. From its small beginnings, the Bhilai Mahila Samaj today boasts of 400 active members.

As a first step the Samaj opened a school for the children of workers employed at the plant. To reach the maximum number of women, ladies' clubs were started in different sectors of the sprawling industrial township. These clubs, through which the Samaj functions, organise, among other things, flower shows, cooking competitions and exhibitions. Lately some of them have opened classes for embroidery, music and dancing.

The Samaj maintains a Benevolent Fund for the welfare of the needy families. It organises regular fund raising campaigns by holding fetes and *melas*. Apart from looking after the welfare of women and children, the Samaj has donated a substantial sum to the National Defence Fund. To help displaced persons from East Pakistan, the Samaj donated, among other things, sewing machines, cycles and books to the inmates of the Mana Refugee Camp.

The activities of the Bhilai Mahila Samaj are not confined to the social sphere alone. It has set up a soap factory which supplies about 3,000 bars of soap per month to the Bhilai Steel Plant and the local Super Bazar. The Steel Plant has now placed an order for the supply of 4,000 bars per month. Encouraged by its first effort, the Samaj proposes to start the manufacture of chalk sticks and *masalas*, which are in great demand.

BOOKS

Wanted A New Tool to Tap Rural Deposits

Views & Reviews—Finance and Banking by V.T. Dehejia. Published by Vora & Co., Pages 123. Rs 9.

M. Sundara Rajan

The author, Mr V.T. DEHEJIA, was Chairman of the State Bank, and Finance Secretary to the Government of India. The publication of these collection of articles and lectures (before nationalisation) is timely, when the nationalised banks have to face the age-old problems with a new sense of mission and urgency. Banking, the author says, has moved away from behind the counter to the field. Has it? Perhaps not to the extent one expected. No doubt, the State Bank's branches have joined over a third of the "mandi" centres to the mainstream of finance. The State Bank has been acting as a catalytic agent in the rural sector. This is not to distract the reader from the difficult task yet to be done in this field. Deposit mobilisation in rural areas presents quite a few problems. If in the urban areas, banks have to compete with other financial agencies in attracting savings, in the rural areas they have to contend with the task of overcoming the propensity to invest in gold and silver. Then there is the proverbially conspicuous consumption of the villager.

One suggestion made to attract deposits from the rural sector is to offer higher rates of interest on rural deposits than those in urban centres. Also, there should be differential rates to encourage use of credit for productive purposes. "If this results in the diversion of funds from the cities to the villages, there should be no cause for alarm". Apart from the pattern of interest rates more attuned to city life, there are, the author says, two other hindrances to progress, viz. a prohibitive statutory wage structure, and urban orien-

ted staff. In the system he envisages, district banks will be concerned with small-scale operations, below certain limits of advances. New offices in rural areas will remain uneconomic much longer than those in the cities, if the wages given are the same everywhere. His plea for less wages in the rural side, however impractical it may appear, is based on the "rough and ready estimate that if the per capita income in the country as a whole at current prices is Rs 450, it would be over Rs 1,000 in the cities and less than Rs 300 in the rural areas. If the wage structure is unreal, it must be mended".

Then there is the problem of inter-regional differences in utilising the deposits mobilised. "In Uttar Pradesh, for instance, out of every hundred rupees deposited in the local banks, only 42 rupees are advanced locally, much of the balance of Rs 58 finding its way to bank offices in the developed States. On the other hand, in Maharashtra, West Bengal and Tamil Nadu, the ratio exceeds 100, which means that the local deposits are not enough to meet the local demand for credit." There must be measures to ensure that funds raised in an area are utilised there. This, the author points out, is no original idea and quotes several examples abroad.

Discussing the resources available for the country, the author says an "unduly high proportion of the resources was locked up on account of large inventories, particularly by companies engaged in cotton and woollen textiles, iron and steel, edible and vegetable oils and sugar industries".

The author also refers to the reduction of the bank rate from 6 to 5 per cent in March 1968,—the first downward revision for three decades. While liberalised policy

is welcome, to revive the economy, inflation cannot be overlooked. That is an unenviable task imposed by conflicting needs of different situations simultaneously prevailing in the economy.

