

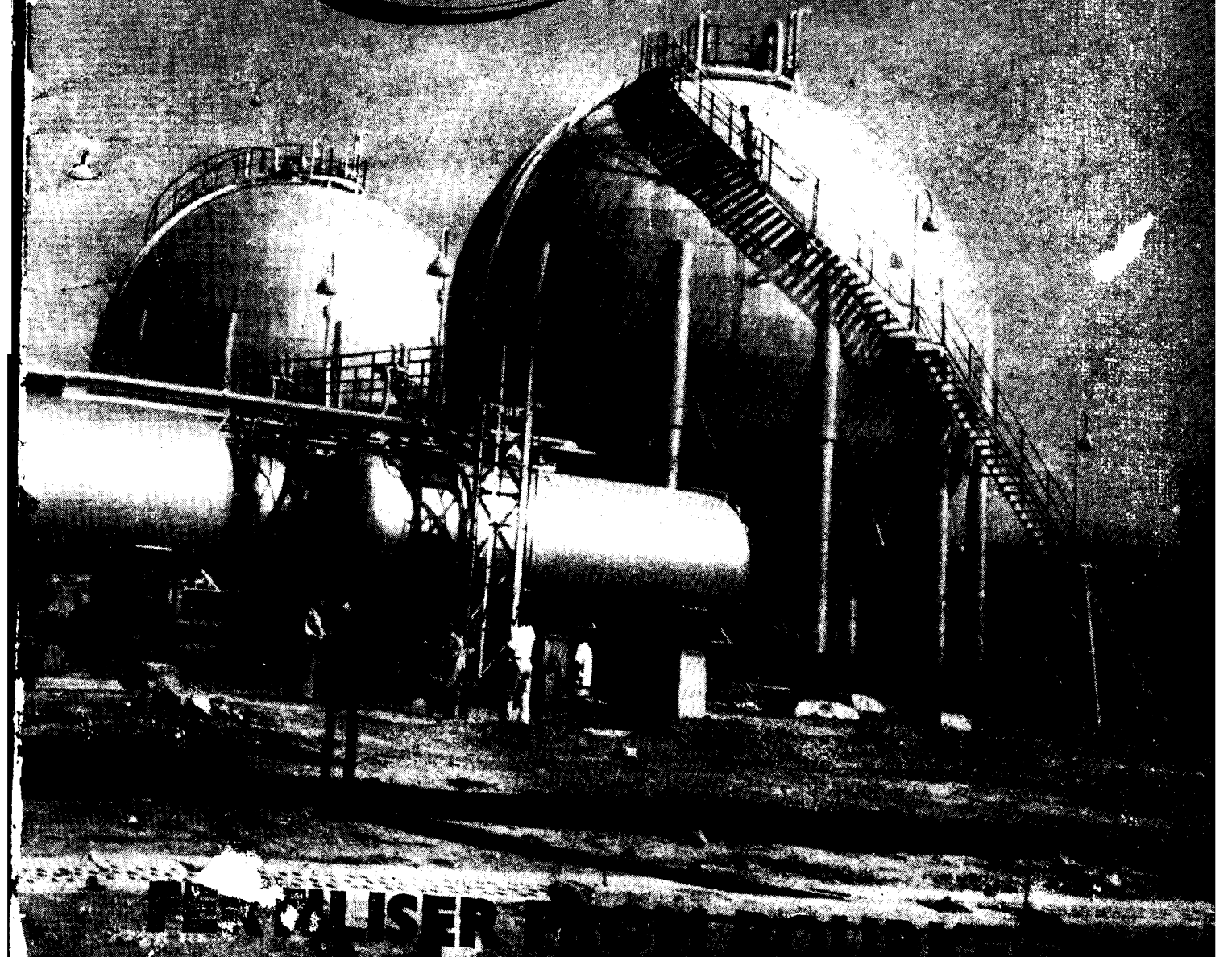
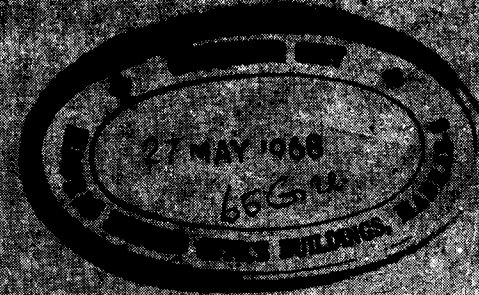
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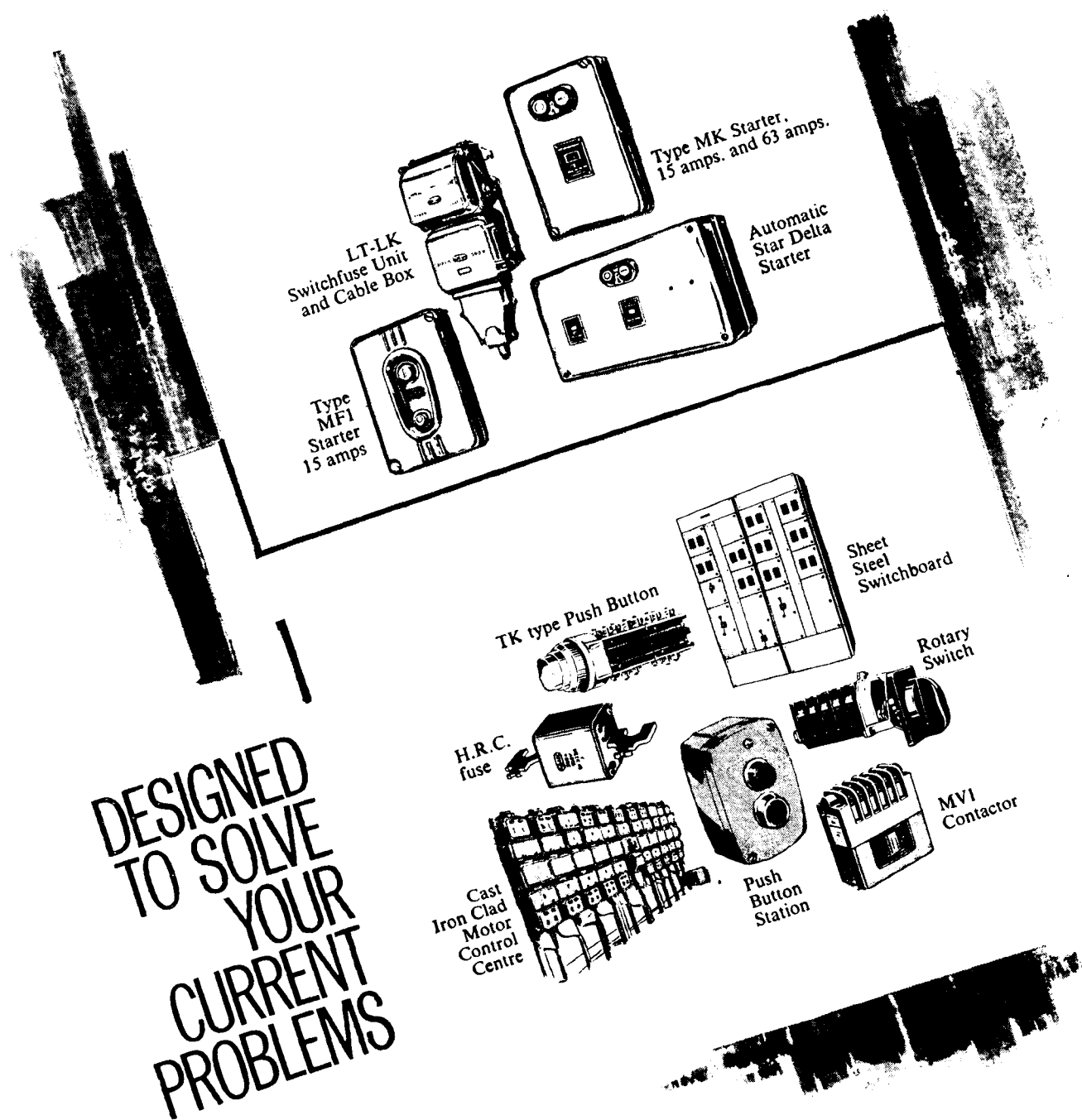
TWELFTH YEAR

9

MAY 12, 1968



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YOJANA

Fortnightly Journal published on
behalf of the Planning
Commission

Vol. XII

No. 9

May 12, 1968

Vaisakha 22, 1890

LEST WE FORGET

We have not felt as a nation, and the governing organisation does not speak with one voice. Planning cannot mend this difficulty.

—Sardar Vallabhbhai Patel

COVER :

AT THE ROURKELA FERTILISER FACTORY: Giant containers of liquid ammonia framed by gleaming overhead pipes, provide a spectacular backdrop to the factory.

Yojana seeks to carry the message of the Plan, but it is not restricted to expressing the official point of view.

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Tel: 383655, 381026

Business Office : Business Manager,
Publications Division, Old Secretariat, Delhi-6.

Inland Subscription : Annual Rs. 5 :
Two years Rs. 9: Three years Rs. 12: Single copy 25 paise.

Foreign Subscription: Annual 10 s.
6 d. or U.S. \$ 1.50; two years 18 s. 6 d. or \$ 2.75; three years 25 s. or \$ 3.50; Single copy 6 d. or 7 cents.

FERTILISERS FOR FOOD

DESPITE what cynics and critics may say, there is no doubt that there is a new awakening in the countryside today. A bumper crop, which is filling our granaries to overflowing, has given fresh confidence to the farmers, and has helped to dispel the gloom that pervaded the country in the long months of food shortages. The agricultural breakthrough, which has been brought about by united endeavour in the farm and in the laboratory, has made it possible for farmers to increase their yields, not by a mere 15 or 20 per cent, but by 70 to 80 per cent. The resultant rise in their incomes is a more powerful motivator than anything else. Today, the farmer no longer needs to be persuaded, because he himself demands that the required inputs be made available to him.

In this context the production of fertilisers has assumed great importance; and, if the 1970-71 target of food production, placed at 125 million tonnes is to be realised, it is imperative that the farmers are assured of adequate supplies of fertilisers.

The minimum requirement of nitrogen by 1970-71 is placed at 2.4 million tonnes, as against an estimated production of 1.7 million tonnes, and the balance would have to be made up by imports. The requirement of phosphatic fertilisers is likely to be of the order of one million tonnes, whereas anticipated indigenous production is placed at 0.737 million tonnes. The entire requirement of 0.7 million tonnes of potassic fertilisers is expected to be met by imports. All these facts show that there is a wide gap between the estimated requirements of various kinds of fertilisers and the productive capacity available within the country. This gap has to be filled in order to ensure that the tempo of food production is not halted. Obviously, therefore, it will be necessary to plan the import programme for the next few years sufficiently in advance, so as to ensure that the supplies measure up to the proposed targets of consumption. Whatever the validity of the estimates of internal production, it is imperative that the vital agricultural programmes now in hand should not be allowed to suffer.

To obviate such a situation from arising, it will be necessary to take suitable steps on a priority basis to ensure maximum internal production. At the same time, the import programmes should be drawn up after making due allowance for the possible failure of some factories in the country to reach expected production levels, as well as the emergence of unforeseen circumstances which may delay imports. Perhaps, it will be safer to allow for higher imports than programmed for the year, to offset the consequences of a possible shortfall in internal production and to counter the sudden vagaries of the international market.

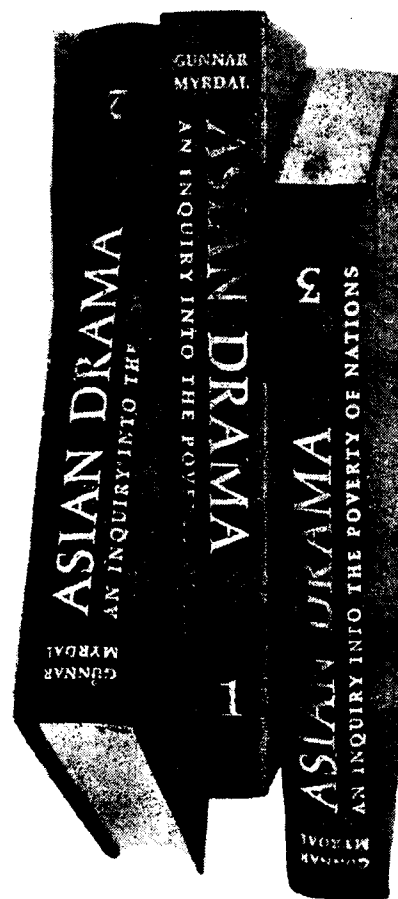
Equally important is the question of coordinating the work of the different agencies involved in drawing up agricultural programmes and their implementation, on the one hand, and the supply and distribution of fertilisers, on the other. Intimately related to this is the need to continue efforts to further popularise the use of fertilisers, in areas where they are already in use; and, to make efforts to introduce the use of fertilisers in areas where they are not in use.

The important thing is that the gains we have already made, as a result of the new agricultural strategy, have not only to be consolidated, but further expanded to meet the needs of a growing population. To allow the initiative to slip out of our hands will be disastrous for the economic life of the nation; and we cannot possibly allow this to happen.

POVERTY OF NATIONS OR NOTIONS?

ECONOMISTS, sociologists and political scientists have, for some time now, been groping for an understanding of the multitude of trends and counter-trends which make up post colonial Asia. Much of the writing is highly speculative and reveals huge gaps in the knowledge of the experts who manage to gather the funds and facilities to undertake their researches. Naturally, when Myrdal began his study, wide spread interest developed. He had a reputation. A large number of specialists from several countries assisted him. A twenty-year experience was to be covered. We now have three considerable volumes impressively titled, 'Asian Drama, an Inquiry into the Poverty of Nations'—a massive theme backed by a ten-year effort at analysis.

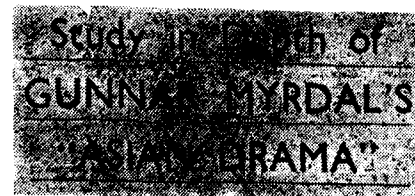
In the Foreword, we are promised an argument which 'goes against the grain of much contemporary thought, cuts deep, and moves at a level where differences of opinion are fundamental'. 'For Professor Myrdal had not only to move against accepted premises and assumptions; what was more



ROMESH THAPAR'S

difficult, he had to move against those premises which he had himself done so much to establish and to make seem self-evident'.

In the Prologue, Myrdal himself takes over to assault the frame within which all Asian studies have sought to be stuffed, a deadly, self-defeating process which has so often made a mockery of research in this region. The frame has been so buttressed by the intellectual elite of the West that anyone daring to break it has invited ridicule. Making a powerful plea for 'the sociology of knowledge, which is concerned with



Asian Drama, an Inquiry into the Poverty of Nations, in 3 volumes, by Gunnar Myrdal. Published by the Twentieth Century Fund Study, New York, 1968. Pages 2284. \$ 25.

causation', Myrdal sketches the history of 'The Beam in Our Eyes' and promises to uncover the reality. Undoubtedly, a tremendous undertaking when dealing with the congealed view of a sprawling continent about which the inhabitants themselves are somewhat confused.

'Asian Drama, an Inquiry into the Poverty of Nations', in three volumes, is to be the catalyst for future research, a major breakthrough or take-off, comparable by implication and suggestion to the pioneering works of former unravelers of truth. The 'present book is intended to be undiplomatic', says Myrdal. 'In our study we want to step outside the drama while we are working. We recognise no legitimate demand on the student to spare anybody's feelings. Facts should be stated coldly. Understatements, as well as overstatements, represent biases'. 'In this book we argue that there is a need not merely for qualifications and reservations, but for a fundamental change in approach'.

The 'drama' is explained. The reader cannot help but respond to the excitement promised. The curtain rises. The Introduction. Something is wrong. May be, the uneasy apprehension usual to first acts. No. Something is wrong. The promise is forgotten. The jungle that is Asia is entered. The track is lost. A confident movement in this direction and that, but soon to be engulfed by the jungle. The unraveller of truth either does not possess the weapons to take on the jungle or is fearful of what might lie beyond. The old clichés are trotted out and shot down, not for the first time. The new clichés are dressed up. The footnotes begin to tell their dreary story. This is another card-index job. And those who have read the literature of the post-colonial era find themselves re-reading the material in a kind

of summarised mix. Even that old mutton, 'Asian Values', is served up and India seen as the chief chef...

It is with a certain sadness that one begins to plough through unending pages of the mix. It would not be fair to take each section of out-dated thought and highlight the new research already published which finds no mention even in the footnotes. Myrdal, and his younger collaborators, must believe that Asia and thinking on Asia is much the same as it was ten years ago when they moved around in the region. There has been an explosion of knowledge since then and they are unaware of it. If Marx suffered, in the words of this book, from a

it is now generally recognised that not only the unification of British India but also the measure of political integration that made possible the creation of two independent states, was the result of the last hundred years and more of British rule... The idea of partition 'took root and flourished mainly because of the religious split between Muslims and Hindus and the communal conflicts stirred up by extremists in both groups...'.

Speaking of the India-China border, 'India has chosen to appeal to International Law to justify frontiers fixed by an imperial policy the Indian Congress movement denounced in its younger days'... 'By contrast, India's determination to remove the French

these boundaries took little or no account of ethnic, cultural or linguistic criteria...

The war in the Himalayas in 1962 sparks comments like, 'The Indian public was offered a variety of reassuring reasons for the sudden Chinese withdrawal' and 'Some Indian commentators managed to interpret the Chinese withdrawal as a Chinese defeat...' 'The decision to secure foreign military aid raised doubts abroad and at home about the traditional Indian policy of non-alignment'... 'The Indian government continues to proclaim the necessity for non-alignment in world affairs, but the collapse of its China policy has dissipated the moral and emotional climate surrounding this concept'... 'Only rarely does anyone in India other than the disreputable and now mostly imprisoned leaders of the pro-Chinese wing of the Communist Party—express the view that Indian policy in its conflict with the Chinese may not have been a hundred per cent right.'

I could go on like this, but it is a tedious exercise. Either Myrdal has not understood the ramified situations or, in his desire to be fresh, has fallen into the trap of recording opinion which others have refrained from only because it does not stand the test of facts. Perhaps, political understanding of Asian trends is too bewildering. A more rigorous economic approach within the context of an inquiry into the poverty of nations might have revealed the path through the jungle. But even this, I am afraid, would not have salvaged the Myrdal thesis. For, as one begins to push through the economics section, the same computer approach with a limited reference, is apparent. Indeed, the poverty of nations is inquired into without any solid reference to the depredation of the colonial era—a fashionable tactic in these days when our world is being increasingly polarised between the rich and poor nations, and when poverty is sought to be presented out of historical context, a reflection of basic incapacities.

India, according to Myrdal, is what he calls a 'Soft State'. There is dichotomy between ideals and

"Asian Drama" is a study of, what the publishers describe as, 'the unique problems of national development in South Asia in terms of the region's political, economic and social structure'. Written by the noted Swedish economist, Gunnar Myrdal, the study was made under the aegis of the Twentieth Century Fund of New York. The three-volume publication, running into more than 2,000 pages, has aroused keen interest because of its criticism of Indian planning.

This article, by a distinguished Indian journalist, is the first review in depth, and is based on first-hand study of the book, which was specially flown out from New York for Yojana, a week after it was released.

'systematic bias', Myrdal appears lost in the economic—political—social jungle that is Asia, finding himself a victim of mechanical computerisation.

In Myrdal's thesis, it was only to be expected that India would take a major position. The material for computerisation is plentiful and easily available. The rest of Asia is reduced to peripheralism. As for China, it doesn't really make an impact! The supposedly subtle generalisations on the Indian sub-continent which provide the 'new' analysis with a 'new' frame are extraordinary, to say the least. 'In India, and in Pakistan as well,

and Portuguese from their precarious footholds on the subcontinent implied a demand for slightly more than its territorial inheritance from Britain. In fact, India and other Asian states have tended to apply a double standard of judgement to territorial questions. They regard colonial possessions within their borders as "permanent aggressions", which they are prepared to deal with forcibly when it is to their advantage and within their power to do so. But they are quite legalistic when it comes to justifying their own inherited frontiers against neighbouring states, even though

reality. 'The tendency is to use the carrot, not the stick'. The level of social discipline is low. All this is rationalised and extolled, a la Gandhi. Ideals are important, but must await a change of heart. Conservative and reactionary forces are strengthening. The persistence of the caste structure in Indian society provides a striking example of the divergence of precept and practice'. But, can half truths make up a thesis?

Significantly, Myrdal's search has not taken him to the core of the problem—the complexity of the Indian polity, the specific features of an evolving federal democracy, the fact that in many ways the experiment is a pioneering one. We have learned during the tortuous post-war years that there are no magic wands to wish away poverty. Growth carries within itself the seeds of new and even more explosive tensions in our sprawling societies. Certain priorities have to be located. Gaps in development have to be bridged. Defences have to be erected against the marauding activities of the more powerful nations. The scientific and technological revolution has to be understood in terms of Asian realities. Myrdal opens no doors. He is merely the recorder of failures already recorded. The truth remains unrevealed, despite the promise of the Foreword, the Prologue and the Introduction. And nothing illustrates this better than the economic section of these three volumes.

In this, Myrdal attempts to set out the basic features of economic geography in South Asia. Agriculture continues to be 'the dominant branch of production'. The population density is roughly the same as that of Europe, excluding the USSR, and about four times that of the USA. The man/land ratio is not strikingly high—half that of China, and much lower than in Japan. Low productivity in agriculture is the key to low economic development. Population density is closely related to the cropping pattern and the pattern of agriculture. Population growth causes fragmentation of holdings and increases the relative number of landless and the poor. Plantations were, in fact, a process of industrialisation, that this aspect is

neglected in most discussions diminishes the emphasis on agriculture. European ownership prevented a diffusion of skills. Middlemen or 'oriental aliens' were used. Manufacturing industries did not develop. Crafts declined or were destroyed by the colonial masters of Asia. Dealing with these 'economic realities', Myrdal comes to the conclusion that 'rigid social stratification' and the absence of rationalism, institutional and attitudinal, accounted for the stagnation in South Asia! Nothing more, nothing less.

MECHANICAL APPROACH

The thesis continues. Myrdal distinguishes three kinds of splits in South Asian societies—level and character of civilisation between dominant ethnic groups and tribal peoples; the contest between modern, market-oriented and profit-seeking forms of economic enterprise and the traditional subsistence economy; the ethnic cleavage resulting from migratory movements, particularly of the Chinese and Indians. He considers them extreme examples of 'plural' societies: the various groups mix but do not combine. Hence, minority problems! As you can see from this summary of a section, the approach is mechanical and the conclusions arrived at are essentially rooted in a frame which it is not possible to place on Asia, the whole of it or a portion. Much of the research and analysis, which our part of the world has been subjected to, has been vitiated by a refusal on the part of the foreign expert to accept the possibility of the frame itself being irrelevant.

The 'Soft States' and 'plural societies' of Asia are now to be gathered together as a regional model. This borders on the preposterous, for Asia is likely to yield a series of models. European experience is relevant only to the extent to which it throws light on this or that aspect of growth—for example, the rise of regional languages and their enthronelement in India. The problem of Asia as a continent is locked in the scientific and technological revolution. Is it possible for the continent to make up the leeway of centuries by imitating processes in developed regions? Does the built-in leap

effect of this scientific and technological revolution, deny land masses like India and China the possibility to compete in growth? Are we doomed to a growing polarisation? What are its consequences?

These fundamental questions do not occur in this analysis even as the backward Asians are grappling to search for answers, admittedly at a theoretical level. Nehru was obsessed by this searching. Mao's obsession saw expression in the cultural revolution. Vital questions have been posed and they are integral to an inquiry into the poverty of nations but foreign expertise seems to fall into a frame of investigation which has, time and again, proved its total inadequacy.

Where Myrdal is on firmer ground is the poverty of statistics. But what use accurate statistics, if the conceptual approach to national output and the structure of the economy is misleading? On this basis, 'Burma has exhibited by far the fastest rate of growth'. At the end of 1950's Burma was classed as an economy well on the way to success. Pakistan, Thailand and Ceylon are stagnant in terms of output per head. The Philippines is showing fairly rapid growth.

As for India, its income per head is supposed to have fallen, although there was marginal improvement during the latter half of the fifties.

The mystery in Asian statistics makes Myrdal somewhat hesitant as he presents his tables. Inevitably, the subliminal conclusion comes through. The countries with plantation economies have a future. This puts a big question mark over India and Pakistan. But, surely, Myrdal realises that the rationalisation of agricultural techniques even in a non-plantation agriculture, as in the Punjab, can work miracles. Today, we know what miracles have been worked. Admittedly, the agricultural revolution under way in India, too recent to have found a place in the thesis, may lead to a new-type plantation economy, but there is nothing to suggest that this is inevitable.

As for the industrial sector, it was customary to speak of it in terms of cottage, small-scale and large-scale. Myrdal continues to

see the future in these terms, although he puts them into new envelopes marked 'mainly traditional', 'mixed' and 'mainly modern' and divides the product between them. There is no realisation of the possibility that these three sectors of the growing industrial complex of South Asia can be fused in any sensitive planning for the revival of a continent.