Ultimately, the author points out that the villager will judge the use of banking only by the "unconventional manner" in which his credit needs are met expeditiously. He has given several suggestions—including the one to transact business in regional languages—to do this difficult job. Coming from one who was at the helm of affairs of a vital bank, the call to search for a new tool to serve the common man, especially in the villages, is worthy of consideration.

Mechanics of Planning

Economic Planning: Theory and Practice by B. C. Tandan. Published by Chaitanya Publishing House, Allahabad. Pages 560. Rs 15.

R. C. Saxena

In most of the underdeveloped countries the planning mechanism has come to stay as a *sine qua non*. Even in mature economies, the techniques of planning have assumed the role of an 'intellectual matrix' for carrying out peace-time solutions to the problems of stability and growth. While literature on problems facing advanced economies and on the techniques of development and growth is available, the lack of it in less developed countries creates difficulties for those who wish to analyse the problems in depth and offer realistic solutions. The book under review, with its varied coverage, provides a wide range of reading material and to that extent it is a welcome addition to the existing literature. It would, however, have been more useful if some care had been exercised in avoiding vagueness, inconsistencies, conceptual discrepancies and the use of outdated information. For instance, while dealing with the problem of resource mobilisation, the author does not seem to be clear about the emphasis he lays on 'internal' and 'external' resources and as such, his conclu-

sions suffer from inconsistencies. On page 269 he indicates that internal resources are *residual* but on the next page he treats external resources as *residual*.

Most of the information used in the book is outdated and should have been revised before the fifth edition was brought out in 1970. To cite an example, on page 275 the tax/income ratio in India is stated to be 9 per cent whereas the same was 14 per cent in 1965-66 and remained 13 per cent during the Third Plan. (Government of India "Economic Survey 1967-68", page 69 table 2.1 and footnote on page 33 to "The Third Plan Mid-Term Appraisal.") The figures given in the table on page 273 relating to foreign aid and plan outlays for the three Plan periods should have been substituted with the actual figures which are available. Similarly, the chapter on Planning Machinery needs thorough revision. The author does not appear to have familiarised himself with the recommendations of the Administrative Reforms Commission on the reorganisation of the Planning Machinery and the consequent reorganisation of the Planning Commission.

The treatment of the subject on 'resource mobilisation' bears more a hallmark of a *generalist* than that of a *specialist*. Apart

from his failure to trace the role of the surpluses from current revenues in the overall scheme of financing expenditure in the three Plans and assigning reasons for its negative role in the Third Plan, the author prefers to perform the role of an escapist by observing on page 274 "which of the above four categories is the most important source of finance cannot be clearly ascertained."

In the chapter on models, the author fails to take note of the contribution of some of the Indians like Raj-Sen, Allan Man, Ashok Rudra and Lefebvre-Chakravarty. Likewise, he seems to ignore any reference to the contributions of Frisch, Dorfman and others in the field of linear programming, including Sinichi Ichimura's contribution on Dynamic Input-Output and Linear Programming Models. Also, his attempt to bring out the concept of a few models lacks that thorough and precise approach which could enable the reader to distinguish precisely one model from the other. As a result, the reader fails to understand whether the Harrod-Domar model including the Growth Models of Kaldor and Leontief dealt with by the author, are really applicable to Indian conditions or they suit more to mature economies. The author should have brought in more clarity into the subject.

lation, when up-rooted, had to face manifold problems, particularly regarding an alternative place for their rehabilitation as well as means of livelihood. Though the affected families were given reasonable compensation, they had to face numerous social problems, cultural crisis, economic disorganisation and social disintegration. The problem of rehabilitation was not tackled with adequate foresight and planning, and the tribals continued to lead a life of cultural disequilibrium.

The book is amply illustrated with maps and charts. However, the photographs used at the end do not seem to be relevant to the study in question; besides most of them are poor in quality.

BRITAIN 1970

Britain 1970—An Official Handbook. Published by Her Majesty's Stationery Office, London. Pages 522.

It is customary for governments of practically every country to publish an official handbook about the country. These handy annuals are not, quite obviously, of uniform quality in terms of editorial content and production, which differ widely from country to country. *Britain 1970*, which is the 21st in the series is, as usual, a useful and informative publication. Written in straightforward and lucid language, it provides a variety of information which will whet appetite of the most inquisitive inquirer.