A great deal of perceptive thinking has begun on linking the craftsmen to the national market, a step which builds integral living standards and prevents the directionless movement of masses of people to the towns. Small scale industry, rural based, solves a series of problems related to rapid growth. Indeed, the thesis of accelerating the growth of factories, even in the future, must be fought if we are to salvage the quality of life. Asia may fail, and pass through the same traumas which afflict the advanced regions, but Myrdal might have tackled this aspect of Asian thinking with a greater sensitivity and depth.

NEGLECT OF HISTORY

The argument on levels of living, saving and inequality, foreign trade and capital flows, the whole subject of varied conditions in the region is a familiar one. The obvious is stated, a mass of research already done is collated but the conclusions drawn are astonishingly ordinary. Twenty years of attempted independent activity have convinced even the elites of Asia that the normal approach to the problems of poverty and development hold no salvation for the mass of Asian peoples living in homes which are little more than shelters from the elements.

When Myrdal talks about the need to pursue 'resolute development policies' and says that 'it is probable, however, that on the Indian subcontinent social inequality is more pervasive and more detrimental to free competition, in the wider sense of the term than anywhere in the western world in recent centuries', he is revealing the bias which colours his whole thinking on the subject. The bias becomes a developing dogma when he states: 'We are thus led to the major question of whether in South

Asia today, the complex of political, social and economic institutions and the attitudes underlying and deriving from those institutions represent greater inhibitions and obstacles to development than did those in the Western world in earlier times'. Even though he admits that no parallel investigations have been conducted into the past of Western countries—as if parallelism is possible in terms of colonial plunder!—he believes that attitudes and institutions are less favourable.

Had Myrdal been bolder in his probe, he would have detailed the role of colonialism in building the vital surplus for the industrialisation of the West, he would have understood that aid to Asia is seen by Asians as a debt repaid, he would have noted in depth the hidden exploitation inherent in present day aiding operations, he would have compared these aiding operations with the Soviet assistance to Communist China which has received, despite the propaganda, a balanced industrial base. He would then have realised what is wrong with the unbalanced development of countries like India despite all the efforts of the planners, and he would perhaps have indicated pointers to remedial action. The newness of his approach, so widely advertised in the world's press, appears to merge into a neglect of history, past and present.

The over-worked tale of India's failures might have been disciplined with the inclusion of a solid analysis of India's successes, despite the sudden and crippling burden of deference imposed from 1962—a burden which even today, in proportionate terms, terrifies Japan. There is no comprehension of the fact that, once the secret of motivating millions of people is discovered, results can be quick. Hence, one finds no reference to the possibility of India's agricultural breakthrough, now generally admitted, or of the fact that over large areas the merits of various birth control measures are discussed as once the merits of local medicine used to be. On the contrary, Myrdal says: 'A spontaneous spread of birth control practices is not in prospect' That presumably also applies to new agricultural techni-

ques; a theory which our farmers are at the moment busy blowing up.

Management remains a problem but not as Myrdal sees it—not a matter of cadres but of organisation. It is best to confine ourselves to the Indian example, for the volumes under review concentrate largely on the Indian drama. A vast sub-continent has to be developed. There are pulls and pressures from each region within a political system which, despite Myrdal's question-marks, is democratic in terms of sanctions through a free franchise. The last general election is a pointer. If there are no institutions at the base of the pyramid of power, it is clear that the system cannot ignore the base. Since 1962, a point in time at which Myrdal seems to have disconnected with the region apart from turning the pages of a few journals, a basic reassessment of goals, priorities and policies has been under way. If no coherent planning has emerged, it is because the complexities are weighing heavily on the solution seekers. There is not an idea in Myrdal's survey of planning, labour utilisation and the population explosion which has not been under debate and scrutiny. This is a salutary fact particularly when it is made out that Asia or India, in fact, is suffering from 'verbal fuzziness'.

Programmatic planning is now being influenced by pragmatic considerations; indeed, the danger is that there may be too great a swing towards unprincipled pragmatism in the interest of the dominant sections. If planning from below has not developed, it is because a whole group of economists drawn from various persuasions and associated with India's Planning Commission seldom moved beyond the mechanical application of Western experience. They were unable to link creatively the traditional rural based industry of our land to the national market or were reluctant to espouse concepts which would be considered primitive.

Myrdal swings towards Gandhian attitudes and then attempts to link these with capitalist farming. We cannot be so naive. The realities of political behaviour in a sub-continent warn us that

even as the new agricultural strategy makes its impact there is danger of a sharp polarisation at the rural base. The Gandhians, or those of them who are still close to the village, are already working to find the answers to this growing polarisation, for they realise the threat it holds to the unity of a developing sub-continent. This does not appear as an issue in Myrdal's thesis, except in the diffused form of what is called 'political stability'.

If the unity of the sub-continent has emerged as an issue, and if Myrdal had more thoroughly understood the explosive content of growth in terms other than 'employment and unemployment', 'backwash effects', 'dependency burdens', 'climatic considerations', 'traditional corruption', 'traditional idleness' and 'qualitative demography', he might have linked himself more closely to the actual reality and been less cavalier in dismissing the gains of these twenty years. The concentration on industrialisation, and the implied inter-dependence of one region on another, has provided the base for the parallel emergence of a technological and scientific agriculture and created a viable stake in continental unity, a stake which wily nilly disciplines the outwardly mercurial political transition which federal India is making. Even a federal Europe, with all its sophistication and affluence, would not be able to support a central government embracing state governments which owe allegiance to all manner of ideologies. Foreign experts need to ponder on these rather obvious facts before they jump to conclusions like, 'it is difficult to be optimistic about the future' or that India is democratic 'in a fashion' or that 'no improvements in standards are possible'. And this is not an attempt to minimise the failures and criticisms of which there are many.

The attempt to place the entire blame for economic failure on Asian society and leadership arises from a refusal to analyse the role of foreign capital, foreign aid, foreign interference and foreign ideas. These are vital elements in the policy-mix of an open and vulnerable society such as India.

It appears as if Asia is living in a kind of self imposed vacuum and is free to operate the 'rational' policies suggested by Myrdal. The interpretation of social practices is outdated and statistics are made to serve the thesis as when drought is not mentioned in connection with the fall in agricultural production in India during 1965-66. The extraordinary suggestion that the use of fertiliser in irrigated areas might damage output in the dry areas by diverting this input implies a non-belief that it is possible to produce special seed precisely for these areas—a fact which our agricultural scientists will record perhaps, before this year has been rung out. Similar is the cynicism which surrounds the commentary on the rural works programme. A massive creative potential is available, but it is not so simple to create a continental motivation.

Myrdal is more lucid when he attacks the refusal to transform property relations and the social structure. Admittedly, in comparative terms, the rich have grown richer and the poor poorer, but the people of India know how much their lot has improved over twenty years, despite the maze of statistics. A more rigorous thrust in this direction is on the agenda now that India is making the political transition to a genuine federal polity. If this transformation is not unleashed by political pressure or for the reason that Myrdal advances—that the opportune revolutionary moment has passed—then may be a capitalist, Japanese-style path of development is opening but, again, this thought is not sparked by the researches embodied in these volumes.

Repeatedly, Myrdal stresses the 'unsuitability of Western concepts' when analysing South Asia, but he falls into a Western framework without realising it. This is part and parcel of the intellectual standstill which we are witnessing the world over—the utter failure to evolve a more meaningful frame of reference for development and growth. The obsession with the population explosion is only a reflection of this. Even as we tackle this explosion, we have to think beyond it. If change is sought, then that change

must change man. Only then can two-thirds of mankind—the depressed and the deprived—recover hope. The Western model of affluence can no longer inspire. The phenomenon of the 'flower children' made this clear to those who think in Asia. Even in the aberrations of the Maoists, there is a kernel of truth.

And so we move on to the investment in man, in his health and his education. Myrdal covers a vital area which, in a sense, he helped to highlight in his earlier work, but his vision is limited. True, health and education cannot be separated, for the brain has to absorb knowledge and skills and the body must have the energy to implement the tasks of productivity. But, for Asia, there is more in health and education. This emerging continent has to nurture societies which are capable of projecting a value system which avoids the waste and decadence of developed nations.

This is not just a moral judgement, but an essential economic consideration if two-thirds of mankind is to emerge from its depressed condition. Is bourgeoisification inevitable? Can the poor nations of Asia be persuaded to skip a whole experience? Is it possible to prepare prototypes of good living which are more civilised and conserve the limited resources of the underdeveloped world? Would these new prototypes be able to defeat the accepted models of living in a shrinking world?

These questions are pertinent because they directly impact the foundation of policies. To ignore them at this stage in development is to invite despair, for Western affluence cannot be recreated in nations embracing 500-800 million peoples—at least, not in the lifetime of these peoples. The foreign expert needs to look at the world from Delhi and Peking rather than from London, Washington and Stockholm. Then, perhaps, he would begin to understand the trauma that thinking Asians, Africans and Latin Americans are experiencing. Too long have we listened to views which have no perspective relevance to our condition. Without commitment to

turn to PAGE 31

Price control to be effective has to be administered well, limited in range and short in duration. The pricing system is and should be regarded as an instrument of economic management rather than a matter of ideology. What is needed is a controlled use of the pricing system rather than price controls.

WHY A PRICE POLICY

L. K. JHA

INDIA is a developing country. We want not only a steady but a rising rate of growth. The two major constraints on our growth have been the shortage of savings for investment needs and the inadequacy of foreign exchange. There is, thus, both the pressure and the temptation to expand investment through deficit financing or credit creation. Either of these, unless their volume and their timing are carefully determined, would lead to excessive monetary expansion and an upsurge in prices. There are two other factors some what peculiar to Indian conditions which have a bearing on the problem of inflation. When a country is not suffering from a foreign exchange shortage, the inflationary pressures generated by pushing the level of investment beyond the level of voluntary savings are counteracted by additional imports and the impact on the price level is thus moderated. In the early years after Independence when we had large sterling balances, we were able to augment our level of imports to meet the rising demand in the economy without serious difficulty. Today we are no longer in the same comfortable position. Although external aid has helped us from year to year, its limitations have to be recognised in any formulation of an investment programme which we do not wish to end up in a cumulative price rise.

Another factor is the key role of food supplies. The increases in income resulting from a step-up in investment generate a marked increase in the demand for food, particularly as the population also is rising. The inadequacy of food supplies in relation to rising demand sets off an increase in food prices which is soon transmitted, both directly and through wages, into the cost structure. A demand generated inflation of food prices thus tends to become a cost induced inflation of industrial prices.

Excerpts from the "Shri Ram Memorial Lecture" delivered under the auspices of the Punjab, Haryana and Delhi Chamber of Commerce and Industry at New Delhi, April 20, 1968.

The question may well be asked whether the risks of inflation are not less than the risks of stagnation, or to put it differently, should not development be achieved even at the cost of price stability? This is clearly a matter of judgment. Moderate price rises are often inevitable and to an extent desirable. But even strong economies have found, after a period of creeping inflation that the process must be checked. There is little evidence to support the view that inflation stimulates growth; there is considerable evidence that it undermines it. Inflation is not only an inefficient means of financing investment expenditures; it is also iniquitous because it imposes a greater burden on the fixed income earner than on the more prosperous sections of society. Furthermore, it worsens the external payments position by diminishing the volume of exports and pushing up import demands. When the value of money is declining, the desire to save suffers a decline. Thus inflation only aggravates before long the two obstacles to development—the shortage of foreign exchange and the shortage of savings. One of the prime objectives of policy in our conditions must, therefore, be the attainment and maintenance of price stability primarily in respect of food articles, but to the extent possible in the general price level through a limitation of aggregate expenditure whether for current consumption or for investment to levels indicated by the availability of real goods and services.

Even when all possible steps have been taken to stabilise the overall price level and even when such stability exists, variations in the prices of individual products in response to changes in supply and demand conditions will occur. Such price fluctuations, far from being a cause of concern, serve the very useful economic role of correcting imbalances between demand and supply in the short run and securing the allocation of resources in a manner which gives the maximum satisfaction to the community.

PROBLEMS OF A DEVELOPING ECONOMY

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In India, as in several developing countries, it would be unrealistic to expect conditions of free competition which is one of the basic assumptions of this analysis. Capacity in several industries is less than domestic demand and imports are not always possible. What is more, if an increase in demand pushed prices up it is by no means certain that additional investment would flow into these sectors. Paucity of capital and of foreign exchange may well make it impossible to add new capacity to cope with the shortage. A monopolistic situation can come about in a developing country even when no one tries to create it, and there is an understandable desire in these conditions to keep prices under curb.

There is also in developing countries the need for building up a wide range of facilities where commercial considerations of maximum direct return on the investment do not or cannot always apply. These are the fields of development which lead to, what are termed, external economies and provide the infra-structure for development, such as power, transport and the like. This is, in fact, not a problem peculiar to underdeveloped countries. The "Affluent Society" also has similar problems. Only, in the case of developing economies, the area of such infra-structural investment is very much larger and covers not only the provision of basic services such as power and transport, but also essential investments in goods like steel, for instance. Given the continuing shortage of capital, it would be unrealistic to expect in the foreseeable future that through the free play of the price mechanism and by allowing capital to be deployed with higher profits as the prime objective, one would secure reasonable investment in sectors important from the point of view of overall growth or social benefit.

FREE PRICING SYSTEM

Another major consideration which militates against the acceptance of the free pricing system in developing countries is the fact that as a rule they suffer from wide disparities in the distribution of income and wealth. Behind the concept, that by allowing the prices of individual products to be determined by the impact of consumer demand measured in terms of money we get a pattern of production most satisfactory to the consumer, lies the tacit acceptance of the prevailing pattern of income distribution. In developed economies, where the bulk of population is assured of gainful employment and a reasonable standard of living, where the tax system is capable of correcting such inequities in income distribution as may need to be rectified, society not only accepts but welcomes the policy of letting the prices of individual products to find their own level. In a country where the bulk of the people are steeped in poverty, no one with a social conscience could argue that the price of the basic necessities of life should, when shortages develop, be allowed to soar because the richer sections of the population and the richer areas in the country can afford to buy up the entire supplies at higher prices. Rationing by the purse could, in these circumstances, prove highly irrational.

In a country like India, where there is not enough

of either savings or of foreign exchange to maintain the stream of supply of goods which the economy needs, where investment has to be guided into particular channels and where special consideration has to be shown to the needs of the vulnerable sections of society, competition by itself cannot be the regulator of the price level and recourse to some degree of administered pricing becomes inescapable, even for the limited objective of distributing more evenly the incidence of shortages. At the same time care has to be taken to ensure that price regulation does not help to perpetuate the very shortage that it is intended to relieve. A successful price policy has to be conceived in a long-term perspective. While we may not wish to leave our economy at the mercy of market forces, we should not hesitate to harness market forces to subserve our objectives. A well conceived price policy should, in the short run, prevent the exploitation of the consumer in conditions of scarcity and, in the long run, provide adequate inducements to the producer to step up his output.

PRICE REGULATION

Price regulation is not synonymous with price control. There are several ways in which prices can be regulated. In situations of acute scarcity price control, assuming it is effective, prevents the producer from charging a higher price even when the prevailing consumer demand would have enabled him to do so. Since price control does not by itself alter the underlying supply and demand position, the supplies which the producer makes available at the controlled price can be easily cornered by others. Speculators who have not been in the trade at all also enter the field with a similar intent. Consumers too often build up large stocks for themselves. Unless price control is accompanied by measures, to regulate the demand through some form of rationing, supplies can be monopolised by a few, and the needy may get no relief. All too often ill-administered price controls lead not to the desired results but to loss of revenue to the exchequer, loss of resources to the producer and accentuation of shortages for the consumer.

On administrative considerations alone a good deal of selectivity is needed before price control is imposed, and the possibility of having adequate control over distribution and consumption has to be taken into account. Further, since one of the prime objectives of price control is to benefit the weaker consumer, one should focus attention on those items which are really of interest to lower income groups. One of the problems to be faced in this context relates to the position of raw materials. If the price of a raw material is controlled but that of the finished product made out of it is not controlled, then processing industries make extra profits at the expense of the basic industry or primary producer without real benefit to the consumer. Conversely, if the price of the finished product is controlled but the raw material price is free, the producer of the essential consumer item under control may face a most undesirable squeeze. It is only after a careful assessment of such factors that the choice of items for price control can be wisely made. From a long-term point of view it is important that the level at which the price is controlled should not be such as to dis-

courage higher investment leading to larger production of the commodity in question.

PRICE LEVEL

The fixation of too low a price, however, well-intentioned from the point of view of equity and benefit to the consumer in the short run, comes in the way of the augmentation of supply by making investment in that sector less attractive. On the other hand, in the key sectors, important either for current consumption or for future growth and where because of their strategic character price controls have been set up, investment tends to be shy. If public investment tries to make up for deficiencies of private investment, it only means continued low returns to public enterprises in this sector. The predilection for fixing a low price for all essential articles can thus turn out to be a short-term gain and might prove self-defeating in the long run.

FOOD PRICES

In the early stages of our Planning there was understandably special emphasis on the maintenance of low food prices. However, as population increased, as incomes went up and as urbanisation proceeded, prices inevitably rose over a period. At the same time there was no advance assurance to the farmer that the extra effort and resources he would put in for increasing food production would be adequately remunerated. There was thus a tendency for the farmer, wherever he found it feasible, to take up the production of those products where a minimum price was assured or where he knew he would command a definitely higher price in the open market. In particular, he had little incentive to deploy expensive inputs which could have resulted in a larger production of foodgrains. We have since then rightly shifted the emphasis of policy on providing an assured minimum price for the major food crops so as to sustain the incentive for production and investment. However, the same agricultural experience brings out that the problem is not a simple one of allowing a price rise of an individual product because we want more of it. The other crops—the cash crops, the export crops are important, too. A competitive spiralling of prices would not benefit the community or result in increased production all round. A balance has to be maintained. Account has to be taken of the cost of inputs as well as their availability. An integrated approach rather than an isolated treatment is called for.

INVESTMENT PROBLEM

Price regulation must be viewed as an aspect of the investment problem. The fact that the need for price control has arisen is a signal that active steps are needed to move investment resources into that sector. The decision to intervene in the pricing process carries with it the responsibility of intervening in the pattern of investment. As long ago as the First Plan it was recognised that even in respect of public sector investment though the direction of investment need not be guided by the profit and loss calculus, "the relation between costs and returns has to be judged, at least as a first approximation, in terms of market prices". It is obvious that even when prices are controlled, they must be at a level that would stimulate production

and investment. Such a policy would be beneficial from another point of view as well. When supplies are scarce it is advantageous to encourage diversion of demand to other products whose supply is relatively plentiful. For instance, if there is a shortage of rice, it would be better policy to raise its price somewhat and to encourage the consumption of other grains whose supply is more abundant, even, if necessary, by subsidising their sale, than to keep the price of rice low and to stimulate its demand for it, without being able to meet it.

We must accept the social need to subsidise certain basic needs of those sections of the community which cannot afford to pay an economic price for them. But does it follow that the benefit of the subsidy should also go to those who do not deserve it? Also is it necessary that the burden of providing the subsidy should fall on the producers of the basic goods and services rather than on the community as a whole? If education has to be provided free or at a low cost to the poor, should the rich also get it at the same price? And, would the essentiality of education justify a policy of low salaries for school teachers and much higher salaries for clerks because the services of the latter are less essential? If in the interests of the vulnerable sections, consumer prices have to be kept uneconomically low and if at the same time the producer is not to be discouraged from expanding production and investment in the sector concerned, a system has to be evolved whereby the subsidy is limited to the needy. The burden of the subsidy could be borne by the exchequer or by the better off sections of the community. The technique of dual pricing, in some cases, helps the producer to obtain an overall return at a level to encourage production and investment and at the same time meet the minimum consumption needs of the community at a controlled price.

The effort must be to limit the area of price control and to shorten its duration. If price controls apply to essential sectors, investment in luxury trades then becomes attractive. Control over prices of luxury items is hardly the solution. There is, therefore, need to explore other methods of profit regulation than through price control. The use of the fiscal weapon has much to commend itself. Our direct taxation system does accord some degree of preference to producers in the priority sector. But basically it is not through direct taxation but through indirect levies that profit regulation is better achieved. Curbing high profits through direct taxation has the defect that it is apt to penalise better profits flowing from an efficient use of capital no less than profiteering in conditions of scarcity. One device worth considering in this context is that a part of the higher profits in conditions of scarcity should be compulsorily ploughed back into expansion of production. The imposition of stiff excise duties on products which are considered less essential discourages investment in them by cutting into their profitability. It is both desirable and fair that wherever possible such excises should be levied before much investment takes place in these sectors.

What about products which are neither suitable for price control of an effective kind nor are so inessential as to warrant a throttling of demand

through a stiff excise? To my mind serious consideration should be given to allowing some imports both to augment supply and to regulate prices in such cases. The criterion of essentiality in allowing imports has to be high. One criterion for considering the development of 'import substitute' industry is whether its products are essential enough to warrant imports in the absence of domestic production or if domestic production is inadequate. I would commend import substitution in this stricter sense to measure the true import saving, rather than the loose concept of producing at home the commodities the import of which has been banned or curtailed on the ground of their low priority.

An even more important element in pricing, much less amenable to control, is cost. The choice of items to be included in a programme of import substitution requires careful scrutiny from the cost angle. We have neither the resources nor is it our objective—to produce everything we need internally and without relying on imports. So, in selecting what we shall produce, a good deal of thought has to be given to comparative cost factors and our bias should be for producing those goods where we expect to have a relatively lower cost structure. Secondly in domestic price fixation we should avoid adopting the "cost plus" formula. While this may meet the objective of profit control, it does not put any premium on economy or efficiency that would provoke industry to look into its cost-structure aimed at a reduction of unit costs.

The problem of an appropriate price policy in a developing economy arises largely owing to the existence of persistent pressures towards inflation and external payments deficits. These structural characteristics are compounded by institutional factors which temper the operation of market prices in the conventional sense. While imbalances are created, there are few natural correctives. Appropriate fiscal and monetary policies are clearly necessary; even so some intervention in the pricing system is often indicated.

Price regulation is, however, not to be equated with price control. Price control to be effective has to be administered well and this means it should be limited in range and short in duration. Otherwise, there is the danger that the regime of price control would perpetuate the very shortage that brought it into being. This also calls for a diversion of investment resources into the area where supplies are scarce. The level at which the price control is set should be such as to make it worthwhile for investment resources to go in and at the same time it is necessary to protect the vulnerable sections of the community. The allocative function of price has thus to be fitted into the larger social priorities. The pricing system is and should be regarded as an instrument of economic management rather than a matter of ideology. What is needed is a controlled use of the pricing system rather than price controls so as to obtain the advantage of the efficient and economic use of resources within the broader ambit of planning—of combining the interest of consumers with incentives to producers—in short to strike a *via media* between centralised control and complete freedom.

SIXTH ALL INDIA BASIC LITERATURE COMPETITION

Entries in the form of manuscripts/books (including dramas) on the subjects mentioned below are invited from Indian authors for the Sixth All India Basic Literature Competition of the Govt. of India:

1. Community Development & Socio-economic change. 2. Role of Voluntary Organisations in Community Development. 3. Role of Panchayats in building Community Assets. 4. Panchayati Raj Forges Ahead—Success Stories of Panchayats. 5. Utilisation of Rural Manpower for Rural Development and Increased Employment. 6. Role of Youth in Rural Reconstruction. 7. Role of Women in Social Welfare. 8. Better Health and More Wealth for Villages through Applied Nutrition Programme. 9. Welfare of the Weaker Sections of the Community through Community Development. 10. Role of Community Development in Family Planning. 11. Role of Panchayati Raj in increasing Agricultural Production. 12. Elimination of Vested Interests in the Cooperative Sector. 13. Cooperative Farming for Higher Production and More Benefits to the Farmer. 14. Effective Utilisation of Cooperative Credit. 15. Cooperative Marketing and Processing. 16. Consumers' Cooperatives for keeping Prices Down. 17. Cooperative Sugar Factories—Landmark in Cooperative Processing.

Seventeen prizes of Rs. 1,000/- each will be awarded. Not more than one prize will be given under any one subject.

LANGUAGE AND STYLE—Entries may be in any of the following languages:

Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Malayalam, Marathi, Oriya, Gurumukhi, Sindhi, Tamil, Telugu and Urdu.

Entries 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 demioctavo 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 entry is 30th September, 1968

Detailed particulars regarding the rules and instructions of the competition can be had on application from:

The Director (Basic Literature)
Ministry of Food, Agriculture, Community
Development and Cooperation
(Departments of Comm. Dev. and Cooperation)
Krishi Bhavan, New Delhi.

Let the Individual Earn More

W. ARTHUR LEWIS

OR a few years after the Second World War progressive thinkers acclaimed rationing and licensing private sector as inevitable and desirable instruments of economic democracy. But this was only a sing phase. By the middle 1950's, all the leading ial democratic parties in the world had come to lise that licensing is an inefficient and corrupt way allocating resources, and had dropped it from their grammes.

Today, even in the U.S.S.R., powerful and authoritative voices are urging greater reliance on the market, d less use of administrative direction. If licensing nefficient and corrupt in advanced countries, with t-class administrations, it is even more harmful in s developed countries.

One can make a perfect theoretical case for substiting licensing as a method of allocating resources. od licensing, however, requires a good civil service, ich understands the purpose of the system, is free m corruption, and is accustomed to prompt :uction of business operations. Instead, in most less-veloped countries licensing means inordinate delays, d inexplicable decisions. If licensing cannot be ministered promptly and efficiently, the country is iter off without it.