The publication, with its 9 chapters, and a large number of appendices, diagrams, maps and photographs covers events upto September 1969. It gives a factual account of the administration and the national economy of Britain. It describes the activities of many of the more important official and non-official national institutions. *Britain 1970* is, as it is intended to be, a standard book of reference. It has already established itself as a reliable guide to the country. It provides the basic information, which can be the starting point of a more detailed study for the researcher. A 21-page bibliography and an elaborate index add to the value of the publication. From the production point of view, it is elegant and neat.

TRIBAL SOCIETIES OF BIHAR

Socio-cultural Implication of Industrialisation in India. A case Study of Tribal Bihar by L.P. Vidyarthi. Published by the Research Programme Committee, Planning Commission, New Delhi. Pages 552. Rs 60 or 10 U.S. dollars.

K. Dutt

THE book under review seeks to explain the process of change undergone by simple tribal societies as a result of a complex process of industrialisation. Its conclusions are based on a random sample survey of the tribal village of Hathia.

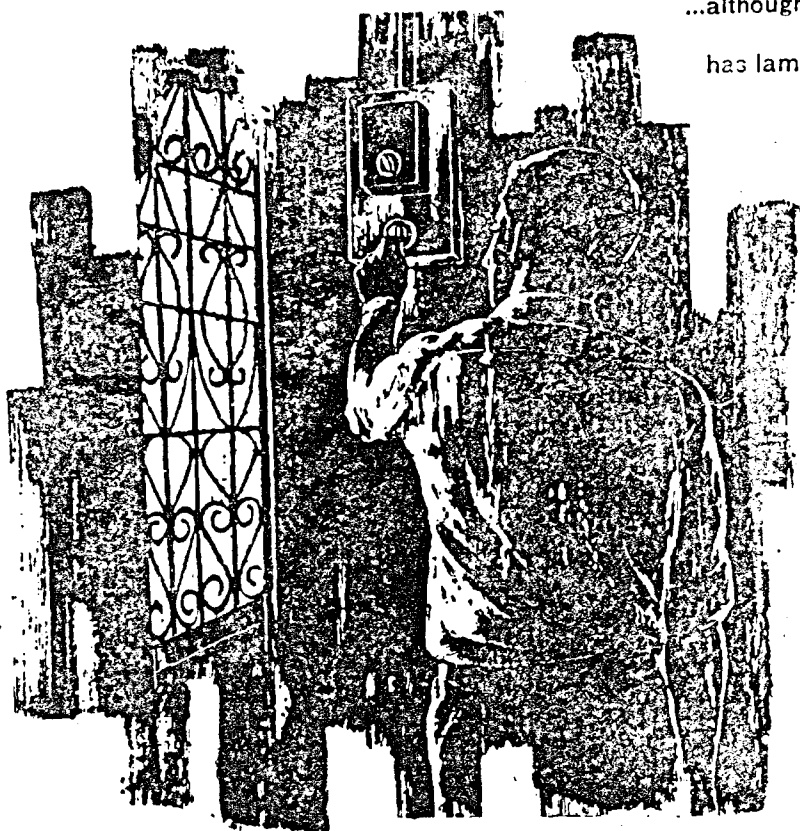
The first part of the book deals with the conditions in Hathia before the setting up of an industrial complex by the Heavy Engineering Corpora-

tion and the impact of the trade union movement. The author points out that when the construction work was in progress, a large number of rural people were employed as labourers. However, in the absence of any pre-planning, the displaced tribal people in the area were left to fend for themselves. Because of this, an atmosphere of discontent prevailed in this developing industrial town.

The second part discusses migrant labour and their degeneration into slum societies. Lastly, it deals with the uprooted villages and the social and economic transformation brought about by industrialisation. The conclusions reveal a short-sighted policy in dealing with indigenous population while building up an industrial complex. The tribal popu-

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LETTERS

PAKISTAN'S FOURTH PLAN

I have read with interest the report on Pakistan's Fourth Plan, published in *Yojana*, (August 23). In this connection, I would like to make a few points.

My understanding is that the Pakistan Plan is not "definitive". It has been made "flexible" for the purpose of evolving a pragmatic consensus. This is understandable because Pakistan has had no general elections since it came into being, and the Plan is to be placed before the people after the general elections, which have again been postponed. A consensus will also be necessary because the Governments of the two wings of Pakistan are at variance with each other on crucial issues like sector-wise and province-wise allocation and distribution of resources and reassessment of priorities. The Pakistan Planning Commission does not appear to have succeeded in ironing out these differences.