Exchange Control

After food rationing, the next most tiresome area licensing is general exchange control, because it ects so many people directly, and therefore offers so uch scope for delay, corruption and arbitrary :ision. Some countries have had exchange control r so long that they have persuaded themselves that it an inevitable accompaniment of economic develop-ent.

This is not so; most countries have developed with- it exchange control; it is rather a sign of failure to locate sufficient resources to maintenance of the

Excerpts from the author's book "Development Planning, e Essentials of the Economic Policy", Harper & Row, w York.

foreign balance, whether by paying more attention to exports or by investing more in import substitution. Countries which make adequate plans for exportation and import substitution do not need exchange control (apart from restrictions on exporting capital).

Failure to keep export costs in line with world prices—whether through lack of an income policy, or through failure to balance the budget, or through maintenance of an incorrect foreign exchange rate—is both a symptom and a cause. Since it is difficult to keep an economy running smoothly, any country is liable to have failures of this kind; but they should be recognised as failures calling for rectification; not promoted as a subject for pride and self-congratulation.

Some direct control of investment is inevitable—whether through the licensing of the importation of machinery or through the issue of building permits—because of the imperfections of the market. It may be necessary in some countries to prevent investment in factories which will displace handicraft workers, without increasing the national output.

More commonly—perhaps even universally—building permits are necessary to give effect to a zoning policy (to keep factories out of residential districts) or to a policy of regional balance (to prevent excessive concentration in one or two towns). It is possible in

Fuel for the Growth of a Country's Economy

these policy areas to make regulations which are precise, and leave little room for personal assessment and interpretation. This minimises the delay in issuing permits, as well as the opportunity for arbitrary and corrupt decisions.

One of the least attractive aspects of licensing is what it does to the small businessmen who, added together, make as great a contribution to development as the big men, or greater. *Licensing always hurts the small men most.*

The big firm can keep specialists who become familiar with the regulations and with the men who administer them, and who can therefore get the big firm's business through. The big firms also have more influence and—if bribery is involved—more money. Licences are usually based on past performance; this helps the established firm, and prevents the small firm from growing. A licensing system is inevitably biased against small business.

Such a bias is difficult to avoid even without licensing, especially if committees have participated in drawing up the Development Plan. The representatives of business on the committees will usually be from the larger firms. These are the men best known to civil servants and Ministers; so, even with the best will in the world, their problems naturally receive attention most easily.

Every Development Corporation and every Ministry of Trade and Industry should have sections specially charged with the interests of small business.

Building permits apart, almost any other desired control of the economy can be achieved without licensing, either by taxing the activities one seeks to discourage (e.g., import duties, excise duties on luxury consumption) or by subsidizing those one seeks to encourage. Manipulation of prices through taxes and subsidies is the smoothest way to influence the allocation of resources in the private sector.

Most government intervention in the private sector of a developing economy should be expansionist, rather than restrictive. The other important area for restrictive action, apart from building, is the control of those imports which are cheaper in money but more expensive in real terms.

This can be done through exchange control or import licensing, but these are inferior forms of control since they require a separate administrative decision for each importation, and thus open the door to much delay and corruption.

Undesired imports can be cut or excluded by the imposition of import duties of suitable magnitude. The most efficient way to protect import substituting industries is to establish an independent Tariffs Commission to hear cases and make recommendations, and to keep under review all industries which are receiving tariff protection, to ensure that protection is not a cloak for profiteering or inefficiency.

Although each industry is studied separately, the commission is guided by a general rule: the case for protection is based on the argument that factor prices are wrong; if one can establish by how much they are wrong, one can deduce how much protection is justified across the board.

The commission should thus establish what degree of protection it considers generally desirable irrespective of conditions in the individual industry, and should exceed this rate only in very special cases. Experience shows that the absolute independence and objectivity of a Tariffs Commission is vital if it is to hold public confidence. It may have to take some evidence in camera, but its reports should always be published.

Promoting Enterprise

The fundamental task of development planning is to release the energies of the people so that they may do what needs doing to raise the rate of economic growth.

The things to be done are productive decisions to be made by a very large proportion of the country's inhabitants. Industrialists are to build factories; farmers are to adopt new technologies; labour is to move to new jobs; research workers are to find new solutions; perhaps as much as 20 per cent of the population must change its ways somehow or other—learn, invest, accept new institutions—if the rate of growth is to move from 3 to 5 per cent.

The planner's job is to find out what stands in the way of these productive decisions, and to introduce measures which make such decisions more likely.

The government cannot by itself, or through its

officials, raise the rate of growth from 3 to 5 per cent. Such an exercise involves a wide section of the people. The government can persuade, threaten or induce; but in the last analysis it is the people who achieve.

What stands in the way of more rapid growth is not the same in every country. Sometimes it is mainly lack of natural resources, or of knowledge of resources, or of knowledge of how best to exploit resources; then one must look to science for remedies. Sometimes it is poor infrastructure—lack of roads, harbours, water supplies, electric power, or other basic services.

Deficiencies of technical skills and of basic education are universal. Sometimes the fault lies in institutions which hamper or discourage initiative: inadequate commercial laws, inadequate marketing or credit facilities, an inefficient bureaucracy, or a mass of restrictive licences.

Or it may lie in price policies, especially the chronic tendency of some countries to price themselves out of the world market, by continually inflating domestic costs, while holding the foreign exchange rate at an unrealistic level.

Promoting Agriculture

If one were asked to pick a single factor as the most common cause of a low rate of economic growth, it would have to be the absence of a vigorous agricultural policy. *Agricultural stagnation is the main constraint on the rate of growth.* It keeps down the living standards of the great majority of the people, and in restricting their purchasing power, restricts also the scope for industrialisation.

It is the prime cause of a low taxable capacity and a low rate of saving. It contributes to a shortage of foreign exchange, either by failure to earn more or by failure to supply the growing urban demand for food and raw materials, which must then be imported.

Except for countries which have rich mineral resources, no underdeveloped country in which farm output is stagnating can grow rapidly. Hence a vigorous agricultural policy must head the list of development measures.

Given good institutional, price, and agricultural policies, the chief difficulty which remains is the shortage of large-scale entrepreneurship, especially for mining and manufacturing.

There is no shortage of small-scale enterprise, or of willingness to exploit opportunities. The will to do business and make money shows up in the hordes of traders; and in the rapidity with which small entrepreneurs take up small business opportunities as soon as the opportunities are opened up—motor transport, cinemas, building and contracting, small flour mills, printers, soft-drinks—there is no shortage of small business types in underdeveloped countries.

The shortage is of men who can build and run a large modern factory or mine or ship.

Development planning includes measures designed to increase the domestic supply of managerial talent. These attack the main causes of the shortage, viz. lack of opportunity, lack of technical training, and lack of money.

To remedy lack of opportunity, pressure is applied to foreign firms to employ more nationals in high positions, and give them better training. Sometimes foreign firms are not allowed to operate unless they take nationals as partners—though this measure is frequently little more than a racket.

Sometimes, too, domestic entrepreneurs are sheltered from the competition of foreign rivals, by licensing the foreigner or keeping him out altogether—a policy which has point where the cliquishness of established foreigners is a factor preventing nationals from getting a foothold in a business, but which also has the danger of removing the competitive spur to improvement.

Lack of Technical Training

Lack of technical training is met partly by placement in establishments in overseas countries; partly by offering classes in subjects relevant to business management (such as, accountancy, personnel management, merchandising, and commercial law); and partly by providing some sort of consulting service to help small businessmen.

Finally, lack of money is met by applying pressure to the commercial banks to lend more freely to nationals; and also by establishing development banks of various sorts, with private or public funds.

In time, such measures, plus the currently high prestige of business management, will increase the supply of domestic managers for large-scale enterprises to the point where there is no longer a crucial shortage.

But the current domestic supply is not adequate to produce a 5 per cent rate of growth. If such a rate is to be attained some importation of foreign management is inevitable, whether in the form of foreign enterprise or in the form of hired management.

Finding investors who are willing to start businesses, whether on their own, or (if foreigners) in partnership with domestic entrepreneurs, or in partnership with the government, is one of the chief aspects of Plan implementation. For this purpose it is usual to create one or more Development Corporations, to study new projects, find potential investors, and negotiate.

Potential investors in new industries look to the government for many kinds of assistance. Some government agencies help in securing additional information (geological survey, industrial research, agricultural research). Some help in widening the market (protecting the home market, or negotiating to lower foreign tariffs). Some help in recruiting and training labour, or developing suitable industrial sites, or encouraging farmers to grow a raw material for processing.

Others are expected to make loans (industrial bank, agricultural credit, mortgage finance). And the Ministry of Finance may be asked for subsidies (to meet the cost of running in factories, to encourage farmers to use fertilizers or conserve soil).

Every country has to decide for itself whether to encourage private enterprise, what framework to

establish for private operations, and whether to discriminate between domestic and foreign enterprise.

Some underdeveloped countries have decided to put the emphasis on public enterprise, and in those sectors where foreign management is essential they either hire it for salaries and fees or insist on partnership between private and public funds. The result depends largely on the amount of domestic administrative skill available for tapping.

Given adequate resources of finance and skill, and a sound administrative framework, public enterprise can be as dynamic as private enterprise.

However, these conditions are not fulfilled in the majority of underdeveloped countries, and most of those which have decided to rely on public enterprise are plagued with waste, inefficiency, and corruption. Whether the benefits outweigh the disadvantages, each person must judge in the light of his own political philosophy.

A Mixed Economy

Countries which have decided on a mixed economy must follow through the consequences in the private sector. The amount of private entrepreneurs and the amount of risk private entrepreneurs will take depend partly on the extent of freedom from administrative control, and even more on the opportunities for making profits.

In several of these countries, official spokesmen appeal frequently for new private investment, and publish Plans predicated upon large amounts of private investment, but since at the same time they hedge private investment round with restrictions and licences, take steps to keep private profit low, these appeals and Plans come to nothing.

It is not our purpose to argue whether a 3 per cent rate of growth is better or worse than a 5 per cent rate of growth; our concern is not with ends, but with means. Given that the end is rapid growth, the main point to be stressed is that this end cannot be achieved without offering high incentives to individuals.

Rapid growth involves decision-making not merely by politicians and civil servants but also by a large proportion of the population. Exhortation and symbolic rewards help to put people in the right frame of mind, but only an infinitesimal proportion of any population will decide to incur costs and take risks without the possibility of substantial material reward.

The possibility of higher individual earnings is the fuel of economic growth, whether in the form of profits, salaries, wages, higher farm incomes, or otherwise.

Economic growth cannot be produced by legislation, administrative regulation, or exhortation, without the accompaniment of a high material incentive.

Hence the crucial test of the quality of development planning, in that part of the economy which is left to private initiative, is how effective are the incentives offered to the population to make decisions which will result in economic growth.

By courtesy: American Review, published by U.S.I.S., New Delhi

THIS INDIA

I was going from Patna to Mokameh by train. When the train stopped at Fatwa, a nice looking gentleman entered our compartment and occupied his seat just near mine.

After some time he started talking about the activities of the pick-pockets and thieves, who cheat and rob passengers in running trains. Soon he engaged us all in an interesting discussion and we were completely lost in it.

Pointing towards a Marwari who lay fast asleep on the next berth, he said, "Just see the man! How fast asleep he is, unaware of his belongings. It is in these moments that persons are relieved of their belongings."

Saying this he took out the pen from the sleeping man's pocket and again remarked, "See, even though the pen has been removed, still the man does not know of it".

He then took off his wrist watch after loosening the strap and again jokingly remarked, "See the man still sleeps unaware of anything. It is only this way that pick-pockets rob passengers."

And, much against the hope that he would resume his seat and return the belongings to the Marwari, the man jumped out from the compartment and disappeared.

Barh (Patna) A.N. Mishra

A few days ago, my wife and I were coming out of the Super Bazar near INA Market in New Delhi when a young woman accompanied by a young man and an elderly lady attracted our attention.

The young woman, with a bulging belly, was sitting on the ground groaning in apparent pain. The young man was anxiously looking for a taxi, while the elderly lady was comforting the young one. There was a visible sign of helplessness on the faces of all the three.

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

On enquiry we were told that the young woman was in labour pains, and they badly needed ten rupees to pay for a taxi to go to the Lady Hardinge Hospital, where she was registered.

We advised them to go to the nearby Safdarjung Hospital; but the man explained that since the woman was registered with the Lady Hardinge Hospital, she would not be looked after in any other hospital.

We offered to help her to get admission in the Safdarjung Hospital, and asked them to follow us. They reluctantly agreed. After a few steps, we discovered, to our utter surprise, that they were not following us. While the young man and the elderly lady had disappeared from the scene, the 'pregnant woman' was standing near a fruit shop at some distance and frivolously laughing at us. A small basket which she had used for giving her belly the desired look was in her hand!

New Delhi P.K. Banerjee

I am a teacher in a Delhi Municipal Corporation school. My D.A. arrears since 1965 had not been paid to me. Repeated reminders and frequent visits to the Corporation were of no avail.

At last my husband went to the office on my behalf. The peon at the door told him that nobody would be permitted inside since the 'Babus' (clerks) were all busy. He pushed him aside and entered the room. All the clerks were relaxing, legs on the tables, listening to the soft music coming from a transistor. The time was 3.30 in the afternoon. My husband asked the dealing clerk about the progress of my bills. The clerk said, he was very tired due to pressure of work, and asked him to come a week later.

Thereupon my husband ordered tea and samosas for all the clerks. There was a sudden change in the atmosphere. The bills, which were pending since 1965, were prepared and checked in 35 minutes.

New Delhi Mrs Sarla

My brother-in-law had a transistor-radio. Everyday some farmers would come to his home to listen to the programmes broadcast from the Jaipur station.

One morning, a relation of mine told them, on the basis of a weather bulletin, that the weather would remain clear for the next twenty-four hours. As winter rains were continually holding up their work of threshing and winnowing, they threw themselves into the work in the hope that the next day would be clear.

Unfortunately, it rained heavily that night. Unprepared for that, their threshing floors turned into pools of water. They suffered a heavy loss and in their anger, they decided not only to break the radio but also the head of the owner.

Jayal (Nagaur) P.R. Mirdha

RETURNING HERO

A newspaper in New York State has published this bit of advice being sent home to parents by U.S. soldiers in South Vietnam whose tours of duty are ending:

"In the very near future the undersigned will once more be in your midst, dehydrated and demoralized, to take his place again as a human being, with the well known forms of freedom and justice for all; to engage in life, liberty, and the somewhat delayed pursuit of Happiness.

"In making your joyous preparations to welcome him back into organized society you should provide certain allowances for the crude environment which has been his miserable lot for the past eighteen months...show no alarm if he insists on carrying a weapon to the dinner table, looks around for his steel pot when offered a chair or wakes you up in the middle of the night for guard duty...

"Take it with a smile when he insists on digging up the garden to fill sandbags for the bunker he is building.

"Be tolerant when he takes his blanket and sheet off his bed and puts them on the floor to sleep...

"Do not be alarmed if he should jump up from the dinner table and rush to the garbage can to wash his dish with a tooth brush. After all, this has been his standard.

"Also if it should start raining, pay no attention to him if he pulls off his clothes, grabs a bar of soap and towel, and runs outdoors for a shower...

"Be especially watchful when he is in the presence of a woman—especially a beautiful woman.

"Above all, keep in mind that beneath that tanned and rugged exterior there is a heart of gold, (the only thing of value he has left).

"Treat him with kindness, tolerance, and an occasional fifth of good liquor and you will be able to

rehabilitate that which was once (and now is a hollow shell of) the happy-go-lucky guy you once knew and loved.

"Last, but by no means least, send no more mail to the APO, fill the ice box with beer, get the civvies out of the mothballs, fill the car with gas, and get the women and children off the streets...BECAUSE YOUR KID IS COMING HOME!"

KNOWLEDGE IS POWER

WHAT does the young Indian know about people and things in his own country and the world around him? Precious little, one would say from some of the answers given by candidates at various selection tests held by the Kerala Public Service Commission. Some of these have been listed in the Commission's Report, from which a few have been selected at random.

Brahmaputra, Kaveri and Godavari contribute to Kerala's natural beauty.

Bombay, Calcutta and Madras are harbours of Kerala.

Gulzarilal Nanda is the Prime Minister of Ceylon.

Neyveli is (a) the name of the root of a medicinal herb; (b) one of Kerala's river projects; (c) one of the small states of Kerala; (d) one of India's armies.

Trombay is (a) the Cuban Prime Minister; (b) the Indian Ambassador to Congo; (c) a boy.

Thyagaraja is (a) the President of Mysore; (b) the Editor of the Indian Express.

Albert Einstein is (a) the Indian woman who crossed the English Channel; (b) the inventor of the steam engine; (c) a modern drama.

The author of the Indian National Anthem is (a) Jawaharlal Nehru; (b) Swami Vivekananda; (c) Subhas Chandra Bose.



IGNORAMAN

Wants to Know

If
the prices of fine cloth
have been increased
to promote the fashion
of finer mini-clothes

Cuba is (a) the last colony of the Portuguese in India; (b) a small river in Belgium; (c) the capital of Assam, which China conquered.

Yuri Gagarin is (a) the Indian football captain; (b) a Bengali poet; (c) a good football player.

N.E.F.A. stands for (a) the North East Food Association; (b) National Emergency Fund Account; (c) North East Federal Association; (d) National Extension of Family Planning.

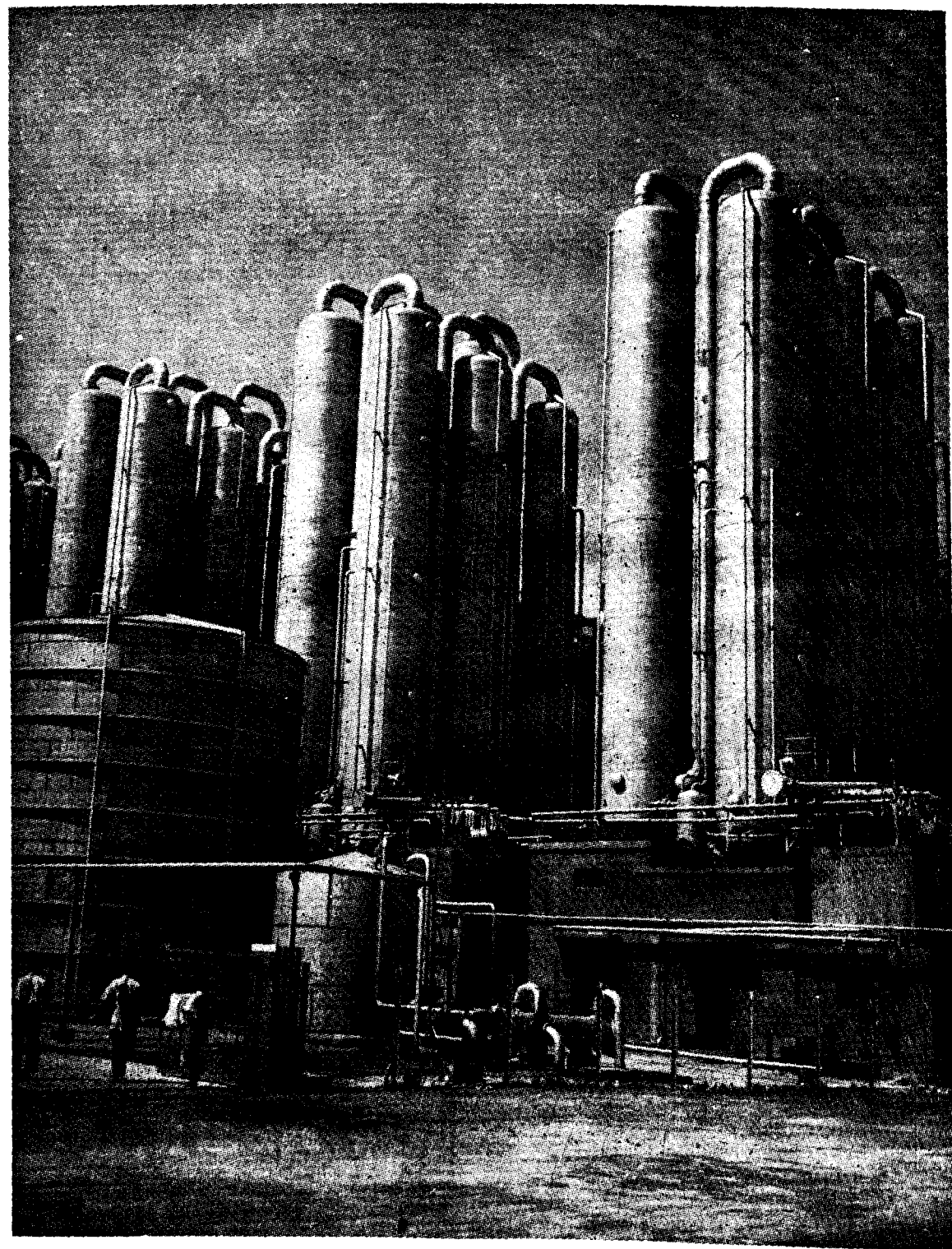
A.D. stands for After Democracy.

New Energy Form

PULSARS. Doesn't it sound new? Yes, it is. Pulsars are an exciting astronomical discovery. They are mysterious, powerful radio beacons in space, pulsating energy with fantastic precision and regularity. According to Dr. Frank Drake, Director of Cornell University's radio observatory at Arecibo, Puerto Rico, the pulsars are a natural phenomenon. British astronomers at Cambridge, the first to tune in on pulsars last August, jokingly called them LGM—Little Green Men representing a civilisation in another planet.

Dr. Drake says that the Pulsars lie within the Milky Way galaxy—the cluster of stars of which the earth is a part about 18,000 billion miles away. They are very small in size—the largest not more than 12,000 kilometers across.

FERTILISER FROM ROURKELA



The nitric acid plant towering above the men at work.
Photographs by Trilok Chand Jain

ROURKELA stands for steel, as Sindri for fertilisers. But Rourkela also vies with Sindri in manufacturing fertilisers for increasing the agricultural production. It has the biggest fertiliser plant in the country.

The Rourkela fertiliser factory is an integral part of the steel works complex. It came into existence to turn waste gas from the coke ovens of the steel works into valuable fertilisers.

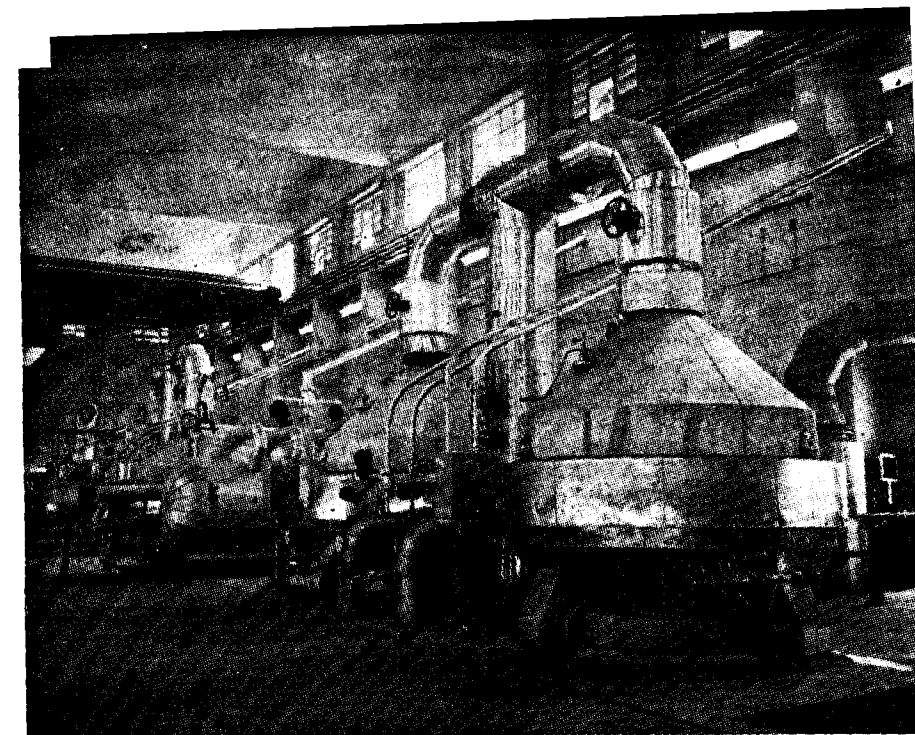
The factory produces CAN (Calcium Ammonium Nitrate), containing 20.5 per cent of nitrogen. It has a capacity to produce 120,000 tonnes of nitrogen which, in turn, can be made into about 6 lakh tonnes of CAN, every year. CAN, with a little higher nitrogen content, is also produced by the Nangal fertiliser factory.

However, the factory has not been able to run to its full capacity as the steel plant, which itself has been lagging behind its rated capacity for several reasons, cannot supply enough gas. Out of its four streams, only two streams have been working; only about 32 per cent of its rated capacity was being utilised till last year.

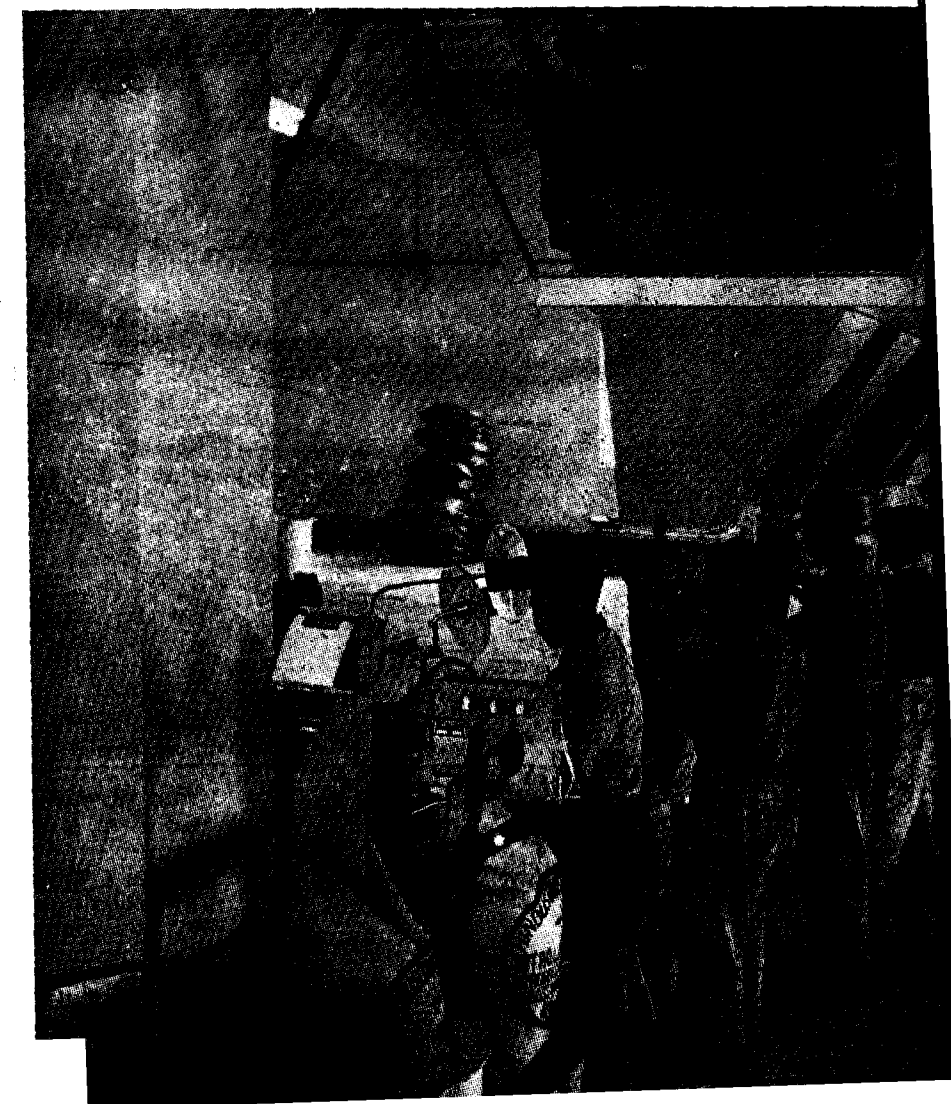
In order to utilise the full capacity of the factory, the remaining two units are being converted to use naphtha, instead of coke oven gas, as raw material. The conversion is expected to be completed by October this year. Naphtha will be obtained from Visakhapatnam.

The production in 1968-69 is expected to be 62,000 tonnes in terms of nitrogen, rising to 112,000 tonnes next year—a normal production for the rated capacity.

The factory, being a part of the Rourkela steel project, is the concern of the Hindustan Steel Limited. But, it was entrusted to the Fertiliser Corporation of India, on a turn key basis, for designing, engineering and construction. The work was completed in 1962 and the factory began production in two units in December that year.



Ammonia burners, which are the core of the nitric acid plant.
Below : Fertiliser being packed in bags for despatch





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And with good reason too. Look at it this way. Buying earthmoving equipment is a huge investment. To get the best return from this investment you've got to keep the equipment operating throughout its life. The built-in quality of Caterpillar equipment ensures that it is working all the time. Furthermore, ready availability of genuine replacement parts increases availability of machines by reducing downtime to a minimum.

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TEC.G.3.68

CO-OPERATIVE MOVEMENT IN CZECHOSLOVAKIA

SARADINDU SANYAL



WORLD SPOTLIGHT

THE co-operative movement in Czechoslovakia was born on February 9, 1845. On that day a kind of credit organisation named "Gazdovsky spolok" ("Farmers' Society"), consisting mostly of peasants, was set up in that part of the then Austro-Hungarian Empire, which now forms part of modern Czechoslovakia. But the growth and development of the co-operative movement on its present scale and dimensions began in February 1948, just about three years after the liberation of the country from fascist occupation. The co-operative movement in the country, in the course of its 123-year history, has undergone many changes, both in objectives and structure until it has become an integral part of the country's economy and an effective instrument for promoting the well-being of the people. The co-operative movement is woven into the very fabric of Czechoslovak life, transforming every facet of the peoples' lives—in agriculture and industry, in education and technology, in social living and leisure. The watchword of the co-operatives is JEDNOTA ("Unity"). It is in this sphere that the first efforts were directed, and the creation of the "Central Co-operative Council" in 1948, as the unifying central organisation of the entire co-operative movement, has made possible the speedy transition to socialist construction on a wide front and in all spheres of activity.

Czechoslovak co-operatives are of four broad types. These are:

Agricultural Co-operatives

It is in the sphere of agriculture that the role of co-operatives is

most important and significant. Up to 1945, 57.1 per cent of all farmers had between one and five hectares of land, while big farmers with over 50 hectares each accounted for only 1.7 per cent of the total, but owned 56.2 per cent of all the land. In 1939 there were about 12,000 agricultural co-operatives of diverse types; but the main emphasis was on marketing. The co-operatives were controlled by big farmers, landowners and even industrialists. The interests of small farmers and the peasants, therefore, suffered; their indebtedness increased and very often they were evicted from their small holdings. Thus poverty in the countryside increased year after year.

In 1949, several important steps were taken, leading to far-reaching effects on the life of the peasants and a miraculous transformation of agriculture. The most important of these was the passing of the Bill on "Unified Agricultural Co-operatives". These co-operatives, based on the principle of voluntary membership, engaged not only in buying and marketing the produce of individual farmers, but also in agricultural production itself. The U.A.Cs were formed by merging existing village co-operatives into a unified Co-operative Society. This reduced the number of co-operatives from 12,000 to 7,430. Also, the average land-holding of a U.A.C. increased from 453 to 611 hectares. U.A.Cs have nearly one million members and cultivate nearly 70 per cent of all agricultural land. By 1959, the U.A.Cs covered more than four-fifths of the villages, and 80 per cent of the arable land was being cultivated by U.A.Cs and State

farms, which represented the socialist sector.

Striking evidence of the success of co-operative farming is provided by the fact that in about 16 years, the average yield per hectare had increased by 24 per cent. The importance of the co-operative sector in Czechoslovak agriculture can be judged from the fact that in 1965, it accounted for 76.5 per cent of corn production, 76.9 per cent of potatoes, 63.9 per cent of meat, 70.4 per cent of milk, and 75.4 per cent of eggs. The rest was accounted for the State farms, and a negligible fraction by private farmers. This was possible because of the extensive mechanisation of farming and the application of the latest scientific techniques. For instance, between 1961 and 1963, 42,000 tractors, 4,000 combine harvesters, 63,300 trailers, 4,700 lorries and other specialised machines were delivered to the co-operatives. Between 1949 and 1965, the co-operatives had built up-to-date byres for 1,384,000 milch-cows and for 6,850,000 young cattle, piggeries for 1,700,000 pigs and 391,000 sows, poultry farms, and many other buildings and facilities. Increased production has brought about a proportional increase in the incomes of U.A.Cs, while the cash amounts, shared out among the co-operators in the form of remuneration for their work, have continued to increase year by year.

Housing Co-operatives

The Czechoslovak housing co-operative movement is a form of working people's organisation. In

all 442 building and housing co-operatives had survived the German occupation. By the end of 1945, their number had increased to 531, which had increased to 942 in 1949. These included a few club-type associations and two joint stock companies. In 1950 a reorganisation took place which resulted in the amalgamation of the existing co-operatives into 63 larger units, which no longer engaged in actual building.

The co-operatives have become not only agencies for the construction of new houses, but also distributors of flats, applying in practice principles of housing policy similar to those operated by the State authorities (for instance, priority in assigning flats to families with a large number of children).

The rapid expansion of housing co-operatives, lack of unity among them and the fact that the co-operatives were scattered, small units, made it impossible for the Central Co-operative Council to provide technical assistance and exert control to the full extent. For that reason, changes were made in the organisational structure of the housing co-operative movement. The housing co-operatives, established by individual enterprises, were transferred to the administration of the enterprises concerned, i.e., those whose employees lived in the blocks of flats built by the co-operatives; while the other building and housing co-operative societies were amalgamated into larger units so that each district had one single co-operative society. In the following years, these co-operatives concentrated exclusively on the administration, maintenance, modernisation and improvement of property built before the War.

Further expansion of the housing co-operative movement took place in 1959, when the Central Committee of the Communist Party considered the problem of housing; setting the target of building over 1,200,000 new flats. The share of the co-operatives in the total volume of housing built has been increasing year by year since 1959.

More than 1,600 new building and housing co-operatives with 170,000 members have been affi-

liated to the Central Co-operative Council. These include co-operatives of citizens in towns and villages, together with co-operative societies of employees of individual enterprises or a group of enterprises. There are also self-help co-operatives whose members devote practically every minute of their free time to work and give up their holidays to build new homes for their families. Eighty thousand members of the new building and housing co-operatives already live in their own new flats.

In 1964, the Central Co-operative Council started to establish regional-level bodies and secretariats with building and organisational experts, to assist these co-operatives still more efficiently.

Consumer Co-operatives

Consumer co-operatives are one of the most widespread forms of social organisation in Czechoslovakia. They have nearly two million members and supply roughly 50 per cent of the inhabitants with goods. By 1948, they had 7,523 shops and 1,250,000 members, and accounted for 12.8 per cent of the total national retail turnover.

In February, 1948 the process of socialising trade was launched and practically completed by 1952. Since then practically only State-owned and co-operative shops have existed in the Czechoslovak Socialist Republic. The co-operative reorganisation of the villages was taking place at the same time, and it was logical that the consumer co-operatives should concentrate their activities primarily in the villages, where there were the best opportunities for co-ordinating co-operative efforts in agricultural production and in the distributive trade, and in small towns.

Gradually, the co-operatives began to sell large quantities of consumer goods in the villages, and the rural population also welcomed their cultural and educational activities. Thousands of co-operative farmers became members and officers of consumer co-operatives and took an active part in the work of these societies. The consumer co-operative movement is now a unified system of co-operative orga-

nisations democratically governed. In essence, there is a three-tier hierarchical structure; the JEDNOTA ("Unity") consumer co-operative societies at local level; the regional unions of consumer co-operatives (one in each region, i.e. ten regional unions in all); and the Central Union of Consumer Co-operatives (in addition to which there is a Slovak Committee).

In 1963, consumer co-operatives had 27,258 shops; the most usual type being the general stores, of which there were 11,166. These general stores sell foodstuffs as well as basic consumer goods. They are being constantly modernised using new sales techniques. Self-service and open-shelf (free-selection) shops and mobile shops now make up 33.4 per cent of the consumer co-operative retail network and account for 41.5 per cent of the retail turnover. In addition, the consumer co-operatives run 14,564 catering establishments of various kinds, including hotels and restaurants, which are also being progressively improved and modernised. Greater attention is being given to the expansion of public and communal catering, especially for farmers at the peak periods of farm work. An interesting and novel service provided is for farmers, who are served with hot meals while at work, so that no time is wasted by them in walking across their fields to the mobile vans bringing food for them. The consumer co-operatives also undertake the collection and purchase of certain kinds of agricultural, dairy and forest produce from private farmers and from co-operative farmers who wish to sell some of the produce grown on the land reserved for individual cultivation (family holdings). In addition, consumer co-operatives have recently been concentrating on the tourist traffic. In recognition of their socially beneficial activities and the successful results achieved, the Government of the Republic awarded the consumer co-operative movement, in 1959, one of the highest State distinctions—the "Order of the Republic".

Producer Co-operatives

The producer co-operatives movement came into being in the last decade of the nineteenth century. Their founders, however, lacked

the necessary financial resources, and their only assets were the skill of their hands and their will to work. The Nazi occupation of Czechoslovakia led to absolute stagnation in the development of producer co-operatives, and it was not until after May 1945, that the basic conditions were created for quantitative and qualitative changes in the national economy, including the producer co-operative movement.

After the end of German occupation, the producer co-operatives started to manufacture various types of consumer goods, to expand their workshops, to organise production more efficiently and thus to raise the productivity of labour. In February 1948, scattered, unorganised small-scale production began to be united and strengthened. Besides a considerable increase in the membership of existing co-operative societies, many new co-operatives were set up. For example, in the Czech regions alone, 30 new co-operative societies were established in 1949, another 97 in 1950, 98 in 1951, and 61 in 1952. The number of workers (most of whom were also members) showed an eleven-fold increase during the First Five Year Plan (1949-1953), while the total volume of production increased thirteen-fold.

The organisational structure of the movement was completed in 1953, when the Central Union of Producer Co-operatives was established. In general, producer co-operatives set themselves, as their basic economic and political aim, to associate craftsmen, home-workers, persons with a reduced working capacity, etc., in unified enterprises for collective work. The producer co-operative movement supplements the work of large-scale State-owned industries, by producing articles of everyday use (particularly household utensils) and folk-art products. Other important forms of activity include the performance of services of every description for the public, a wide range of repairs and individual production to order. The co-operatives try to make as much use as possible of locally-available raw materials.

From 1953 to 1963 the output of the producer co-operatives was doubled, while the proportion of

services performed by them for the public rose from 16 per cent to 25.4 per cent their basic assets increased more than three-fold and their reserves nearly six-fold. Today there are 440 producer co-operative societies; with over 8,300 workshops staffed by 128,300 worker-members. Nearly 52 per cent of the members are women. At present, producer co-operatives are engaged in metal-work, wood-work, textiles and ready-made clothing, leather and furs, building and production of building materials and chemicals; the others are co-operatives engaged in non-industrial activities, such as photographers, barbers and hairdressers.

The co-operatives manufacture a wide range of high-quality products (some 26,000 different kinds) for the home market as well as for export. Independent sections within the producer co-operative movement include co-operatives engaged in folk-art production and disabled persons' co-operative societies.

The strength of the Czechoslovak co-operative movement lies in the fact that it is a peoples' movement, and its membership covers a fourth of the entire population of the country. This, and the increasing share of the people in co-operative management, give the co-operative movement its broad base and strength.

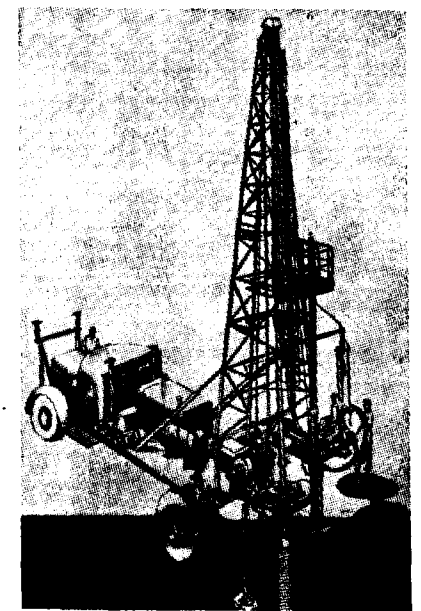
Drilling Rigs For Wells

THE drilling rigs now being manufactured by the Heavy Engineering Corporation Ranchi, will come in handy to farmer in his effort to tap the sub-soil water.

HEC is manufacturing three major types of water well drilling rigs, light duty direct rotary rig, medium duty direct rotary rig, and medium duty percussion rig.

The URB-3AM direct rotary rigs, manufactured in collaboration with the USSR and supplied to a number of State Governments, have proved to be very popular. This rig, a truck mounted model, is versatile from the point of view of transportation, operation and maintenance. Capable of drilling and installing tube wells up to depths of 300 metres, it is mainly used where unconsolidated sands, shale and alluvial formations are encountered and in the regions with soft and moderately soft rocky formations. The present rate of production of two rigs a month will soon be stepped up.

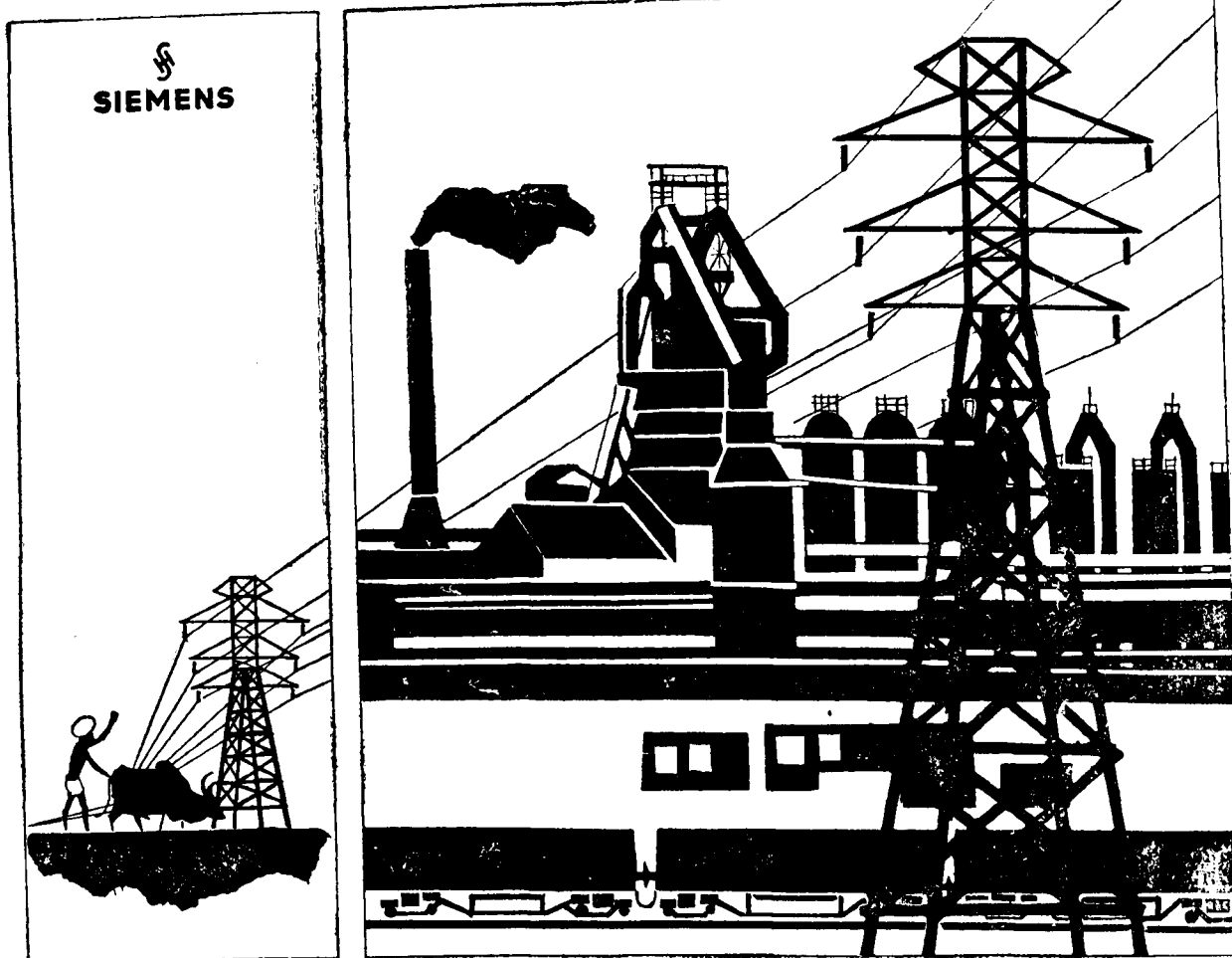
HEC has designed and developed an entirely new type of rig, HMB-DR 15, capable of drilling wells up to a depth of 500 metres. It can be used in rocky strata having thin formations with hard rock roller bits. About 50 of these



Direct rotary rig

rigs are to be supplied to various State Governments.

In collaboration with Poland, HEC has already manufactured and supplied a number of percussion rigs type UP-200 to various State Governments. Based on their requirements, the Corporation has undertaken design and development work on a medium duty percussion rig capable of drilling up to 200 metres in hard rocky formation. This rig, HMB-PR 2, will roll out of HEC assembly lines in 1969-70. It can be mounted either on a trailer or a truck as desired by the customer.



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INSIDE YOJANA BHAVAN

Planning Commission At Work

Report on Progress

THE conflict with Pakistan in 1965 and the adverse economic consequences that followed, coupled with the suspension of foreign credits, resulted in the curtailment and stringent control of imports essential for the continued growth of the economy. Also, successive years (1965-67) of drought necessitated larger imports of foodgrains and raw materials and reduced exports. The fall in agricultural production brought about retardation in the industrial sector based on agricultural raw materials and those depending on consumption demand of agriculturists. The capacity to save was also reduced by the sharp rise in the price of foodgrains and this in turn affected certain other branches of industry, such as the engineering industry. There was a substantial increase in non-Plan expenditure to meet not only the normal growth of administrative expenditure, but also additional outlays on account of dearness allowances, famine relief, and defence requirements. All these resulted in considerable erosion of resources for development.

Under the circumstances, the Planning Commission felt that the Draft Outline of the Fourth Plan, prepared earlier, would have to be revised as the assumptions made therein were no longer valid. However, before the work of formulating the Fourth Plan could be taken up, it was necessary to prepare the Annual Plan for 1968-69 by January, 1968, in order that it could be incorporated in the Budget for 1968-69. Work on the Fourth Plan was to be taken in hand only thereafter. Further,

in 1968-69, steps would need to be taken to create conditions in which steady planned growth could take place. To be operationally useful for providing guidance on programmes and policies for the future, it was felt that the Fourth Plan should cover the period 1969-70 to 1973-74. The National Development Council at its meeting on December 1 and 2, 1967 endorsed this view.

The work on the Fourth Plan has already been initiated. It has been decided that an overall Planning Group or Cell for each sector should be set up to review: (i) reports of the various Fourth Plan Working Groups, to determine the extent to which the original assumptions, base-year data, the long-term perspective, cost estimates, etc., had undergone changes; (ii) review the approach, strategy, programmes, targets set down in the Draft Outline in order to determine the directions in which modifications are called for; and (iii) to determine the need for any depth studies for which Working Study Groups will have to be set up and, if so, their terms of reference. Action on these lines has already been initiated in consultation with the Central Ministries.

The Resources Working Group has been reconstituted to make an assessment of resources for the five year Plan period. Steps have also been taken to work out the size and Plan allocations for each sector and to determine their impact on the rate of growth, structural change, import substitution, etc.

Perspective Planning Division is revising perspective in terms of targets and time horizon under

On July 17, 1967, the Prime Minister announced in the Lok Sabha the Government's decision on the reconstitution of the Planning Commission, based on recommendations of the Administrative Reforms Commission. Among other things, the A.R.C. had recommended that the Planning Commission should not be burdened with any executive functions but should confine itself mainly to formulation of Plans and evaluating plan performance. Accordingly, the reconstituted Planning Commission was installed in September 1967, with the Prime Minister as Chairman, a full-time Deputy Chairman, and four full-time Members. The Minister of Finance is an ex-officio member of the Commission.

The Commission has recently brought out "A Review of Important Activities and Studies, 1967-68", of which this is a summary.

certain assumptions, regarding resources mobilization, exports savings and investment.

The Planning Commission has asked State Governments on the steps they should take for the preparation of the Fourth Plan. State Planning Secretaries met in February 1968, to consider the principles and pattern of Central assistance to States, Centrally aided schemes and Centrally sponsored schemes. They also discussed the stages and programme

of preparatory work for the Fourth Five Year Plan.

Annual Plans

Work on the Annual Plan for 1967-68 was undertaken in two phases—one in connection with the "vote on account budget" before the formation of new Ministries in the States and the second after the new Ministries had been formed and a fuller picture regarding State resources had become available.

Work on the States' Annual Plans for 1968-69 was initiated in August 1967. The State Governments were asked in September to formulate draft proposals for 1968-69, on the basis of fairly accurate assessment of their own resources. In view of the very difficult resources position, the State Governments were requested particularly to ensure that full use was made of the infrastructure already built up and other capacities created.

The procedure for the scrutiny and discussion of the Annual Plans was slightly modified, and the examination of State Plans was arranged in three different stages. The Commission held discussions with the States' Chief Ministers in December last year, after taking an overall view of the Plans of all the States, as had emerged from the reports of the Programme Advisers.

After the discussions between the Planning Commission and the Chief Minister, the tentative outlays on their Annual Plans were communicated to the States. The States have been informed that to the extent they are in a position to make a net addition to their resources, the outlays could be suitably increased later. It is proposed to make a review after the presentation of the State Budget in the light of the actual provision made for the Plan and the mobilisation of additional resources which the States propose to undertake in 1968-69, before finalising the Plan for 1968-69.

Action regarding plans of the Central Ministries was also initiated simultaneously. The Commission had indicated to them the guidelines on the basis of which they were asked to draw up their

Plans for 1968-69. The Resources Working Group conducted a fresh examination of the resources available, both internally and externally, for the year. The Annual Plan proposals of the Central Ministries were later discussed with representatives of the Ministries concerned and their associated finance.