The structure and targets of the Plan appear to be modest, but I am very doubtful about the realisation of the targets because of uncertainty in the availability of internal and external resources. This will be obvious from the fact that it is proposed to increase domestic savings from 64.1 per cent of the Plan expenditure in 1964-65 to 82.2 per cent in 1974-75. On the face of it this appears to be highly unrealistic. The Pakistan Planning Commission has itself admitted that 80 per cent of the people of Pakistan are living in the "unimaginable abyss of poverty". If this is true, and there is no reason to doubt it, the planners cannot hope to raise the colossal sum of Rs 1,643 crore out of domestic resources.

The only other resource for development available to Pakistan is foreign aid, which has so far been flowing to the country in generous measure. But, this source is not likely to be as fruitful during the Plan period, and the inflow of foreign aid is expected to account for only 17.8 per cent of the total outlay during

the plan period. It is useful to remember in this context that foreign aid accounted for 35.9 per cent of the total investment on development in 1964-65. It is, however, significant that even the modest expectation of foreign aid during the Fourth Plan, which has been placed at Rs 1,500 crore, will fall short of the estimated requirement of Rs 2,050 crore.

A major departure in Plan formulation is evident from the proposed allocations between East and West Pakistan, which are in the ratio of 49 to 51, as against the ratio of 31 to 69 during the Second Five Year Plan. Obviously, the growing impatience and agitation of the people of East Pakistan has had its effect in somewhat reducing the unjust imbalance in assessing the economic needs of the more populous Eastern wing of Pakistan.

An interesting fact revealed in the Plan is that the revenue surplus of the Central Government in 1970-75 is estimated at Rs 2,126 crore, while East and West Pakistan will have a deficit of Rs 474 crore and Rs 295 crore respectively. This clearly shows that the existing taxation pattern has been so framed as to make the Provincial governments entirely dependent for funds on the Centre. In the circumstances, it is quite clear that the Centre will continue to have a financial stranglehold on the Provinces.

Another significant fact revealed from the Plan is that out of the total estimated revenue receipt of Rs 6,364 crore, non-development expenditure will account for over Rs 50,707 crore. This will leave a mere Rs 1,357 crore for development purposes. This is not surprising because Pakistan has always relegated development expenditure to a lower priority. This will be apparent from the fact that defence expenditure during the Third Plan rose from an estimated Rs 689 crore to Rs 1,235 crore—an increase of 125 per cent.

A study of Pakistan's Fourth Plan and the planning process in the country generally shows how far behind they are as compared to

India. This should make our own people realise that the criticism of planning in India merely shows how unfair we are to those who are trying to make life happier and more prosperous for us.

Shyamal Kumar Das

116 Chakrabarti Lane,
Calcutta.

MEN AND DOLLS

I read with interest your editorial 'Men and Dolls' (*Yojana*, August 23). You have taken up a cause which no one has ever taken exception to in India. The progress of Indian women, as you have rightly said, is an index of the country's own progress. The "piquant delight" that men have taken in the legend referred to by you in your opening sentence, in my opinion, is a thing of forgotten past and any reference to that in this age betrays the writer's share in the 'belief' which, I wonder, has ever been so even in the ancient Indian history.

I have not followed your reference to the statement by an elder statesman publicly supporting the continued domestication of the female, which, for reasons best known to you, you have neither quoted nor tried to make it clear to the readers as to what the statement actually was. In case you have attempted sermonising at the cost of some unnamed statesman, I have nothing to say. But if you are referring to something actually said by an elder statesman, I would have preferred actual quotation of words said, instead of putting your own words in someone's mouth just to malign somebody or to make yourself look a hero in the eyes of those whose cause you seem to champion.

New Delhi.