Trends and Outlook

The Economic Division of the Planning Commission undertook a re-examination of the estimates of resources of the Central and State Governments for the Fourth Plan, in the light of the data available in their interim budgets for 1967-68. This was followed by discussions with the several State Governments to arrive at agreed estimates of their resources for the Annual Plan for 1967-68, as the basis for determining the size of their Plans. Later, the Economic Division assisted the Resources Working Group in preparing a reassessment of resources for the 1967-68 Plan and preliminary estimates for 1968-69.

Perspective Planning

During 1966-67, the Perspective Planning Division brought out "Draft Fourth Plan—Material and Financial Balances—1964-65, 1970-71 and 1975-76". The revision of the perspective contained in this document in the light of recent developments was immediately taken up towards the end of the last year and was continued during the current year. In view of the decision to postpone the Fourth Plan and to proceed on the basis of Annual Plans till 1968-69, the Perspective Planning Division took up the work compiling and analysing of data relating to the economy for the period 1950-51 to 1968-69.

Food and Agriculture

A study of additional finance needed for minor irrigation works (over and above that already provided for in the Plans of the States for 1967-68), which could yield quick results in terms of production as also the programme of energising additional pumpsets that could be undertaken with the organisational capacities available with the State Governments, was

made in detail in the Agriculture Division in consultation with the Ministry of Food and Agriculture and the State Governments. To step up the utilisation of institutional finance in agriculture, the Division undertook a study of the progress of schemes sanctioned by the Agricultural Refinance Corporation. The study disclosed considerable need for speeding up the implementation of the programmes. The Planning Commission has urged on the States the need for effective follow-up action and for implementing the schemes according to the time-schedule envisaged, and also for ensuring that necessary provision is made in State budgets for supporting the matching contribution from the Agricultural Refinance Corporation.

A committee was set up by the Planning Commission to study the scope and possibilities of intensive compost programme in the country. The Committee submitted its report towards the end of 1967, and it has since been forwarded to the concerned Ministries for further action.

A study of the trend of production of pulses in the country and the need for increasing productivity through intensive research and extension was made.

A study of the requirements of fertilisers in the next 5 years and the next 10 years has also been initiated.

In October 1967, at the instance of the Planning Commission, a meeting was held with representatives of the State Bank of India, the Food Corporation of India, Co-operative institutions and the Food Department to consider the financial requirements for the procurement of *kharif* cereals and establish adequate arrangements for financing procurement operations. In the light of the discussions, the provision of bank finance for procurement has been oriented to meet the requirements and supplement the budgetary resources provided for building up a buffer stock.

A study has been made of storage facilities for foodgrains. It shows that, while the overall storage capacity with the Food Corporation and the State Govern-

ments may not be inadequate in 1968, difficulties are likely to be encountered in building up sizeable buffer stock.

Land Reforms

In the light of discussions at the meeting of the Chief Ministers held in July 1967, the progress and problems of land reforms in respect of each State were examined pin-pointing the main issues which call for immediate attention for facilitating technological changes in agriculture.

The land reform problems in respect of Union Territories were also examined and suitable measures recommended.

Irrigation

The Study Group on Irrigation and Power of the National Planning Council undertook case studies of the Hirakud and Chambal projects with a view to ensuring general criteria or norms in respect of the use of available waters for various purposes.

The Division studied the problems of: (i) financing of large irrigation and multi-purpose projects, (ii) ayacut development programme, (iii) investigation of irrigation projects, (iv) Rajasthan Canal project, (v) co-ordinated exploitation of water resources, (vi) irrigation projects for which adequate outlays have not been provided in the State Plans during 1967-68 due to overall constraint of resources, (vii) water rates for irrigation projects in the various States, and (viii) rationalisation and augmentation of institutional credit in the context of the need for increased agricultural production, particularly with reference to financing of rural electrification and pump sets.

The question of accelerated completion of certain selected projects, to have early food production benefits, was studied and recommendations made.

Preparatory work for the formulation of the major and medium irrigation and flood control programme for the Fourth Plan has been taken in hand.

Power

A series of meetings were held in the Planning Commission in order to finalise the tie up arrangements of indigenous plans for the

power projects of Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Madras, Maharashtra, Mysore and Uttar Pradesh. On the basis of these discussions the year-wise physical targets of generating capacity during the Fourth Plan (1966-71) were revised.

The Power Division undertook the examination of the following main problems: (i) power supply to fertilizer plants; (ii) reorganisation of the Damodar Valley Corporation and the State Government of West Bengal's contribution; (iii) subsidisation of the capital cost of the rural electrification schemes; (iv) terms and conditions for making power available to agriculturists; (v) integrated operation of power stations in a region—inter-state exchange of power—criteria and consideration in fixing tariffs in exchange of power between State Electricity Boards and a region; (vi) electricity development in India during the past 20 years (1947 to 1967).

The Planning Commission approved, for implementation, 22 power schemes during the year.

Industry and Minerals

The Division examined the factors responsible for the decline in the growth rate in industrial production and discussed with the Ministries concerned possible measures for arresting this trend. The Division also examined a number of issues such as decontrol of coal and steel, transfer of distribution control of cement from CACO to the Cement Corporation, setting up of textile corporation in the public sector, report of the Mudaliar Committee on foreign collaboration, fertiliser projects in the public sector, etc.

Transport and Communications

The Transport Division undertook a number of studies during the year. The more important ones are: (i) a detailed review of transportation requirements for freight traffic on the railways for 1970-71, in the light of the targets of production of major industries, (ii) analysis of Railways' resources position over the first two years of the Fourth Plan, (iii) inland water transport in the eastern region of the country, (iv) machinery for transport co-ordination, and (v)

revised targets and outlays in the transport and communications sector for 1970-71 in the light of progress during 1966-67 and 1967-68.

During the year, the Joint Technical Group for Transport Planning completed studies of the present and further patterns of movement of a number of major commodities such as iron and steel, fertilisers, foodgrains, coal, etc. The Group also completed regional transport surveys in respect of several regions in the country.

Education

Reports of the following Working Groups set up by the Panel on Education in 1966-67 have been finalised: (1) women's education and socio-economic development, (2) vocational and agricultural education, (3) work experience and vocationalisation of education, and (4) structural changes in education.

The Working Group on the Institutes of Languages has submitted its final report on the establishment of a National Institute of Languages and the State Institute of Languages.

The Working Group on propagation of culture among college and school students and the committee on the establishment of U.G.C. type organisations for agricultural and medical education have submitted their reports.

An evaluation of the Centrally sponsored schemes for the strengthening of science education in secondary schools (crash programme) was undertaken. Other topics which engaged the attention of the Education Division included: parent-teacher co-operation, educational planning and administration, student unrest, impact of democratic decentralisation on education, unemployment among engineers, and Indo-Japanese collaboration in higher education.

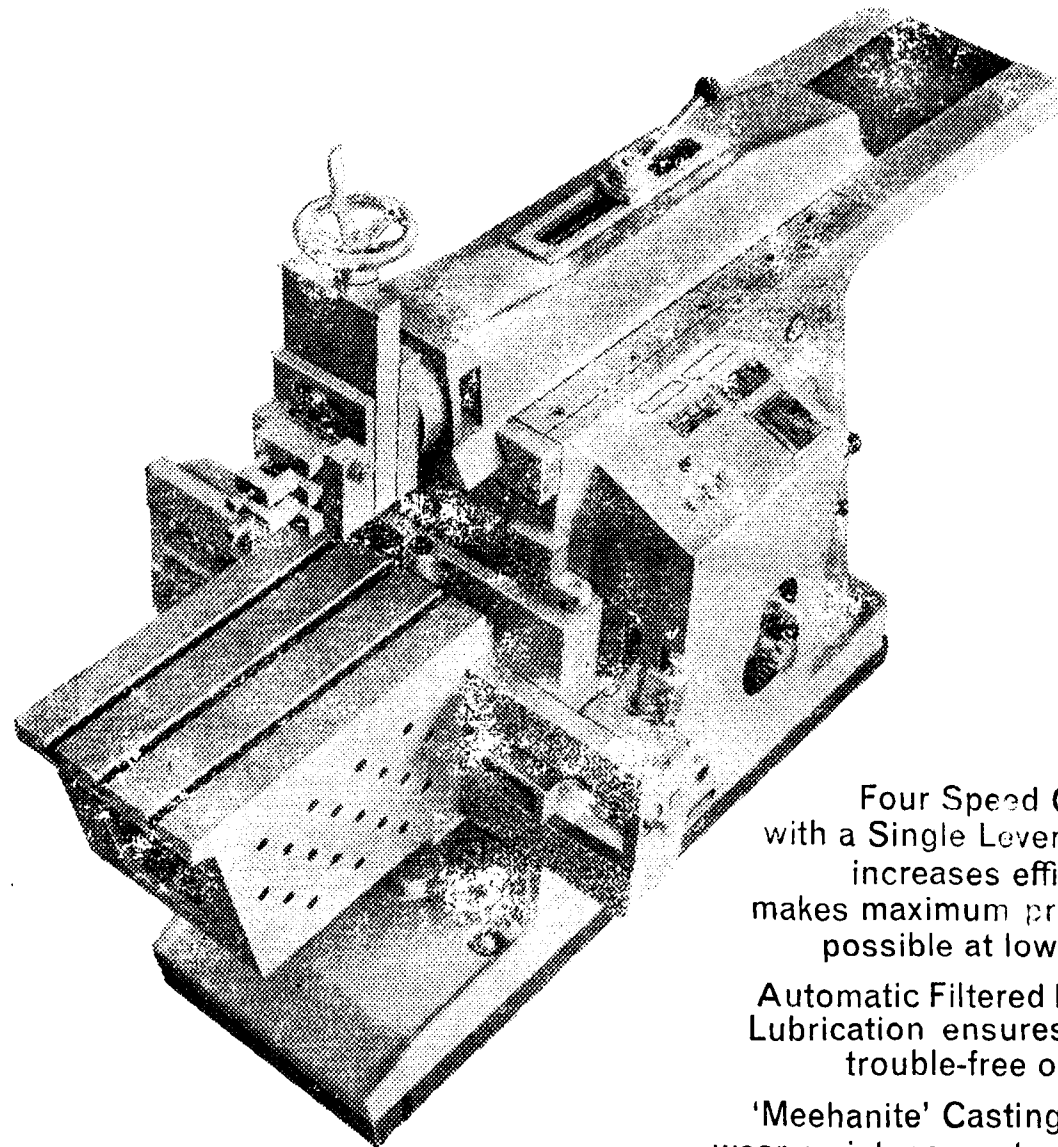
Health and Family Planning

A study has been undertaken on the economics of health with the objective of finding the direct and indirect cost of major communicable diseases like tuberculosis and malaria. Studies were also undertaken on the medical and nursing man-power requirements for implementation of the Reorganised

turn to PAGE 28

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ANNUAL PLANS TO CHECK RECESSION

BRAHMANAND PRASAD

THERE is some amount of resentment, in some section of the people, over the decision of the Planning Commission to postpone the commencement of the Fourth Plan to April 1969. The disagreement with the decision stems from the fact that the country is, at present, in the grip of a recessionary slow-down and any backsliding from planning responsibility, at this juncture, is clearly against the best interest of the country. But, before putting the Planning Commission in the dock, it would be profitable to analyse the *raison d'être* of the deferment decision. This article examines the rationale of the Commission's decision.

Putting off the commencement of the Fourth Plan is not the same thing as going without a Plan. We have, instead, the Annual Plans. The basic difference between the two lies in the quantum of proposed investment outlays. The Fourth Plan envisaged a massive investment programme, while the Annual Plans are content with investments of a lower magnitude.

There can be no two opinions about the desirability of Government action for arresting the expansion of recessionary forces. The issue to be decided is, which is better—massive Fourth Plan outlays, or modest investment expenditures on selected points under the Annual Plans, for reversing the trend.

It may be relevant to point out that the economy is overheated. Price spiral has rocketed an all-time peak. Injection of more purchasing power through Fourth Plan outlays would, in the circumstances, be self-defeating. It would engineer price escalations to newer heights. The resultant cost accretion to new projects would destroy the competitive strength of their products—hampering their marketing prospects in domestic and foreign markets.

Two types of strategies are needed for our economic progress—structural transformation through long-term planning and short-term corrective measures to resolve the problem of recession. The latter can be done through the Annual Plans.

Further more, heavy Plan outlays, in the face of very tight resource position of the Central and State Governments, would naturally invite deficit financing. Current year's budgetary deficit is likely to be around Rs. 300 crore. Any enlargement in the volume of deficit spending would further distort the price structure—necessitating still higher diversion of resources to non-developmental items like increased dearness allowances to Government and non-Government employees. That would, on the one hand, add to inflationary pressures, and, on the other, result in erosion of resources for developmental purposes.

Growth in non-developmental expenditures of the Central and State Governments, by twice the rate of growth of developmental expenditures in the past three years, is already a matter of concern and anxiety.

The postponement of the Fourth Plan, by a year or so, has been made in the hope that prices in the meanwhile, would stabilise at a reasonably low level.

In India, the general level of prices moves in unison with

fluctuations in the prices of agricultural goods. And, it would not be prudent to expect this year a phenomenal depression in the prices of food articles. Historically, the impact of improved agricultural performance is felt in the year following the bumper harvest, provided the magnitude of agricultural production in the succeeding year comes in the neighbourhood of the record achieved in the previous year. Clearly, therefore, there is a case for caution in jumping overboard for an all out investment programme, as envisaged in the earlier Draft Fourth Plan.

REVERSING THE PROCESS

Then, are we to sit tight and allow recessionary forces to play mischief with our industrial capacity? Far from that, we can still plan to reverse the process by employing the machinery available to us, namely, the Annual Plans.

In India, two types of strategies are needed for our economic progress—structural transformation through long-term planning and short-term corrective measures to resolve the problem of recession. While the former can wait for a more propitious time, the latter calls for immediate attention. This could be set right through the operation of fiscal and monetary devices. In other countries also, recessionary tendencies have been arrested by taking suitable corrective measures of a stop-gap nature.

The industries badly hit by the recession are engineering industries comprising of machine tools, steel re-rolling, railway wagons, commercial vehicles and non-ferrous metals, basic industries like coal and to some extent cement; and consumer industries like cotton textiles, jute and woollen manufactures and silk.

The growth in agricultural output will increase the income of

the rural sector. This would inevitably revive the pressure of demand for consumer goods and agro-industries—providing some pick-up not only to these industries, but would transmit its impulses to other sagging sectors of the economy. The rest could be managed through the instrumentality of the Annual Plans.

Moreover, non-economic factors have played no less important part in depressing the demand for consumer textiles. The wholesale trade centres of Calcutta, Bombay and Madras—the main arteries of distributional function, allowed their inventories to run out without making any effort to replenish the depleted stock because of a feeling of uncertainty in business circles, consequent upon recurrence of violence in Calcutta, language riots in Madras and earthquake scare in Bombay. The poor off-take of the mills, forces them to curtail production. The non-economic causes aggravating recessionary forces, call for political solution rather than economic. Political stability is *sine qua non* for economic prosperity. Unless that is achieved, no amount of economic pump-priming is going to solve our economic malaise.

U. S. EXAMPLE

As for efficaciousness of Annual Plans in stopping recessionary tendencies from gathering momentum, reference may be made to the American experience in this regard. In the United States, since the passing of the Employment Act of 1946, the Federal Government is taking increasing interest in the economic life of the country, especially in conditions like depression or war. The Act authorises the President to set up a Council of Economic Advisers, whose *Economic Report*—detailing current economic situation and recommending corrective measures—is presented to the two Houses of the Congress. The Congress then constitutes a Joint Committee on President's *Economic Report*. After a detailed study of the Report, the Committee reports back to the Congress for needed legislative sanction, to put into effect, the recommendations of the Report, where accepted by the Committee. This type of Annual

Plan has been, by and large, effective, in making inflationary and depressionary tendencies even, if we leave out the present situation resulting from heavy expenditures connected with the Viet Nam war.

If policy decisions and their implementation have been successful in staving off recessionary forces in the United States, there is no reason to suspect that such a measure will not succeed in India. Of course, we do not have to follow the same procedure in taking policy decisions. We have an elaborate planning machinery to advise the Government on the

measures to be adopted for improving the economic performance of the country. What is needed is the will and the courage to take action, at a time when needed most.

A comprehensive Annual Plan must have an evaluation of the past performance of the economy and an outline of strategy for the future. It must also take into account the influence of short-term changes in economic situation and should be used primarily as an instrument for introducing flexibility in the implementation of such Plans.

Planning Commission At Work

from PAGE 25

National Family Planning Programme.

Construction Economics

The Planning Commission constituted a panel of experts under the chairmanship of Prof. M.S. Thacker to lay down guidelines for achieving economy in construction costs. The Panel constituted eight sub-committees which have since submitted their reports on the basis of which the final report is being prepared.

Labour and Employment

Various studies and research work on labour problems, industrial relations, wages and cost of living, productivity and social security were undertaken.

The Research Programmes Committee continued its activity. Up to September 1967, 11 research projects were approved. In the latter part of the year another 14 research projects directly relating to planning and development were approved by the Planning Commission. The total number of research projects sponsored so far comes to 293.

Programme Evaluation

The Programme Evaluation Organisation continued to function as the principal agency for the evaluation of rural development programmes at the national level. As the co-ordinating agency for evaluation work in the States, the Organisation continued to extend assistance for the strengthening of

the State Evaluation machinery, training facilities for evaluation personnel and technical advice in evaluation methodology.

The following evaluation studies were taken up during the year: (1) high yielding varieties programmes; (2) consolidation of holdings programme; (3) training programme for Member-Education and Junior Co-operative personnel; (4) rural works programme in Eastern U.P. with wheat assistance under PL-480.

The activities of the Computer Centre increased considerably during the year. The Centre completed the processing of data for a number of important studies of the P.E.O.

Committee on Plan Projects

Following some reorganisation, the Project Evaluation Division has been given the additional responsibility for organising and co-ordinating studies relating to project evaluation and determination of national economic profitability. During the year under review, the activities of the Division covered the following areas: (a) devising planning and information systems for the fertiliser industry, (b) designing an information system for top level control of the steel industry, planning and scheduling of iron ore export programme, (d) planning for the development of the coal industry, (e) evolving improved systems for generating surpluses from State road transport undertakings, and (f) project evaluation studies.

Books

HOW FAR IS THE WELFARE STATE

Economic Aspects of Welfare State in India by R.D. Agarwal. Published by Chaitanya Publishing House, Allahabad-2. 264 pages. Rs 18.

S. Prasad

AS the blurb sets out, the book is a critique on "the characteristic features of the welfare state and its development in India during the first fifteen years of planning". The study is not only descriptive, but also analytical and critical. There are some useful suggestions for accelerating the pace of economic development. A rather ambitious assignment for the size of the book. But this has been explained in the preface itself. This is actually a thesis, submitted by the author for his doctorate.

The attenuation, forced by the nature of the work, is not without its advantages. There is an attempt at economy in words. There is also an effort to break free of professional jargon. These attempts do not always succeed, like the repetitive references to the importance of full employment. Still they give to the book the kind of freshness which makes for wider appeal.

An obvious advantage of compression is a string of data, which I found interesting, like the table on page 71, containing indicators of development and well-being in some selected countries, as of 1959. In fact, the tale of the tables is fairly articulate by itself, and it is clear the author has taken a lot of pains to make it so.

The author defines a welfare state as one which has a developed economy, full employment, minimum standard of living, social security and equal opportunity. The break-down completed, proceeds to review the progress in the various spheres. But before this, there is a display of perspicacity by the

author when he says that the welfare state is in a way intended to remove the contradiction between the forces of democracy and capitalism, between political and economic power. The contradictions can be removed by ensuring equality of opportunity and reducing distributional disparities.

What is his conclusion on emerging from the dimly lit corridors of economic progress? We have moved forward, but not quite, is his verdict. The progress has not been uniform, he says, although the economy is gradually gathering strength for take-off to a self-sustained and self-generating growth. This assertion does not take into account the recession of the past year, as the book is ante-dated.

The crux of the problem is the underdeveloped state of economy, with growing unemployment, as its main feature. This is amply borne

GREEN ISLANDS IN THE SEA

Green Islands In The Sea by B. L. Chak. Published by the Publications Division, Ministry of Information & Broadcasting, Old Secretariat, Delhi. 83 pages. Rs 2.75.

Vivek Bhattacharya

THE Andaman and Nicobar Islands have unhappy memories for India. For years it was the Island prison for hardened criminals and political revolutionaries considered dangerous by the British authorities. During the Second World War, it was here that Netaji Subhas Chandra Bose hoisted the national tri-colour and made Port Blair, the headquarters of the "Azad Hind Government". Always, the Islands have seemed far too remote from the mainland, and few

out by the current cry for greater job opportunities, particularly for the skilled and semi-skilled. Lack of capital formation and development in the private sector is another cause.

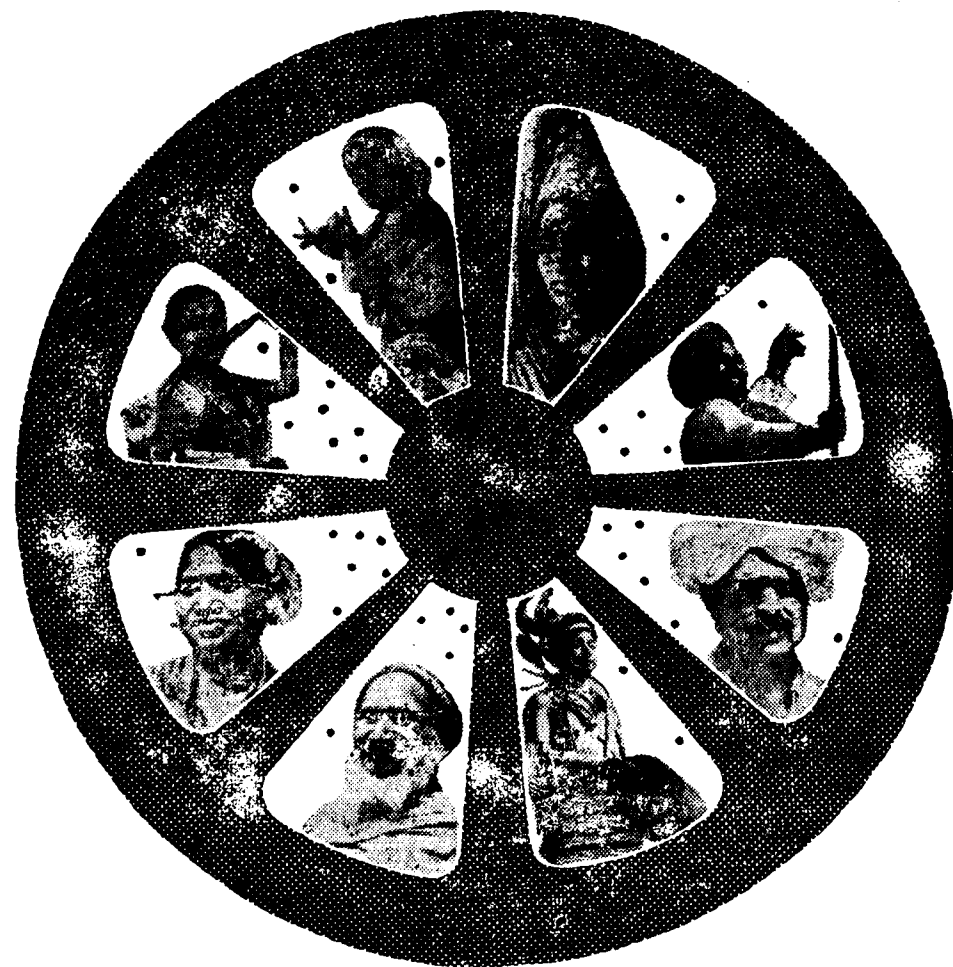
The author's plea is for accelerating the rate of economic development and for achieving self-sufficiency in the production of foodgrains. To elaborate the first point further, the author puts forward a six-point programme for the speedy creation of a sound economic base. It calls for stepping up the rate of investment, full utilization of existing capacity, export promotion, infusing dynamism in attitude and outlook, and eliciting people's participation. His anxiety in regard to economic development is justified by the recent measures announced by the Government. The second call for increasing food production seems to have already been answered by the combined efforts of man and nature. The picture for the future is thus of hope, promise and expectation.

The narrative is lucid and succinct. The delay in the commencement of the Fourth Plan is responsible for a minor blemish. Obviously, the book was in the process of coming out when the decision was taken.

had ventured there until after Independence. Today, these lovely Islands, which the Prime Minister, Mrs Indira Gandhi, describes in her foreword to the book under review as "among the most beautiful regions in our country", have become truly a part of India, our remote bastion in the heart of the Indian Ocean.

The book under review is not a report, but a travelogue, written with deep understanding and sensitivity. The author, who was Chief Commissioner of the Islands, has not happily stuffed the book with masses of statistics. Mr Chak, as he points out himself, merely seeks to tell "a story of first impressions", which he gained in the course of "hasty journeys made across land and sea". And, he has done an admirable job of presenting an entertaining and

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informative picture of the Islands and its people.

Divided into nine chapters and two appendices, the book contains, among other things, interesting and perhaps little known facts about the Penal Settlement.