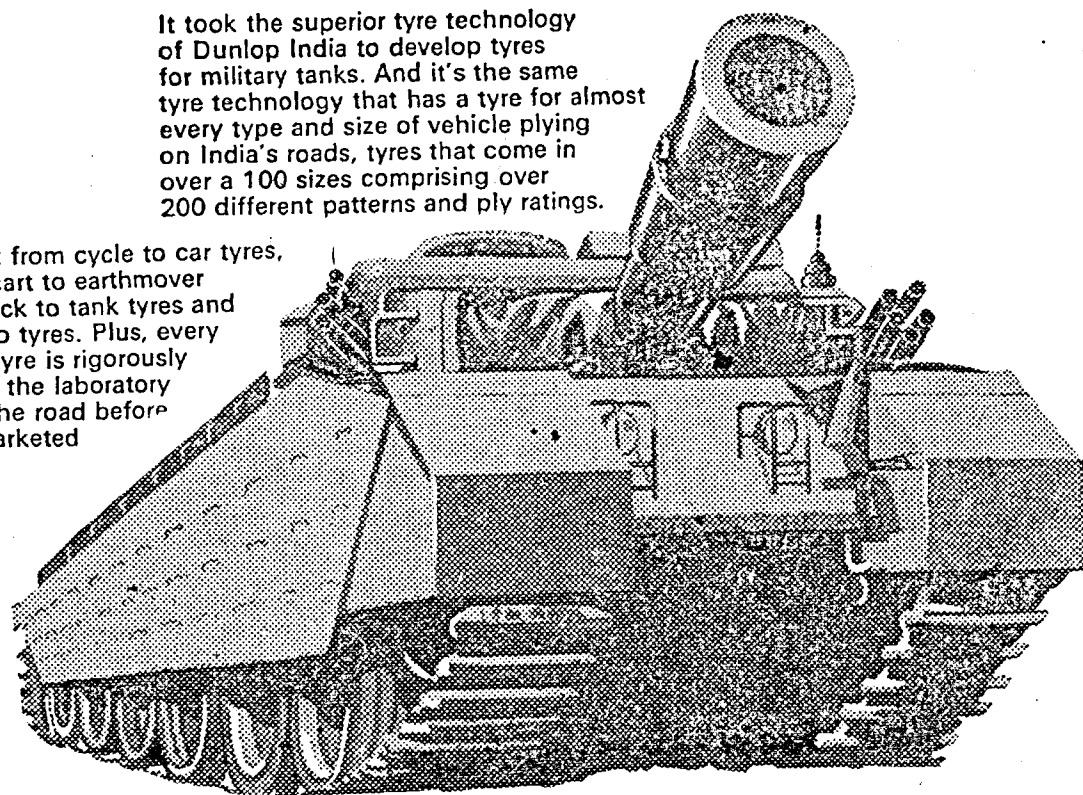
R.P. Kaushik

—Reader R.P. Kaushik's logic is indeed queer. He professes to share the editorial concern for the women of the country, and resents our comments on those who relegated them to an inferior position. And, much worse, he suggests that our reference to a "thing of the forgotten past" betrays our "belief" in it. It is

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difficult to understand the working of his mind which helped him to arrive at such a fantastic conclusion.

Even more surprising is the reader's ignorance about the statement of an "elder statesman" referred to in the editorial, which was widely debated in the leading Indian newspapers. In fact, the identity of the author of the statement is so widely known that it was not thought necessary to name him. His imputation of motives does not need any comment, because our readers know better.

Chief Editor

PUBLIC SECTOR PROJECTS

In his article on "Performance of Public Sector Projects" (Yojana, August 9), Mr S.K. Goyal, while defending the poor performance of this sector, pleads for a cost-benefit approach to judge the performance of the public sector.

No doubt the cost-benefit criterion has an advantage over the ordinary profitability ratios; it, nevertheless, has its own limitations. Under cost-benefit analysis, the underlying assumption is that there is full employment and perfect mobility of labour, which is hardly true in an under-developed economy. Besides, it is also difficult to appropriately quantify social costs and social returns.

The author has defended the poor performance and low productivity of the public undertakings on the ground that they provide more employment opportunities. This argument holds no water since our capital resources are scarce and have a price too. A fair return on capital invested in such undertakings is a reasonable expectation, especially when more and more investments are being pumped into the public sector.

The employment opportunities in the public sector could be provided in some other projects which are labour-intensive. Instead of mixing up the roles of capital-intensive and labour-intensive projects, we should first try to optimise the performance of both, then for employment opportunities concentrate on the labour-intensive projects, while in the capital-intensive projects healthy competition between public and private sec-

tors should be encouraged.