Chapter III of the book reveals the author as a poet, with flashes of excellent descriptive writing, which is blended with references to historical incidents that help to enrich the publication. The incident relating to the assassination of Lord Mayo, however, could have been covered in greater detail. Mr Chak has also devoted great care and attention in collecting facts on the settlers and the Andamanese.

The most interesting chapter of the book is the one on "The Penal Settlement and the Japanese Occupation", which is full of

interesting information on a subject which has for years been a closely guarded secret of the British. For instance, he reveals that the number of political prisoners from Bengal was more than twice the number from all other provinces. This galaxy of patriots included, among others, V.D. Savarkar, Waman Daji Narain Joshi, Batukeshwar Dutt, Vishnu Saran Dublish, Sachindra Nath Sanyal, Bijoy Kumar Sinha, Bhai Parmanand and Gurmukh Singh. According to the author, Lokmanya Balgangadhar Tilak is believed to have been kept there on his way to Mandalay, where he was interned.

Taken as a whole this little book is a valuable addition to literature on the Islands, which can be read with profit. Its only shortcoming is the poor reproduction of photographs.

Karve examines the inter-relationship between education and social change and points out that education is a liberation from bounds and limits and from conventional concepts of value and validity. An article of very great topical interest is the one on "Economics of Improving Technical Education" by Angus Hone who asserts that the time has come to examine the costs of quantity and the benefits of quality in engineering and industrial training. About the political articles, special mention must be made of two, one by Romesh Thapar and the other by S. Mohan Kumaramangalam. Both are characterised by a spirit of voluptuous intellectualism.

Industrial India is the recognised official organ of the all India Manufacturers' Organisation. It seeks to promote the Indian industries and further the interests of Indian manufacturers and exporters. These objectives severely restrict the scope of the magazine. Obviously, it cannot hope to study and examine economic problems in a dispassionate and what may be called, disinterested manner. However, those who are interested will find in it some articles of interest, for instance S. Sundaram's on the latest trends in the technology of fertilisers. This article is full of useful facts.

ASIAN DRAMA

from Page 6

perspectives which make simple sense, the will to break-through is blunted. This is the common experience of the under-developed world. Even Myrdal's sympathetic study of Gandhi did not create a new dimension in his thinking.

I have deliberately avoided plunging into detailed rebuttals of so many generalisations, for then this review would have taken the shape of another book. Detailed debates on various aspects of Myrdal's approach will no doubt become commonplace as soon as these three volumes are generally available. But it is clear that 'the inquiry into the poverty of nations' has yet to be written. May be it will be necessary to produce three volumes on 'the poverty of notions' as a preliminary preparation.

TWO SPECIAL NUMBERS

Economic and Political Weekly Annual Number 1968. Published by Sameeksha Trust Publications. 180 pages. Rs. 5.

Industrial India Special Number. Published by United Asia Publications. 120 pages. Rs. 2.

K.S. Ramamurthi

DURING its brief life, the *Economic and Political Weekly* has established a firm reputation as an effective vehicle for the dissemination of progressive economic and political views. For this achievement, its late editor Mr. Sachin Chaudhury is chiefly responsible but his successor is carrying the burden worthily. The issue under review contains the usual fare of informed and responsible criticism coupled with learned articles on burning problems of the day. Apart from the editorial notes, there are nine sections devoted to various themes mostly dealing with economic subjects. It will be invidious to mention a few articles but those under the section "The Land Base" are easily some of the finest written on various aspects of the land problem in India. Many of them are research papers based on serious study and the conclusions can form the basis for further study.

Of particular interest is the paper on "Hunger in Rural India" by S.S. Madalji which seeks to measure the magnitude of under-nutrition in the different States and to analyse the factors that contribute to it. Rushikesh Maru's article is enigmatically titled "Planning for Failure in Agriculture". In this article, he analyses the "so-called" new strategy of agricultural development and says that it does not provide against possible failure to achieve the ambitious targets set for it. He points out that the draft Fourth Plan had implicitly assumed the success of the new strategy and had based its perspective for the rest of the economy on this optimistic assumption. C.H. Hanumantha Rao, in his paper, analyses the wide fluctuations in agricultural outputs and indicates that the increase in productivity has become the major component of growth and that this increase in productivity depends largely on inputs other than assured irrigation. In the section "Invisibles of Growth", Ratna Dutta explores the relationship between economic growth and the structure of values and motives in developing societies. This is a challenging subject and the article is well worth a careful study. In the same section, Iravati

Ajeet for a New Life into the land

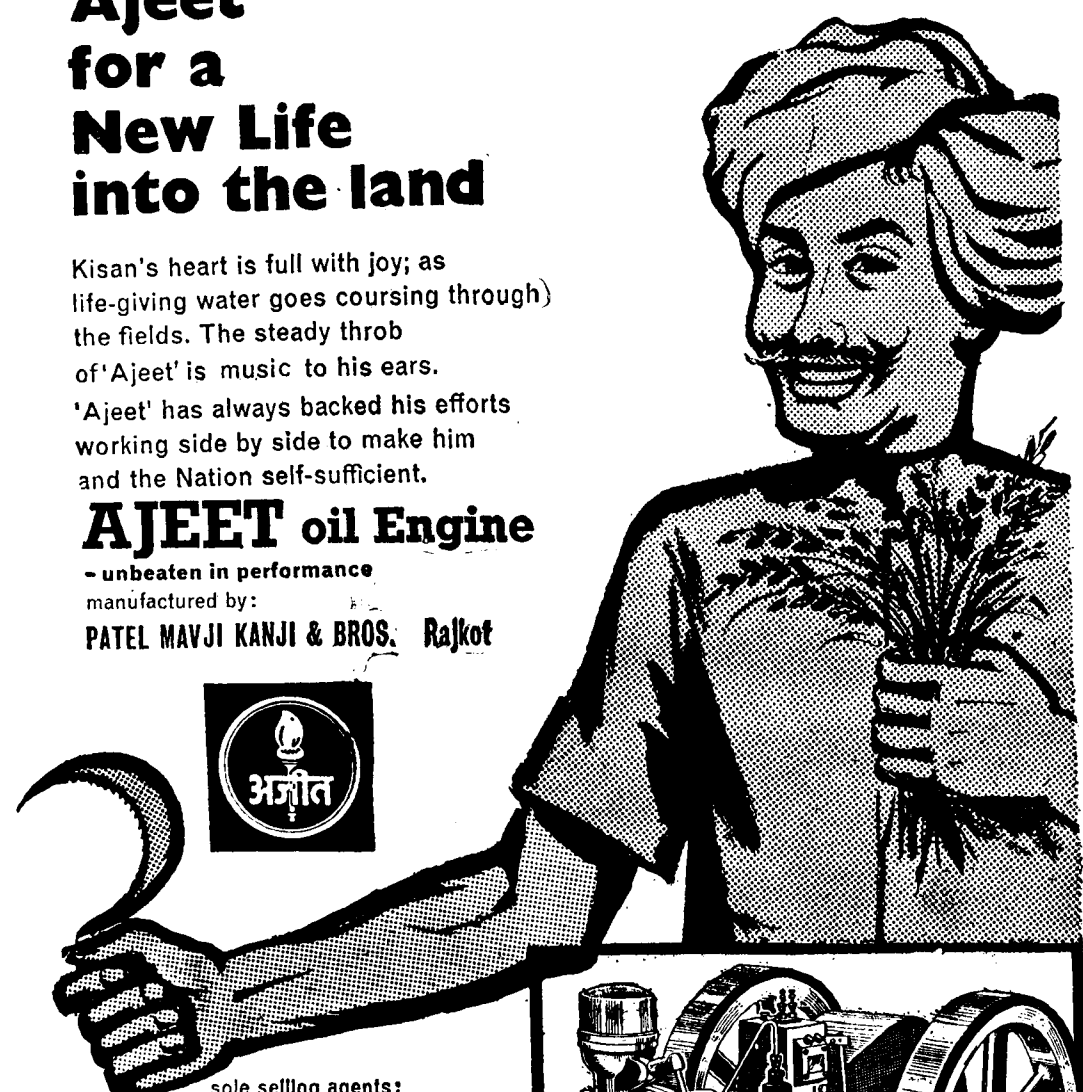
Kisan's heart is full with joy; as life-giving water goes coursing through the fields. The steady throb of 'Ajeet' is music to his ears.

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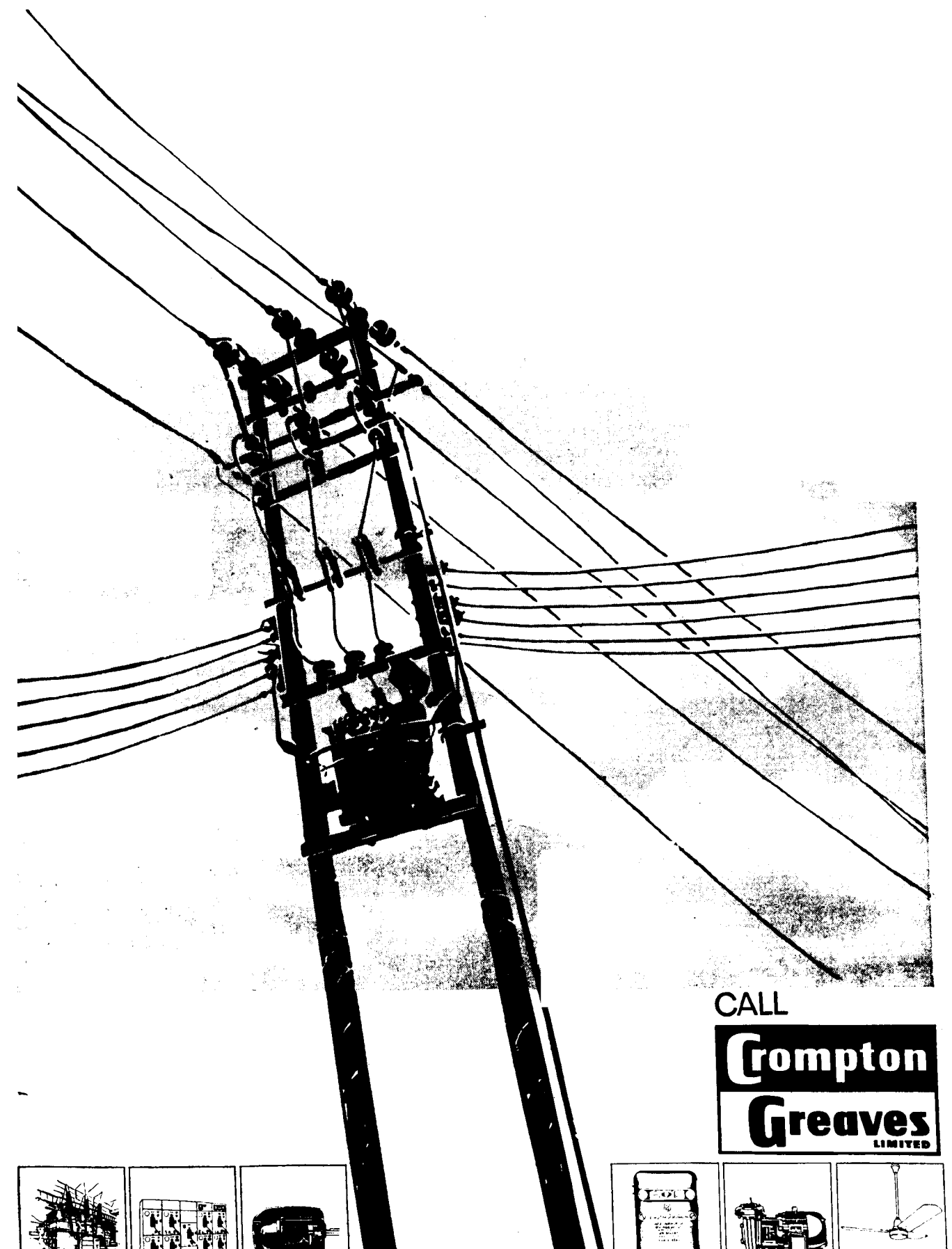


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If Jesus Christ could be crucified why should not Father Ferrer be deported—just deported! "Forgive them, Lord, for they know not what they do."

—A letter in "The Hindustan Times"

"One who contemplates civil disobedience should not be surprised and must not be bitter if a criminal conviction ensues. It is part of the Gandhian tradition that the sincerity of the individual's conscience presupposes that the law will punish this assertion of Personal Principal."

—Erwin Griswold, U.S. Solicitor General in TIME magazine

Look my dear! it is a serious problem. We won't be able to decide ourselves and nor will U Thant come here to arbitrate. Wise people don't attach much importance to such trifle matters. Let us decide by tossing a coin!

She asked, "Decide what?"

I replied, "Decide this. A coin has two faces: If it is head I undergo vasectomy; if it is tail you get the loop."

—From "Centre Calling", Newsletter of the Department of Family Planning

I found Thackeray (of Shiv Sena) a likeable person who slips from a tribune-of-the-people posture to being an agreeable journalist. While speaking, he prefaced a sentence with: Mr Sarkar, today I am not in power."

—Mr Chanchal Sarkar in "The Hindustan Times"

It was a very interesting revelation a newspaper report gave, when it told us that Cochin Jewish Synagogue is organising an exhibition, of which one item will be a Tamil book printed in Cochin by a Rabi about the same time as Caxton printed his first book in London five hundred years ago.

—C.R. in "Swarajya"

Many ninth standard students of a local school here, it is reported, did not answer a question requiring translations of sentences from Kannada into Hindi. The passage for translation, given for the final examination held recently, is said to have included sentences like: "We all will learn Hindi; Hindi is our national language, and it is not correct to fight among ourselves."

—"The Deccan Herald"

There are no Ravanans in this House. All are Ramas, said the Speaker of the Lok Sabha.

A UNI report

The vital statistics of the average South Indian relate to the man and not the woman. They are 40-120, his speed in typewriting and shorthand.

—K.N.S. in "The Times of India"

I would rather be mad with truth than sane with lies.

—Lord Bertrand Russel

In music, nothing is more important than integrity that's something money can't buy.

—Charlie Byrd, American Guitarist

A man who was "Hungary" asked the waiter for "Turkey" and "Greece"; the waiter replied, "I don't want to "Russia" but you cannot "Rumania".

—From "U Thant: The Search for Peace" by June Bingham

APPROACH

TO THE

4th PLAN

YOJANA will publish the full text of the "Approach to the Fourth Five Year Plan" in its next issue. This document, prepared by the Planning Commission, is to be discussed by the National Development Council at its meetings in New Delhi on May 17-18.

Regd. No. D-876

DEVELOPMENT DIARY

April 20

The Seismological Observatory of the National Geophysical Research Institute, Hyderabad, is inaugurated. Established without any foreign technical assistance, the observatory is capable of recording earthquakes in the whole of the Deccan shield.

The fertiliser factory at Gorakhpur goes into production. Built with Japanese aid at a cost of Rs. 33 crore by the Fertiliser Corporation of India, the factory has a capacity to produce 80,000 tonnes of nitrogen a year.

April 28

The country's biggest fully mechanised iron ore handling plant is commissioned at Baila Dilla in Madhya Pradesh. Built with Japanese assistance at a cost of Rs. 23 crore, the plant takes less than an hour to extract the ore from the mine and load it into wagons. Ultimately it will handle 12 million tonnes of ore a year.

A steel tube manufacturing plant, set up at Kanhan near Nagpur, begins production. The plant uses the most modern techniques. It is a private enterprise.

April 30

An integrated steel plant for the production of alloy steel at Khopoli near Bombay begins production. Built in the private sector at a cost of Rs. 10 crore, the plant will draw a large volume of melting scrap from the industries in the Bombay-Poona region. Initially expected to produce about 18,000 tonnes of finished alloy steel products, it is capable of expanding its production up to 36,000 tonnes a year.

A protocol is signed in new Delhi for collaboration between India and the USSR for peaceful uses of atomic energy. The Soviet Union will assist India in setting up some of the nuclear projects.

An automatic telephone exchange is commissioned at Aijal, the headquarters of the Mizo district.

An agreement is signed in Copenhagen between India and Denmark for the third Danish credit of Rs. 4 crore.

APPROACH TO 4TH PLAN

YOJANA



GROWTH WITH STABILITY . SELF-RELIANCE
WITH SPEED . SAVING FOR PROSPERITY



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.

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YOJANA

Fortnightly Journal published on
behalf of the Planning
Commission

Vol. XII

No. 10

May 26, 1968

Jyaishta 5, 1890

LEST WE FORGET

The Fourth Plan presents a challenge to the nation. The challenge can only be met if we are prepared to undertake the many tasks which confront us with a truly national approach.

—Lal Bahadur Shastri

COVER designed by
R. SARANGAN

Yojana seeks to carry the message of the Plan, but it is not restricted to expressing the official point of view.

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Tel: 383655, 381026

Business Office: Business Manager,
Publications Division, Patil House,
New Delhi-1.

Inland Subscription: Annual Rs. 5 :
Two years Rs. 9; Three years Rs. 12;
Single copy 25 paise.

Foreign Subscription: Annual 10 s.
6 d. or U.S. \$ 1.50; two years
18 s. 6 d. or \$ 2.75; three years
25 s. or \$ 3.50; Single copy 6 d. or
7 cents.

THINKING ON THE 4th PLAN

THE potential for growth in a Plan period is very largely a function of investments and effort in the past which have fructified or are beginning to or due to bear fruit. The investment effort during a Plan period is, in part, required to realise the potential but atleast equally to prepare for continued growth in future Plan periods. If such effort is not maintained from Plan to Plan, the economy would stagnate when the results of past effort have been worked out.

In relation to foreign aid the burden of servicing of older debts is becoming progressively heavier and we have continuously to seek rescheduling of debts. The quantum of foreign aid obtained every year has also become uncertain. Moreover, with the development of the industrial base in the country it is necessary to shift emphasis from project to non-project aid, and non-project aid is even more difficult to secure than project aid. All circumstances thus indicate the need for reducing dependence on foreign aid as much as possible.

A move towards self-reliance has two consequences. First, it makes it necessary to cover appropriately the gap between imports and exports. Strict regulation of imports and a very large effort in promotion of exports would be required to achieve this. The second consequence is diminution in resources available for investments chiefly in the public sector. The total Plan outlay of about Rs 2,350 crore in the public sector in 1968-69 contains elements which, in the next Plan period, will become committed expenditure. It is expected that, as a result of the recommendations of the Finance Commission, some reduction will take place in total resources available for the next Plan. An important key programme of the next Plan is the proposal to build up buffer stocks of agricultural commodities. A sum of Rs 130 crore has been allotted for this purpose in the 1968-69 Plan. It is expected that during the Fourth Plan period, for building up buffer stocks and for the storage and other requirements needed to operate buffer stocks, considerable additional investment of a type not included in previous Plans will be needed.

It is thus clear that additional resources will have to be raised during the next Plan period even to maintain public sector outlay at an average of the figure reached in 1968-69. Obvious existing compulsions relating to additional investment to support development in many directions will require at least increase in this average outlay. To achieve this, a fairly substantial effort will have to be made in raising additional resources during the next Plan period.

Administrative expenditure of all types must be kept down if Plan outlays have to be increased. Equally, there is need for careful economy in and for increasing the efficiency of Plan outlays. Particular attention will have to be paid to full rational use of existing structures, strict avoidance of non-essentials and careful assessment of physical results throughout the next Plan period.

In view of the large investments in public sector undertakings, it would be reasonable to expect increasing net returns from them. There is no reason why with vigorous efforts this should not improve substantially by the middle of the next Plan period. Continuous growth in agriculture, chiefly in areas of intensive irrigation, would make surpluses available to many classes and individuals in some rural areas. These surpluses could be deployed for financing

Excerpts from the Speech of the Deputy Chairman of the Planning Commission at the inaugural meeting of the National Development Council in New Delhi on May 17, 1968.

development Plans through measures such as rural debentures. If local authorities, co-operatives etc. take larger part in Plan formulation and implementation, this could also help in raising local resources to a much greater extent than hitherto for the finance of planning. Increased taxation would also have to be resorted to.

The "Approach to the Fourth Plan" deals with the definition of approximate objectives in major sectors of activity, identifying areas in which special effort or a shift of emphasis is required and indicating some specific programmes of action proposed to be undertaken. The provision of an adequate infrastructure for all areas is a necessary pre-condition of intensification of productive effort in agriculture. It is also a pre-condition for the establishment of dispersed small-scale industry. Without this and the development of natural resources, the more backward areas could not begin to develop. This is necessary for correcting regional and area imbalances. Also, these activities provide the only means for generating widespread employment opportunities during the Plan period.

Secondly, there is need to pay special attention to neglected areas, activities and classes. During the next Plan period it is proposed to continue substantial effort in areas where successes have been obtained. Development and extension of intensive irrigated agriculture has a high priority. It is proposed to give special attention to the problems of 'weaker sections'.

Another general concept is the shift of public outlays and financial assistance from areas and classes in relation to which the process of development is well under way, to classes, areas and activities which have not so far benefited from planning. This does not mean a neglect of development activities in relation to the successful classes. Large financial support will continue to be available to them and technological and other assistance, especially in the field of research and extension, required by them will be continued. However, it is expected that a significant part of the finances required for further development will be found from the surpluses that the development process is generating.

The third aspect relates to measures needed to maintain stability in the economy and to a set of consistent policies which could direct the operation of the mixed economy so as to lead to the fulfilment of Plan objectives. Stability is related to two objectives. First, preventing large fluctuations in the physical availability of agricultural commodities and, second, preventing a continuous inflationary rise in prices. In relation to the first, the main programme is that of the building up of buffer stocks of agricultural commodities. It is expected that with the extension of buffer stock operations to the main commercial crops, Government will be in a position to stabilise a structure of relative prices of the major agricultural commodities and to regulate it so as to serve a number of Plan objectives.

Prevention of a continuous inflationary rise in prices is, in the main, related to the ability to refrain from a high level of deficit financing. An extension of the fair price shops system and of consumer co-operative stores to larger areas and in the range of

commodities can help in stabilising prices of essential consumer goods. The beginnings made in the previous Plans have to be extended and consolidated so that a public system of distribution, adequate coverage and efficiency is brought into existence. Further, if commodities imported in bulk and those of strategic importance are imported through public agencies, considerable control over the range of variations in their prices can be exercised.

The "Approach to the Fourth Plan" places emphasis on planning by the State and the District. This is necessary to correct regional imbalances so that programmes of helping the 'weaker sections' can be meaningfully carried out. Plan formulation in relation to physical features and resources and the institutional structure in each area are necessary if the Plan is to succeed.

The emphasis on District or local planning is related also to requirements of institutional adaptation. Main reliance in local development effort is being placed on Co-operatives and Panchayati Raj institutions. In credit and many other fields, Co-operatives have proved superior to state action. At the same time, the development of Panchayati Raj institutions and Cooperatives has been very uneven in the various States. It is necessary in formulating a plan of rural development, to think in terms of an appropriate institutional structure for the area. The other aspect of institutional development is that of land reforms. The importance of this cannot be exaggerated. Tenants and small-holders cannot be effectively helped until land reform measures are fully implemented in their favour. The other intractable problem in this field is that of uneconomic holdings. A programme of consolidation of holdings and the possibility of some advance in the direction of larger farming units through co-operative or other programmes is a matter which requires close attention.

The "Approach to the Fourth Plan" discusses in some detail, how the mixed economy may operate during the Plan period, which is based on a co-ordination and rationalisation of existing policies. It assumes that the implied set of economic policies will be consistently followed throughout the period. It is assumed that the maintenance of the present coverage of the public and private sectors and the regulatory mechanisms can be made less obstructive and more effective. Also, that measures for the controlled distribution of credit and for preventing concentration of economic power will be successfully implemented.

Planned economic progress in a country of our size and diversity requires the emergence of a broad agreement on fundamentals of policy and consistent follow-up action at various levels. It is only when these are in evidence that energies of people can be fully harnessed to the strenuous, dedicated effort necessary for significant national progress. In the context of this endeavour the Planning Commission has an important part to play in evolving effective and acceptable policies and programmes.

B.K. Badgil

Yojana presents the full text of the "Approach to the Fourth Five Year Plan", which was discussed at two-day meeting of the National Development Council in New Delhi (May 17-18, 1968). The document was intended to give a brief outline of thinking in the Planning Commission on the shape of the Fourth Plan.

The Fourth Plan is to be framed after three Annual Plans, and in the context of changing situations and new problems. The note did not seek to cover all fields of planned effort, but to obtain guidelines from the N.D.C. on specific issues.

The formulation of the general approach and proposals embodied in the document are based on an analysis of the economic situation and an assessment of the potential for growth.

GROWTH WITH STABILITY

THE APPROACH



Strategy and

Objectives of

Fourth Plan

Self-reliance with Speed

GROWTH with stability is the main aim of the Fourth Five Year Plan. Experience of recent years has emphasised the importance of maintaining relative stability. During this period instability has been associated chiefly with wide fluctuations in agricultural production and with a rapid rise of prices. To meet the situation arising out of such fluctuations in agricultural production, it appears necessary to build buffer stocks of the main agricultural commodities. These buffer stocks could, in part, even out physical supplies between years. They could also be utilised for stabilising levels of agricultural prices. Buffer stocks could, of course, effectively serve these purposes only in the context of a steady rise in agricultural production. Stabilisation of agricultural prices would help in checking a general rise in prices. However, for doing this adequately it would also be necessary to guard against the generation of any strong inflationary pressures. This can be done if the programme of investment in the public and private sectors is backed by adequate mobilisation of resources in both sectors.

Recent developments in agricultural production indicate that it

might be reasonable to expect and aim at about 5 per cent rate of growth in the agricultural sector during the Fourth Plan. The industrial sector is also capable of growth at a rate of 8 to 10 per cent per annum. As there has been relatively slow growth of industrial activity in last three years and as the present industrial structure is more diversified than in the past, an increase of 8 to 10 per cent per annum, which has been achieved in the past, appears feasible. On the basis of these considerations, an overall rate of growth of 5 to 6 per cent per annum (compound) appears practicable. In drawing up the Fourth Plan, it will be necessary to spell out in physical and financial terms what can be done in agriculture, industry and other sectors of economy during the Plan period. It may be noted that much of the investment to be undertaken during 1969-70 to 1973-74 is already committed on the basis of projects under implementation or approved. It will at the same time, be necessary to initiate work on the long gestation schemes which will be needed for the Fifth Plan.

A major objective of the Fourth Plan is to move towards self-reliance as speedily as possible. A process

of, development sustained by continuous foreign aid cannot be healthy. The attempt should therefore be to reduce foreign aid inclusive of food aid and net of interest and loan repayment to about half the present level by the last year of the Fourth Plan. This will entail concerted effort both in reducing imports and increasing exports.

At present over three-fourths of our current exports are in traditional commodities. These are subject to fluctuations not only on account of international market conditions but also due to constraints of supplies during adverse years based, as most of them are, on agricultural raw materials. The general approach for stabilisation of agricultural prices and supplies through buffer stocks and purchase-sale arrangements should in part look after this. There would also have to be special investigations into new types or varieties of agricultural products with international demand and inducements given to increase their supply. Where domestic consumption of these products has to be restrained in order to make physical availability of supply for export, the means used will have either to be imposition of excise or direct purchase by State agency for export. There would also have to be special programmes for research and market surveys to find new uses and new markets for traditional export commodities and adequate measures taken for augmenting their production and availability for export.

A significant contribution in increasing exports has to come from non-traditional commodities. In embarking on an export drive in non-traditional items, a selective approach may be adopted. Items which seem to provide the maximum scope on a long-term basis will have to be selected for the purpose of developing export markets. The prospects of long-term trade agreements for export may also be explored. From the point of view of long-term demand and immediate and potential supplies, the commodities which seem to merit consideration are iron ore, iron and steel, engineering goods and chemicals. The integrated facilities required for the

development of iron ore deposits including appropriate port and transport facilities should, therefore, have a high priority in the Fourth Plan. In the field of iron and steel, the recent performance has clearly shown that with some measure of promotional effort, exports can be substantially stepped up. Similarly, engineering goods provide an important potential for expanding non-traditional export. However, a set of considerations would be relevant if this potential is to be fully exploited. The market for our engineering goods would primarily lie in the developing countries, though in some of the simpler items the developed countries are also offering to purchase from this country on the basis of their own production facilities being diverted for more sophisticated products.

Trade with developing countries would require provision of technical and financial assistance along with engineering goods. Very often turn-key projects are sought and consultancy services become paramount for the sale of machinery and equipment. Faced, as these countries are, with adverse trade balances and with alternate sources of supply on deferred payment basis, it would be possible to step up our exports of engineering goods to developing countries only within the framework of comparable deferred payment arrangements on exports. Given these facilities, the scope for expanding the export of engineering goods is large and growing. In the chemical industries, exports will be primarily in drugs and pharmaceuticals (in which we have surplus capacity), plastics, plastic products and synthetic fibres (the capacity for which is being substantially expanded). In a variety of other products like cement, paper, caustic soda, soda ash, etc., there are no constraints from the side of supply, but exports have become difficult on account of the high domestic prices.

Another direction in which it is possible to increase foreign exchange earnings is through the development of tourism. Steps were initiated in the Third Plan to provide basic facilities and services at important tourist centres. These will have to be expanded and other

arrangements made to attract foreign tourists. Similarly, in the field of other invisibles, the development of shipping is of great importance. Consultancy services for use at home and abroad can also increase earnings as well as save foreign exchange. A concentrated drive in the whole field of 'invisibles' will help to improve the balance of payments position.

Reduction in imports is a difficult task and presupposes a large programme of import substitution and elimination of all non-essential imports. As the economy picks up, some increase in imports must be expected particularly in the case of certain essential components and raw materials such as non-ferrous metals; mineral oils and fertiliser materials for which our natural resources are not sufficient to step up domestic production. To offset this it will be necessary to see that other imports are kept down to the minimum. In view of the improved prospects in agricultural production, it appears desirable to take a decision that all imports of food-grains under concessional terms such as under PL 480 cease within the next three years. Some imports of long staple cotton may still be needed for another year or two but the aim should be to see that imports of other agricultural commodities, except on normal trade terms, cease as soon as possible. Fertiliser imports is also capable of being brought down to more manageable proportions through domestic production. While complete self-sufficiency in certain categories of steel may not be possible, steel imports can be matched progressively through exports of surplus products. This will, however, entail better port and shipping facilities than are available at present. Another large item is machinery and transport equipment. With a fairly diversified engineering capacity already built in the country and with its further planned development, the share of import in the total supply of machinery could be progressively reduced. It should also be possible to do without some categories of dispensable imports, e.g., the use of sulphur in the production of sugar may perhaps be eliminated. Thus, barring components which may be of a specialised nature and raw materials like non-ferrous metals

and mineral oils, significant reductions in imports of other items can be secured through a programme of import substitution. It should be one of the tasks of Working Groups and Panels set up for the Fourth Plan to conduct close and careful studies of this question.

Having taken measures to keep down imports to the minimum, the amount by which it will be possible to reduce foreign aid net of interest and loan repayment will depend on the extent to which we can raise the rate of exports in the coming five years. Broad calculations reveal that to reduce net foreign aid to half its present level it will be necessary to raise exports by about 7 per cent per annum. The best period for exports so far has been from 1958-59 to 1964-65 when a compound rate of growth of 4½ per cent was achieved. This will show that the task of reducing net foreign aid to even half its present level may in fact be very difficult. Every attempt should, however, be made to reach it both through long-term trade agreements for export as well as through increase in free foreign exchange earnings in the open market. The level of our success will determine the extent to which net foreign aid can be reduced. It will be necessary to set out the export programme in terms of specific measures which will be needed to ensure results.

To attain a rate of growth of 5 to 6 per cent per annum whilst at the same time reducing net foreign aid to half of the present level will call for a much greater effort in raising domestic resources. While a closer scrutiny of expenditure, particularly in defence and administration is imperative, any large economy in the short run may not be feasible. For a 5 per cent rate of growth the average rate of domestic savings will have to be stepped up from the current level of about 8 per cent to around 12 per cent. In the public sector this would imply additional resource mobilisation to the extent of about Rs. 200 crores during each year of the Fourth Plan. A rate of growth of 6 per cent would call for greater effort and involve mobilisation of additional resources to the extent of Rs. 250 to 300 crores per year by the Centre and States though it will build up a sound

base for future growth.

The instruments to be employed to raise these additional resources will include loans, profits of public enterprises through better performance and price adjustments, a more effective drive in the field of small savings, particularly in the rural areas, and also taking recourse to additional taxation. The kind of measures required in all these fields will have to be carefully worked out to ensure that resource mobilisation of this order is practicable and acceptable. All that can be said at this stage is that this order of mobilisation, while difficult, seems to be inescapable if we are to attain a rate of growth of 5 to 6 per cent during the Fourth Plan period and reduce the reliance on net foreign aid by half by the end of the Plan period. Some reduction in resources available for plan outlay may be expected as a result of current plan expenditure becoming committed non-plan expenditure. In the circumstances, additional resource mobilisation will be necessary even to maintain the 1968-69 level of Plan outlay.

Foreign collaboration and the import of foreign know-how is connected with the question of foreign aid. The general approach to both these has to be the same as that in relation to foreign aid and import substitution, i.e., we must make every effort to attain self-reliance even in this respect. Foreign collaboration must, therefore, be looked upon as something which may be resorted to only for meeting a critical gap. Obviously, therefore, foreign collaboration in the production of any consumer goods whether it can be produced within the country or not, is ruled out except in the interest of larger exports. Also foreign collaboration in directions in which indigenous effort can be immediately or within a short time provide the service or goods or a substitute for it ought not to be allowed. It has to be emphasised that the costs of foreign collaboration are very heavy. In a large number of instances the costs of capital goods imported under collaboration schemes are much higher than they need be and that in the composition of such imports, economy or efficiency in production are not necessarily looked after. Moreover, collaboration usually

means an initial import of technicians and a continuing stream later which could be well avoided and whose acceptance downgrades and discourages our own technicians. Therefore, it is necessary as a policy not only to limit the sphere within which foreign collaboration will be allowed but to subject every scheme of foreign collaboration to fairly rigid tests.

Import of foreign know-how is in a somewhat different category. Such import, especially as a once for all action, may be found advantageous in a number of instances. Wherever efforts at indigenous adaptation are likely to be too costly in terms of investment of time and/or money and where the import allows free scope to our own technicians for improvement and adjustment later, foreign know-how required for the programme of industrialisation that has been chalked out should be allowed under standard terms and conditions.

AGRICULTURE



Emphasis on Research

IN the agricultural sector, the main endeavour has to be two-fold: first, to provide the conditions necessary for a sustained increase of about 5 per cent per annum, over the next decade, in agricultural production; and second, to enable as large a section of the rural population as possible—including the small cultivator, the farmer in dry areas and the landless labourer—to participate in development and share its benefits.

The high-yielding varieties and other similar programmes, which constitute the 'intensive development' approach to agriculture, have proved successful. Every effort should be made to extend these programmes in the irrigated areas as well as in areas of assured rainfall and adequate attention should be given to the special problems which they raise in spheres such as supply, distribution and credit, as also plant protection and research generally. It will also be necessary to extend the 'intensive development' approach to pulses and other food crops as well as commercial crops, such as cotton and jute where the impact of the programmes has not been substantial. It is, at the same time, necessary to pay immediate attention to research which will enable maintenance of the rate of growth in agricultural production when present programmes are fully worked out. Research, education and extension are the essential ingredients for advancement in modern agriculture. It is also necessary to pay increasing attention to the problems of non-irrigated areas, particularly those in which rainfall is negligible or uneven, and of the small farmer. These will entail evolving through research a series of programmes and practices which are likely to yield a significant increase in agricultural production in the dry areas as well as indicate measures of direct benefit to the small farmer. In the irrigated areas or those with assured rainfall, the small farmer should be encouraged to use the high-yielding varieties of seed and other modern agronomic practices which maximise yields and, to this end, positive steps should be taken to ensure that he gets the necessary inputs—water, seed, fertiliser, credit etc.—on time and that arrangements for marketing and processing of his produce are available. He must be positively encouraged to move away from subsistence farming to a commercial approach to agriculture through maximising production in whatever crops provide the best return.

In dry areas, there has as yet been no major break-through in research. It is essential that research is supported through adequate funds and personnel to find solutions to the problems of

such areas. The small farmer in these areas is extremely hard pressed and can, at best, supplement his income by ancillary means such as animal husbandry. The plan should enable him to do so. Public investment and assistance are chiefly needed for adapting modern technology to provide an economic base for the activities of the small farmer and to build the super-structure needed to make small-scale operation viable.

While agricultural development will provide opportunities for fuller and more remunerative employment to farm labour, it will be necessary to devise programmes for supplementing their income. This may take a variety of forms such as keeping milch cattle, poultry raising and pig breeding. For the success of these ancillary activities it will be necessary to provide adequate credit and organise marketing facilities.

The new varieties of crops in the irrigated areas and the changed crop patterns made possible by them require flexible water supply. This necessitates a change in water management and distribution procedures on existing irrigation projects, many of which were designed for single-crop irrigation and protective purposes rather than for maximising production. The new possibilities also emphasise the need for exploiting sources of both surface and underground water through all available means in an integrated manner.

In view of the considerable progress already made in intensive irrigated agriculture, it is necessary to see that finance for further development of this sector comes increasingly from the sector itself. Large farmers should progressively plough back more of their own resources for development purposes. This phased shift to self-financing by middle and large farmers is a corollary to the large incomes that accrue to them through modern agriculture. It may also be expected that the investment of such institutions as co-operative Land Development Banks and Central Banks will become self-financing to an increasing extent.

For the small farmer it will be necessary to make special arrange-

ments both for institutional credit and State assistance. The investments on tubewells and other minor irrigation facilities may have to come from the State either directly or in the form of loans. Further, the small farmer would have to be provided with a larger amount of institutional credit than at present; such credit would represent a higher proportion of his individual requirements than in the case of the large farmer.

Moreover, wherever possible a large number of production and distribution activities for the rural economy may be handed over to co-operative and other agencies. Multiplication and distribution of seeds, production of manure mixtures and distribution of fertilisers, production of pesticides and their distribution may be entrusted to co-operative agencies progressively, but not necessarily confined to them.

All of this indicates that the operational plan of agricultural development should not only be district based, but should have, as its core, the provision of services, inputs and resources—e.g., marketing fertiliser and credit (short, medium and long-term)—through institutional means. Within a broad pattern, the agencies used for this provision may differ from district to district even within the same State. In the context of a particular district, the appropriate course may be for the central co-operative bank to be strengthened in regard to share capital, etc., beyond the general formula for the State as a whole. Or, it may be necessary to strengthen the District Land Development Bank or to establish a branch of the State Land Development Bank in the district. Or, an appropriate measure may be to establish a "Development Section" (e.g. for special types of credit to small holders, etc.) with earmarked funds, within the central co-operative bank itself. Also special devices like supervised credit may be experimented with. If the co-operative institutions show no promise of being adequate, it will be necessary to think of other institutions or consider how far the commercial banks can serve the purpose. The main point is that a great deal of agricultural activity—from the point of view of supporting

services such as supply of seed, fertiliser and credit, processing, marketing and storage—can in fact be institutionalised, though not necessarily to a set pattern in each district. In particular, the treatment would have to be different as between a district that is highly developed agriculturally and another which is not. It is, however, important, wherever possible, to develop an institutional form of organisation which gives promise of striking root and surviving. It is by adopting an operational approach such as the one outlined above that we may be able to identify and deal with the problem of small farmers, dry farmers, etc. in the specific context of their own environment. There may be need for proceeding by stages. There will also be need for pilot experiments under different conditions.

A programme of rural development should also progressively pay greater attention to economic improvement of landless labour and the categories which have been comprehensively included under the term "weaker sections". The problem of landless labour can be solved only by providing adequate and appropriate employment opportunities. Integrated district development will emphasise minor irrigation, conservation and development of all natural resources. Such development will lead to special programmes being undertaken for improving communications and providing other parts of the infrastructure in all areas where they are at present underdeveloped. These will provide a programme of rural works which with proper phasing in time and location and adequate organisation could significantly relieve rural underemployment. Such a separate rural works programme will not be necessary. The problems of the weaker sections are diverse and special programmes will have to be devised for each situation. Immediately attention will have to be concentrated on designing a large number of pilot projects on the basis of whose results programmes of generalised action could be framed.

Land reforms acquire an added importance in the present context. It is more than ever necessary to

bring about a sense of security for the tenant—the share-cropper in particular, and provide greater incentive for him to increase production from the land he cultivates. The gaps in tenurial legislation should be quickly filled and tenancy laws and other measures of land reform should be properly enforced. It is also necessary to pursue vigorously the process of consolidation of small holdings in different States and complete it as early as possible.

Organisational problems such as the integration of the staff of Community Development with the normal Department may have to be examined and suitable solutions found. The solutions may differ from one area to another.

Because of the existing pressure

INDUSTRY

Maximum Use of Capacity



THE Industrial Policy Resolution of 1956 will continue to govern the main policy of industrial development during the Fourth Plan. The objectives in the Fourth Plan would be:

- (i) to bring about conditions within which the maximum utilisation of capacity already built up is achieved,
- (ii) to ensure that new investments are undertaken in accordance with plan priorities and making due allowance for long gestation projects, particularly those dictated by the need to increase exports and limit dependence on imports,
- (iii) to encourage the emergence of wide spread entrepreneurship and a greater dispersal in the ownership and control of industries, and
- (iv) to achieve all this with a minimum of controls.

The strategy of industrial development has to be considered against this background. The programme of industrialisation during the Fourth Plan should (i) provide for the industrial and technological capacity and competence needed for self-reliant industrial progress continuously, (ii) develop capacities in directions appropriate to the export performance and import limitation indicated in the Plan by the balance of payment situations and (iii) organise capital and personnel resources in such a way as to achieve as widespread an industrialisation of the country as possible.

For the fulfilment of the first two objectives, a programme of action in the public and private sectors will have to be drawn up. This will have to be broken down into individual projects formulated after detailed examination with full provision made for finance, supplies and other facilities. For industries included in these categories targets

of performance during the Plan will have to be worked out in detail and will be sought to be achieved. Also, for all public sector enterprises detailed target setting as well full annual budgeting, financial and physical, will be undertaken.

For the main industries in the rest of the field, the Planning Commission will endeavour to project major possible developments as related to the overall strategy of industrialisation. The Commission will undertake this exercise in close collaboration with the industry. However, the results of the exercise will have to be treated as being in the main indicative. Otherwise, industrial activity in the private sector may be left free to develop within the general frame-work of policy.

A substantial proportion of the investment in the central public sector has so far been in the development of heavy industries like steel, coal, lignite, oil, heavy engineering, including heavy electrical equipment and fertilisers. In the heavy electrical equipment field, capacity has already been created for manufacture of power-generating equipment of nearly 3 million KW per annum; this will soon rise to about 5 million KW per annum. In the metallurgical equipment field the capacity built up is adequate, with supporting facilities in the private sector to sustain expansion in finished steel output of more than 1 million tonnes per annum. Similarly a large capacity for machinery for coal and other mining industries has also been set up. The outlay in the central sector in industry in the Fourth Plan will comprise of spill-over expenditure on continuing programmes, schemes already approved, filling of gaps in the fields of fertilisers and other agricultural inputs, and advance action for the Fifth Plan. The utilisation of capacity of large public sector projects and ensuring adequate returns from them are problems which need immediate attention. In this connection, all efforts should be made to find markets outside the country. This calls for the strengthening of both marketing intelligence and market promotion within the public sector enterprises. There will also be need to examine the problem of

financing 'deferred' payments as developing countries may require credit facilities for absorbing our exports. The prospects of long term trade agreements for exports may be explored.

Productivity and profitability of both public and private sector enterprises should be given urgent consideration. One of the essential requirements for achieving this purpose in the public sector is to bestow adequate initiative and operational autonomy to the management, so that there is no interference from the Government in the day-to-day operations of the public sector enterprises. As early as in 1959, the Krishna Menon Committee had made a number of recommendations intended to reconcile the accountability of public undertakings to the Parliament on the one hand with the autonomy for ensuring efficiency on the other. The Report of the Administrative Reforms Commission has explained the need to achieve a proper balance between the requirements of accountability of the enterprises to Parliament and their need for freedom in day-to-day operations. While Parliament must oversee and review the performance of public undertakings with a view to promoting and safeguarding the public interest involved, the manner of achieving this purpose should be such that it does not weaken the initiative of the management and thus affect its efficiency. The general criterion that can be supplied to determine the extent of Parliamentary review is that it should not extend to matters of day-to-day administration. The Parliament should be primarily concerned with the efficiency of the overall operation of the enterprise rather than with day-to-day operations. From this point of view it is necessary to develop healthy conventions on the nature of information, etc. sought in Parliament which are consistent with the special needs of the public enterprises.

Another matter requiring careful consideration is the recruitment, promotion and related personnel policies of public undertakings, particularly with reference to the selection and retention of top management personnel. The system of deputing officers from the Adminis-

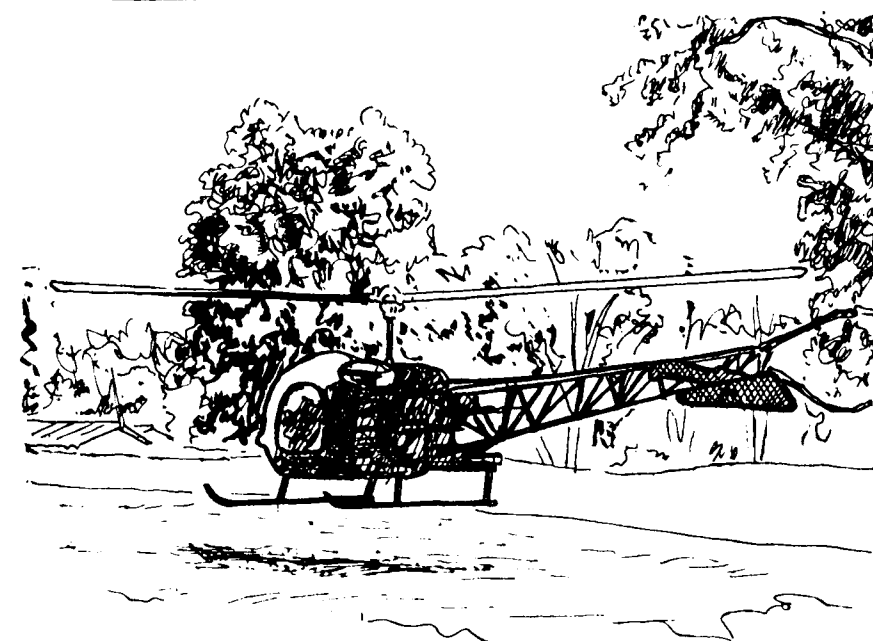
trative Services on short durations with frequent transfers at the top level deprives continuity and consistency in management policy, apart from providing no commitment of the top management to the success of the public enterprises. This problem is at present under active consideration of Government.

Industries, where size has a pronounced impact on economies, are not many. While in these industries technological considerations will predominate, in all other industries the widest possible dispersal, in terms of ownership and region, should be aimed at. A variety of consumer industries and agro-based industries can thus be developed on a dispersed basis. Provided adequate fiscal and credit support is given, the emergence of new entrepreneurs and co-operatives would be able to ensure the additional production required in these industries to meet the growing demand. As a general policy, units in such industries should not be permitted to be set up by the big industrial houses, which would have ample scope for taking up new venture in technologically challenging fields.

The Indian economic situation calls for a very wide-spread increase of non-farm employment. This means the development of industries in all parts of the country based on relatively small-scale, dispersed units. This indicates the establishment of a large number of small industrial urban complexes as compared with the recent development pattern of concentration in very small number of continuously over-crowded metropolitan centres. The requirements of development indicate that the technical performance of the small-scale dispersed units must be at a high level and that they should absorb the fruits of technological advance to a significant extent in all important directions and provide opportunities of self-employment for technically trained persons. For this purpose it may be necessary to provide short-term courses in management, sales and accountancy to technically qualified persons as well as encourage them to form

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Helicopter Reveals Jungle Secrets



V. K. SETH

and

M. S. TOMAR

AERIAL SURVEY OF FORESTS

INDIA is rich in forest resources, but there has so far been a great deal of emphasis on conservation and growing "a forest beautiful", containing large-sized timber trees on long rotations of a hundred years or more. It is, however, necessary to develop our forest resources as an adjunct to industry, as is being done in Europe, Canada and the United States. This is particularly important for a country on the threshold of an industrial revolution. Only thus can we meet the growing demand for industrial wood.

The Preinvestment Survey of Forest Resources Project has introduced Indian foresters to several new subjects and techniques, such as aerial photo interpretation, low intensity sampling inventory over large tracts, automatic data processing, and so on. The use of fixed wing planes and heli-

copters in general reconnaissance work and in assisting field work has also added a new dimension to the forestry work in India.

The UNSF Project Preinvestment Survey of Forest Resources was launched in April 1965, with the object of assisting in the development of the country's forest resources and forest industries in order to increase wood production to fill the growing gap between domestic production and local needs, especially in the field of pulp and paper. The project is oriented towards expanding existing forest industries and the development of new ones based on available forest resources or on industrial plantations developed in selected areas.

The project involves investigations into the economic availability of raw material for the development of forest industries in three selected zones. These zones have been selected for their potential, but about which information, regarding forest resources and other relevant factors, is inadequate.

In the first instance, an area of 4.48 million hectares was selected for survey and industrial investigation. It was divided into three zones: (1) Central Zone—2,940,000 hectares; (2) Southern Zone—890,000 hectares; and, (3) Northern Zone—650,000 hectares.

For the first time in India, a helicopter was used to survey the forest resources of some areas in Madhya Pradesh last year. The operation, though more expensive, proved highly successful in the difficult terrain, and resulted in saving valuable man-days. With the development and expansion of industries using wood and other forest produce as raw material, this method of surveying the country's vast forest resources is becoming more important and widespread.

Survey of forest resources in hilly and land locked areas—with a minimal infrastructure—is always a very difficult and arduous task. Not only is field work cumbersome and tiring for sampling crews, but planning and supervision of field operations are difficult. The progress is, therefore, inevitably slow. To obviate these difficulties, a helicopter was used for forest survey in British Columbia and some other parts of the world as early as 1956, and it was decided to use the same technique in the Central Zone. A contract was signed with a private company of Bombay, for chartering a helicopter for the field-work in April-May, 1967. This is, perhaps, the first time that a helicopter was used for the purpose in India.