Further, the author also justifies the uneconomic location of various public sector projects perhaps to bring about regional balances. No doubt, one of the main objective of planning is to reduce the regional disparities; but that does not entitle us to adopt unprincipled approach and distort the location of industries as it would lead to higher cost of production which will be ultimately reflected in the form of higher cost to the society.

New Delhi

Sharwan Kumar

PROTECTED OFFENDERS

Your editorial 'Campus Culprits' (Yojana, August 9) is both outspoken and timely. The 'Intimidated Campus' is an epidemic. And no education reform can either work or give results unless respect for law and order is restored.

It is common knowledge that the Governments, Vice-chancellors, Principals and also teachers have begun to play safe in the face of turbulence on the campus; uncompromisable situations are compromised, and the buck is passed on from one level to the other; and explanation have become justifications.

Students have to be clearly told to earn privileges and not abuse the same to the detriment of society. Students must not be granted the privileges of protected offenders.

The abuse of student power can be checked only if it is charged with responsibility and not made the gambit for cornering or embarrassing political power. The existing sad situation is boldly summed up by you thus: "This generation of students which revels in creating chaos, sabotaging established institutions and paralysing the higher institutions of learning is obviously a very inferior specimen of Indian citizenship and a very dismal index of India's future."

Bhopal

P. C. Malhotra

LOANS FOR FERTILISERS

I fully agree with your editorial suggestion (Yojana, July 12) that 'instead of giving cash loans, it will be an advantage if the banks arrange for the supply of fertilisers

directly to the farmers, the value being treated as a loan'. It is a good idea and, if accepted by the nationalised banks, will prevent the production of bogus certificates, help eradicate corruption and establish cordial relations between the supplier, the banks and the farmer. Most of all, it will serve the purpose for which the loan is granted. Your suggestion is so wide in its scope that it can be adopted in all such spheres where cash loans are granted for purchasing agricultural implements, domestic appliances, machinery for new small-scale industries, etc. I do not think there can be any difficulty in accepting and even in implementing the suggestion.

Bombay

R. D. Prabhu

"NEW INDIA" FEATURE

In our local library I regularly read YOJANA with great interest, particularly the column "This I Like about New India". The articles published give rich statistical data which I find quite useful. But I am constrained to say that small achievements are magnified by the high-powered lense of YOJANA. There is no criticism and, in my opinion, criticism of different aspects of development will help the cause of planned development.

A contributor to "This I Like about New India," Mr S.K. Chandra says (Yojana, August 23) that when he visited his native place after ten years, he saw the road leading to his native place had been replaced with a pucca road. But my experience is that still a large number of villages are not having good roads and even electricity. Particularly in the rainy season, knee-deep mud is a common picture. Moreover, I do not find any reason to believe that roads are a true indicator of development. Prosperity should be judged not by roads but by the manner in which toiling people earn their livelihood. The Chowringhee Road in Calcutta may be dazzling in the evening, but the midnight will speak the truth when a large number of half-naked people of Free India take shelter under the verandahs of big mansions.

Howrah

Shibnath Sarkar

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electrification of villages	one in every eight
liberalised credit through Bank Nationalisation	80.71 crores to 2.97 lakh farmers; 40.78 crores to 70,607 retail traders; 1.82 crores to 4,034 students
more and improved educational facilities	number of school going children has risen from 23 million to 75 million
better medical facilities	life expectancy has gone up from 31 to 52 years

GROWTH

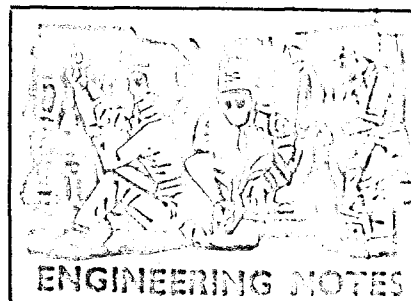
WITH SOCIAL JUSTICE

A NEW DEVICE FOR FERMENTING TEA LEAVES

S. V. Raghavan
Our Madras Correspondent

"A nicety for nice tea"—so runs the blurb of an advertisement of a new tea fermenting drum that is going to revolutionise the processing of tea. Its inventors, Mr A.C.K. Krishnaswamy and Mr C. Hari Prasad, have bagged the highest national award of Rs 10,000, given by the Invention Promotion Board for the first time since its inception in 1960.

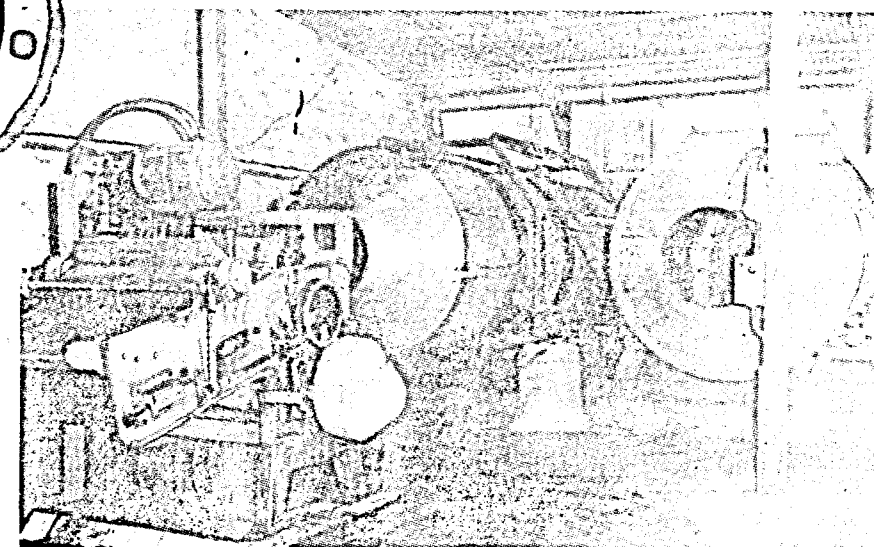
First conceived in 1967, the fabrication of the drum was challenged by a foreign firm, whose claim to have built similar equipment was, on investigation, declared invalid. After this initial hurdle had



ENGINEERING NOTES

been cleared, the two inventors perfected the drum and gave it extensive trials, improvising its mechanism after each trial. Yet, only one planter came forward to try the new fermenting drum. He got a good price for the tea processed by this new device and the off-take also was high.

In the wake of this successful operation, inquiries started coming in, and the Government agreed to issue a patent and include the fermenting drum among the approved items of machinery for a tea factory. The Tea Board offered loans to those who wanted to instal this



(The twin-drum fermenting device designed by Krishnaswamy and Hari Prasad.)

new drum. There are now 44 such units in use in tea factories, most of them in Tamilnadu and some in Assam. One drum has been recently despatched to Kampala, Uganda. It is expected that at least a 100 units will be in demand.

Processing of tea is done in several stages. The tender tea leaves (preferably two leaves and a bud), plucked from the fields, are brought to the factory where these are withered.

The withered leaves are then rolled, or, distorted in a roller. At this stage the leaves are called "tea dhools".

Next comes fermentation, wherein the drum, invented by Krishnaswamy and Hari Prasad, has a vital role. By this process the aromatic content of the tea leaves is developed, making the *dhools* capable of yielding a well-flavoured decoction. The fermented tea *dhool* is next passed through a dryer.

A serious bottleneck, during the fermentation stages, was the absence of a device that could ensure continuity. The traditional method has been to spread the tea *dhools* on large, specially treated floor space in as thin layers as possible and to allow them to ferment in a humid and cooled atmosphere. The process is static, space and time-consuming and, being manipulated with hands, far

from hygienic.

The fermenting drum avoids these defects and at the same time ensures stability of the treated tea leaves, preserving intact its proper flavour, aroma and tang. The required supply of oxygen is ensured by blowing air under controlled humidity and temperature. It is also possible, if necessary, to pipe in oxygen directly into the tea *dhools*.

The rotating drum ensures uniform fermentation of the entire bulk of the tea *dhools* fed into it after the withering stage, agitating them to the desired level under completely controlled conditions of humidity and temperature.

Apart from achieving uniform quality and standard, the new device saves 15 to 20 per cent of the time required for fermentation. Auction and market reports indicate favourable quotation for tea fermented with the new drum.

The twin-drum unit is made of semi-hard aluminium sheets suitably lined on both sides. It has a circular charging port at one end and eight slotted discharge ports at the other. Occupying a 35 sq. metre floor area, the drum stands four metres high.

The cost works out to Rs 30,000 per unit.

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