The Central Zone covers large parts of Bastar district in Madhya Pradesh and the adjoining forest areas of Orissa and Andhra Pradesh. The forested area covers approximately 29,400 square kilometres, much of it being hilly. There are many rivers or streams which are dry during the summer and have sandy beds. Small openings as a result of cultivation or shifting cultivation are scattered. The hills are between 300 and 1,000 metres in altitude and there are few roads, particularly in some areas, north of the Indravati river and in the Abhujmar tract. Also there are few camping sites. Survey work in such areas is thus expensive and time-consuming and it would be impossible to complete the job within a reasonable time by using conventional means of transportation.

Planning Aerial Surveys

Surveys from the air have special techniques and peculiar problems. In planning such surveys, therefore, various factors have to be taken into account. These are: (1) type of helicopter available and its seating capacity; (2) cabin load; (3) fuel capacity and consumption; (4) speed; (5) availability of suitable helipad positions and camping sites; (6) maximum flying height; (7) familiarity of the pilot with the area and the nature of work as well as his ability to use aerial photographs for navigation; (8) the maximum possible flying

hours per day; (9) nature of field work, i.e., design of field sampling, type of inventory data to be collected and the number of helicopter crews available; (10) availability of suitable maps and photographs; and (11) the flying distances from the camp to the nearest helipads and walking distances from the helipad to the ground plot.

For the survey in the Central Zone, the helicopter used had a seating capacity of three, including the pilot. The helicopter had fairly satisfactory range, pay load, and other factors, particularly important for forest survey work in difficult terrain. It had also been able to land on and take off from small clearings in the forest, cultivated rice fields, sandy river beds, and flat barren hill tops.

In 20 working days, five helicopter crews completed a survey of 128 plots scattered in 65 plot groups or clusters covering an area of more than 2,600 square kilometres. The same task would have cost less if conventional methods of transportation were used, but it would require a survey party of at least 32 persons and six jeeps for the same period of time. In actual practice, it would have been operationally very difficult to have transported, supplied and checked such a large field crew in such remote and difficult terrain. The use of a helicopter made the task much easier, and what is more important, 20 field workers and their equipment could be diverted for work in other areas of the project. Without the assistance of the helicopter in this area many more man-days would have been required to complete and supervise the work than was actually done.

The role of the helicopter pilot and engineer in forest survey work cannot be over-emphasised. It is essential that the pilot understands the main objectives of the survey and the problems of the field crews. Also, he must be familiar with the use of aerial photographs as a navigation aid. In return, he must have the understanding and co-operation of the field crews in the many exacting decisions the pilot has to make to ensure the safety and efficiency of all flying operations.

In the present socio-economic

conditions, low wages, poor infrastructure, the problem and expense involved in the transportation of fuel to long distances, and lack of repairing facilities, the use of a helicopter in forest surveys may not be cheaper or even be as expensive as the conventional ground methods. But this is more than offset by the economy in the number of trained personnel and equipment required for the operation. In addition to this, it ensures efficient supervision in all areas, regardless of their accessibility. It also makes possible increased coverage of remote and difficult areas within a short time.

The cost per helicopter flying hour is relatively expensive (normally Rs. 1200-1400 per hour). For this reason it is essential to employ the most efficient operational and technical methods in all phases of field work.

Central Zone

The Central Zone, which constitutes a major part of the total area taken up under the project, has some of the richest and most extensive mixed hardwood forests in India, with plenty of bamboo growth in the understorey. It is estimated that the growing stock is more than 120 million cubic metres (the average on forested land is 80 cubic metres per hectare). In addition to this, the bamboo resources are estimated at well-over 400,000 tonnes per year. A major portion of the area lies in Bastar district, which is a backward and land-locked area.

Nearly half the area of the district, north of river Indravati, lies outside the Central Zone. This area is actually richer in wood and bamboo resources. In the Bastar district, as a whole, the growing stock is between 250 and 300 million cubic metres, with an annual production potential of bamboo estimated at 800,000 tonnes. Translated in terms of industrial potential, it would mean that here is a stupendous storehouse of industrial raw material awaiting to be exploited for the establishment of wood-based industries. The existing demands on the forest resources of this area are extremely meagre, and a greater part of the standing growth could be harnessed to industrial development.

Role of the United Nations

AID AND SOCIAL CHANGE

BISHWANATH SINGH

THE world today presents a shocking paradox. While it possesses enormous material wealth and has made great progress in science, it has a vast segment of humanity steeped in poverty, disease, ignorance and squalor. Even at this advanced stage of science and technology, more than half of the world's population is hungry most of the time or lives on food that invites disease. For the majority of the people a decent clothing, a comfortable housing and a good living condition are still distant goals. This phenomenon of scarcity in the midst of plenty calls for a determined effort on the part of both, the developed and the underdeveloped parts of the world so that the benefits of knowledge and technology are made available to all, because the existence of poverty anywhere is a threat to prosperity everywhere.

The response of the developed countries to this challenge is expressed in the aid they offer to less developed countries. Bilateral aid tends to promote, even indirectly, political objectives, and this is particularly so if it is significantly large and for a longer period; and more often than not it is followed or preceded by political strings. This robs the bilateral aid much of its utility. Multilateral aid under the aegis of a world organisation as the United Nations is, therefore, more desirable.

II

There is a great variety in the scope of the UN aid missions which are set up to help several underdeveloped countries. They may have selective briefs or comprehensive ones.

Whatever their briefs, it is essential that their efforts should be fully coordinated with national, regional or local planning at wherever level it exists.

On the question whether the international aid missions should have selective, (restricted to a specific practice or a set of practices) or comprehensive approach, a survey was conducted by Prof. Levine. It was found that 60 per cent of foreign experts (those coming from outside the country concerned) and 68 per cent of national experts favoured a selective approach, while 39 per cent of foreign experts working on community development favoured the comprehensive method. It appears that a selective approach has a lesser chance of success 'because of the functional interdependence of various parts of the local setting'.

As to the depth at which technical assistance missions should approach their work, it can be said that an attempt to change specific practices also implies a 'whole set of related traditional practices in that sphere of activity and even in other institutions of the local community'. Such a policy warrants for its implementation close collaboration with social institutions and organisations associated with those whose attitudes are crucial for the success of the missions. The role of some related agencies is also important for the success of the UN mission's recommendations. For example, to undertake a literacy campaign without ensuring the provision of a library, a regular library budget and a librarian would undermine the value of the mission's efforts and time. As to the pace of change contemplated, it was found

that 78 per cent of foreign experts and 80 per cent of the national experts believed that "proceeding at a slow pace of action has the greater chance of success in the face of traditional ways. This overwhelming support of a slow tempo appears in every region and sphere of activity".

One of the factors conducive to the success of the UN mission's work is the attitude of the experts themselves and their ways of communicating with the local people. As one of the specialists observed that his willingness to do himself manual work such as tree-felling helped him to win the confidence of the local people whose methods he sought to change. Some 75 per cent of foreign experts and 78 per cent of national experts of the group interviewed by Prof. Levine and his associates used demonstrations as one of the two chief means of communicating ideas, the other being group discussions. Lectures were rated as the least effective means.

Both the efficiency with which recommendations of a UN technical aid mission can be implemented and the depth at which they may be worked out (estimating their long-term consequences) seem to depend upon the relation of the mission to the national government. There must be a clear awareness of the possibility of conceptual misunderstandings between foreign experts and national experts or government officials, deriving from differences of languages and cultures. There is also a possibility of national experts and officials being sensitive to the 'imposition' of foreign ideas and recommendations by the 'foreign' experts.

Agreement is necessary not only on the purpose of the UN mission and eventually on the recommendations made, but also on the priorities selected. Moreover, the scope of the mission (whether 'selective' or 'comprehensive') should be defined in conjunction with national plans. Of course, it is one of the legitimate functions of the UN missions to stimulate the government's awareness of the implications of their recommendations, and of the need to plan for these and for future schemes. The recommendations should be seen as an instrument of national development plans. In this connection, it has to be remembered that the political questions involved in national development planning are not the business of UN technical missions, nor are the means adopted by a government to implement the recommendations, if these are alternatives to those agreed upon by the government with the UN mission at an earlier date. Complaints of interference in the country's internal politics could only damage the reputation of the United Nations and its agencies.

III

One of the problems faced by a multilateral aid mission is the need to mobilise public opinion in the underdeveloped countries so that both their governments and the people come to realise the necessity for development and to have the will to develop themselves. The need for such a will has to be created. A technical aid mission set up under the aegis of a multi-national agency has only a temporary function to perform. Its work can have no lasting effects unless its recommendations are really acted upon by the countries concerned, both at the national and local level. It is, of course, the task of the mission to enlist active cooperation of the people concerned in a specific project, but social change is as much a pre-condition for technical advance as a consequence of it, and it is for the government to mobilise opinion in favour of a general strategy of change. In many

countries, an almost fatalistic attitude has for long been developed among the people. It is the government's task to break through this attitude and demonstrate to its people that change is both possible and desirable. A multi-lateral agency may often act as a catalyst to change, but the progress of the underdeveloped countries will ultimately depend upon their own efforts.

A government can use a variety of means to this end. It can work through existing social institutions or it may set up new ones that will reflect and disseminate on a national and local levels the official policy. It has also the whole range of communication media at its command. The social institutions likely to be most useful in this work are those which are nationally recognised and yet retain strong links with the people through their local branches. The support of local and national leaders is valuable in getting the general body of members of such institutions, and through them the whole population, to accept the need for a change in attitude in a particular field. For example, if one is trying to introduce a higher standard of family hygiene, the backing of the women will clearly be of great importance; or if it is a question of industrial or agricultural attitudes, it would be difficult to achieve much without the support of workers' organisations.

Again, since the government's role will be one of education and persuasion, educational institutions will be useful in disseminating information and knowledge among the people. Apart from institutions which have a direct interest in the proposed changes, the indirect support of other groups and organised bodies can help in creating willingness to try out and accept new ideas. For example, a certain fatalism in some religions has led to a general apathy among the people towards life in this world to the detriment of economic and social changes. A more positive approach by religious institutions in stressing the role and responsibility of man for creating a better world could have a good effect on such societies.

The law also has a role to play in mobilising public opinion. It can be conceded that legal penal sanctions as such do not create a change in attitude but, nevertheless, legislation sets up a standard to which public opinion can respond. For example, by penalising parents who fail to send their children to school, one is setting a standard of education for that society.

Apart from social institutions, the government has at its command the whole range of communication media, like press, radio and television. It can also organise mobile exhibitions and have local representatives to explain to the people what the government is trying to achieve and why it is necessary to obtain the people's willing co-operation. Professor Levine stressed that new ideas should be aimed at the worker from as many directions as possible—from the technical assistance mission itself, from national and local government sources and from the leaders of his own community.

In this connection, it is worthwhile to consider the role of the political factor. By what political method and organisation can a country create the sense of urgency, tempered with a feeling of justice, for the mass of the people, with as little internal tensions as possible?

It is felt that the governments in such countries as have become independent not long ago, must actively foster the sense of national consciousness, especially in areas of ethnic and tribal disunity, in order to lay a firm social foundation for economic advance. Many people hold the view that to achieve this with the minimum of internal tension, a common political and economic ideology for development is essential, which can be proclaimed through a one-party political structure. The efficacy of such an ideology in mobilising mass opinion has been proved in many countries, especially in Communist China. In such a system, it is possible to use the social institutions of the state as agents of the party, and to set up new ones that can bring party policies down to the local level.

Some people are inclined to regard a democratic political pattern as a luxury which an underdeveloped country cannot afford, because it leads to a diffusion of political and economic aims and to internal dissensions. The organisational set up gives rise to political institutions like legislature, judiciary and local government, and conveniently ignores the clashes of interests which are endemic to any social organisation. The administrative pattern is likely to lead to an unwarranted aggrandisement of bureaucracy and in politicising the bureaucracy. In the political ascendancy of the bureaucracy, the political control needed to goad the bureaucracy to action may be lost and it may well pave the way for the military elite to interfere in politics and ultimately assume formal authority. This may well inaugurate an era of political disintegration rather than political development.

Sometimes it is feared that the local population may actively oppose the social change. But, it has been observed in many cases that there is no active hostility towards technical change or community development, but only ignorance of what could be achieved and a misbelief that no change for the better is possible, which in turn leads to fatalism. The best long-term remedy for this malady is perhaps the literacy campaign, opening up to the peasant a world of ideas which he never imagined as practicable. A fundamental change in the peasant's outlook and attitudes can come only when he learns how others live and work. The sight of an actual change and its effects on the peasant's own work or in his own village will have a better impact on him than a plane flying overhead, outside his world. It is the task of his government to make the peasant realise that it is possible for him to live otherwise than he has always done, and to create in him the desire to do so.

In developing communities, the social change in local attitudes and institutions has to be effected both while technical assistance on a specific project is being given and as a result of the mission's achievements. Obviously, the results of

technical innovation, such as an artisan well or a power plant, will have considerable and lasting implications for both the attitude to change and the modification of traditional institutions or the introduction of new institutions.

Factors which affect the implementation of the recommendations of the mission at the national level are also relevant at the local level. Depending upon the type of national government, the mobilisation of public support and the effect of change in attitudes at the local level can be reflected through local representative of the national institutions. The closer the co-ordination between all the national institutions, the more effective will be the influence exercised by them at the local level. While a single dominating political party is likely to induce social change more readily, all moves in that direction will encounter some basic problems, at the local level, regardless of the institution initiating the attempts.

IV

Initial resistance to attempts for change is to some extent natural. Depending upon the community and the circumstances, this resistance may be more or less negative. In some situations, the project may have to be cancelled or postponed. The greatest resistance to change usually comes from traditional, cultural and religious practices affecting health, agriculture and commerce, and from the generally low level of education and training. There are also certain prevailing conditions which are not conducive to social change, such as aridity of soil, local apathy, a pessimist approach to life, the failure of a previous mission or the inheritance of a 'colonial' mentality. Opposition is most often openly expressed by the older people, the rich and the illiterate. A project must be prepared to meet these elements.

The problem of resistance to change cannot be underestimated. Developing communities usually have a set of values completely different from those of the U.N. mission experts, and these set values resist the new ones.

This form of resistance may be associated with the feeling that the innovations are not indigenous—they do not really 'belong' to them and are thus not acceptable. Resistance due to sheer technical ignorance is encountered when the common practices like tightening a screw or using a door handle are, as sometimes happens, absent in a community. Each problem must be analysed separately to find its particular solution.

Once a project has encountered opposition to its objectives from any source, it is imperative to inquire closely into the origin of resistance. Then some time must be allowed to pass before a solution is applied. Resistance can be overcome by mobilising appropriate, influential individuals or groups to persuade the community through various media. School teachers are best suited to perform this role on account of their training and social position. The progressive individuals and the youth can also in many cases be called 'safe' guides for their persuasive approach. Whereas local merchants, missionaries, traditional physicians and midwives are more often considered as 'risky' intermediaries because they are more apt to be bound by precedent.

BEST STRATEGY

What strategy can be best utilised by a persuasive intermediary or group to convince a hesitant community? The most influential appeals for change involve a description of the advantages which other communities have gained by adopting similar changes. They tell of a better life for the community as a whole for today as well as tomorrow, and they offer modest incentives in the form of cash or an agricultural feedback. Endorsement of such appeals by national leaders is not as effective as a trusted local leader can be. If both foreign and national experts are suspects, a local intermediary may be useful; he has an additional advantage of being a 'carry-over' influence to continue the project when the visiting experts have left.

In a community with little desire to change, persuasion by actual

demonstration and by educational means and the use of these key intermediaries are usually effective methods. Demonstrations involving both experts and local people, which may induce a competitive spirit, as in the felling of trees by traditional and modern methods, are more effective than lectures on the same topic. Other specific methods would include audio-visual aids and person-to-person talks. The actual media used at the local level may be the same as on the national level, with the only difference that, at the local level a popular local leader predominates. Technological advance in communications will exercise even greater influence at the local level in the future when, for example, videotape can be used to show a person exactly what his own action looked like to others.

How far do projects generally take existing local institutions into account? Whenever possible, it would be wise to work through community groups or institutions, but modifications to those institutions should also be envisaged when necessary. For example, in addition to the formal education given at the local school, adult technical and general education courses can also be instituted. New institutions like civic groups, women's associations and youth organisations should be formed for the specific purpose.

Coordination of all these local institutions with those at the national and regional levels will be a major factor affecting the success of a project. Do the national and regional administrations take a genuine interest in the project? Are the proper materials forthcoming? Do channels of communication exist to the appropriate levels of authority beyond and within the local level? These elements of coordination depend more on the infrastructure of the state and the will of the government than on the project as such.

V

Before a mission, whether it be under national or multilateral aegis, commences actual work, several important aspects must be carefully considered. Proper selec-

tion of the project staff may be cited as one such aspect. The experts' abilities, personalities, continuity, attitudes, adaptability and personal qualifications must all be scrutinised. Planning must be made in advance for including such factors as local variations of national elements, culture, language, and community traditions and sentiments. Often the members of a mission do not understand the local people and are alienated by local traditions, foods, institutions and customs. Unfortunately, there are very few people at the local level who can explain particular phenomena in a sufficiently objective manner. Administration in a cross-cultural situation is a difficult art. In a theoretical discussion, one may not sufficiently realise that experts are not immune to local environment. The project staff should be integrated as a team before attempting to start its work. They should be able to meet their professional counterparts at the national and regional levels and, wherever possible, they should learn the local language.

The UN mission also must recognise the importance of estimating and observing the short and long-term effects, both intended and unintended, manifest and latent, of the changes to be introduced. In many cases, the deleterious effect of unintended consequences of the changes outweigh the good effect of the intended ones.

VI

The world is moving, slowly but steadily, towards a single community, and this is happening despite the bitterness on the political plane and infinite diversity at the social, economic and cultural levels among the nations. The idea of interdependence of the peoples of the world is slowly manifesting itself in a practical form. The multilateral aid is one such manifestation, which aims at improving the lot of the entire mankind by joint and cooperative action.

The multilateral aid is a small beginning in realising the ideal of a world community, but nevertheless a significant step.

FARM MANAGEMENT CONSULTANTS

THE profession of farm management consulting is just over 10 years old in Australia. This young profession is made up of relatively young men, most of whom entered its ranks during a rapid growth phase that started in 1962. Before this there were only 17 consultants in field; today there are 136. Originally most consultants were employed by clubs or groups of farmers who pooled resources to ensure salary and expenses.

Nine out of 10 consultants operating in the Eastern States are graduates of Australian universities. By contrast 86 per cent of consultants in Western Australia and South Australia have overseas qualifications. The type of advice given to farmer and grazier clients is changing. In the early days of the profession the emphasis was on purely technical subjects, but the present trend is to increasingly sophisticated economic advice.

The largest single group of farmers employing consultants last year was the owners of wheat and sheep properties. A striking feature of the distribution of the profession is its concentration in the higher rainfall more temperate regions where climatic conditions are less variable.

A recent development, particularly in the Eastern States, is the growing concentration of private practitioners into firms and partnerships. The common practice is to charge a fee on an acreage basis. Many consultants, however, charge on a fixed-rate basis. The least common method is to charge on a time basis.

Farm management consultants are being increasingly recognised by their professional colleagues as having an important and expanding role in Australian agricultural extension.

Courtesy: Australian High Commission



TELEVISION GOES TO THE FARMER

S. K. SHARMA

Impact on Agriculture In Delhi Villages

THE development of Indian agriculture depends mainly on diffusing modern agricultural knowledge among the farmers. To have an impact on production, an innovation has to be carried to and adopted by a large number of farmers. The diffusion and adoption of innovations has to be quick and effective. Television has been found very effective in carrying new ideas to farmers with conviction. It makes an enduring impact on the farmers.

Research studies conducted in several countries have shown that television is the most effective and powerful among the mass communication media.

In India television was introduced on an experimental basis in the Delhi territory in 1959. Initially it was limited to secondary education.

In February 1967, an experimental programme of agricultural education was introduced in co-operation with the Indian Agricultural Research Institute in 80 vil-

lages of Delhi territory. On January 26, 1967 the Prime Minister of India formally inaugurated the special programme known as 'Krishi Darshan'. Its main objective is to help farmers by acquainting them with modern agricultural practices.

An assessment of the impact of this programme on the listeners was made through a sample survey in the Kanjhawala community development block during March to May, 1967. There are T.V. sets in 21 villages of the block. For the purpose of the survey, five agricultural programmes were selected during March 1967 to assess the immediate gain in knowledge of the farmers and its retention. The programmes covered the main aspects of agricultural development, such as crop sanitation, cultivation of summer vegetables, raising crops on saline soils, veneer grafting in mango, and cultivation of Pusa Giant Napier grass.

The gain in knowledge from telecasts was found to be signi-

ficant in all the five programmes. But the extent of the knowledge gained and its retention varied from programme to programme. On an average the gain was 20.27 per cent. The content of each telecast was also analysed to access the reasons for the difference in the gain in knowledge. It was found that the use of more technical and difficult words in telecasts reduced the extent of gain. Other factors such as the method of presentation, use of illustrations, newness of the innovation also affected the gain.

The extent of retention of the knowledge also varied from programme to programme. The retention after 15 days varied from 68.43 per cent to 90.48 per cent of the knowledge gained and that after 30 days



A farmer being interviewed for telecast

varied between 56.68 and 83.69 per cent.

An analysis of the causes for the difference in retention showed that the factors responsible for the difference in the gain were equally responsible for the retention.

However, the gain in knowledge and its retention helped the respondent farmers to learn more and better about agricultural practices. It is remarkable that the farmers retain most of the knowledge they acquire. It indicates that T.V. programmes should be telecast about a fortnight before the time of actual application of the knowledge in the field.

The age, caste and socio-economic status of the respondents had little effect in the reception of the programmes. The farmer's education, however, had a significant effect on the gain and its retention; the higher the education, the greater was the receptivity of the farmer. The effect of social participation was significant in two programmes while it was insignificant in three programmes.

The reaction of the farmers was studied with respect to the contents and duration of telecasts, methods of presentation and language used.

In general, the respondents liked the programmes; 61 per cent of them liked them 'very much', 29 per cent 'much' and 10 per cent

'so so'. The same was true about a large number of farmers viewing 'Krishi Darshan'. On an average, 20 to 30 farmers viewed every telecast. The respondents considered the telecast to be of great use to them. All the respondents said that they gained a better understanding of the agricultural practices demonstrated on T.V. and that they got the information in a clearer and more convincing way.

Majority of the respondents could understand the content of the telecasts; 97 per cent of them could understand 'to a great extent', and only 3 per cent 'a little only'. However, they felt that the use of technical words such as downy

mildew, virus disease should be avoided.

The farmers seemed to be satisfied with the clarity of pictures on the T.V. screen. They reported that although the voice was clearly audible in all the telecasts, at times distortion was noticed which might be due to improper handling of the sets.

A large number of farmers, 89 per cent, reported that 10 minutes time allotted for main agricultural programme was not enough. The duration should be 15 minutes.

The time between 7.00 P.M. to 8.00 P.M. for telecasts in summer was suitable for the farmers. They, however, reported that this time should be adjusted in other seasons. In winter, suitable timing would be between 6.00 P.M. to 7.00 P.M.

Of the respondents, 62 per cent asked for more agricultural programmes in a week, whereas 38 per cent were satisfied with two programmes a week. There was a general preference for three or four programmes per week. A majority of the farmers, 61 per cent, desired that every telecast be repeated after a fortnight as it would help them to get clarified their doubts if left unanswered at the first telecast.

According to 89 per cent of the viewers, the subject matter specialist should come on the screen to discuss the main points during and after the telecast. His presence on the screen would add importance to the programme thereby creating a greater impact on the listeners.

As for the presentation of the programmes, the farmers preferred those programmes which were supported by discussion and illustrations.

The majority of the farmers desired that the T.V. programmes be supplemented by popular literature on the subject matter. This literature would serve as guidelines to the farmers for future consultation. They further demanded that the T.V. sets be placed under the charge of a person who commanded respect from most of the farmers.

The survey thus shows that T.V. plays an effective role in educating the farmer and a network of T.V. in the country is necessary to help the growth of agriculture in the country.

THE AGE-OLD PROBLEM

THE problem of age, or more specifically the art of staying young, has always been a challenge to mankind. Even with the phenomenal advance of scientific knowledge all that has been achieved is to delay death, but little progress has been made to halt the ravages of age. The philosopher and the mystic look upon death as the ultimate reality, which, in essence, is really an awakening from "the dream of life". While there are those for whom it is only a hazard to be faced and dared. To the common man, which includes most of the human race, it is not, however, a question of evading death, but of staying young. It is to prolong that state of mind and body when one is able to enjoy life with zest and when there is beauty and joy in everything.

Is perpetual, or even prolonged, youth possible? What is the secret of that blissful, joyous state when time ceases to march on? Here is a recipe from America on how to stay young.

"Youth is not a time of life—it is a state of mind; it is a temper of the will, a quality of the imagination, a vigor of emotions, a predominance of courage timidity, of the appetite for adventure over love of ease. Nobody grows old by merely living a number of years; people grow old only by deserting their ideals.

"Whether seventy or sixteen, there is in every being's heart the love of wonder, the sweet amazement at the starts, and the star-like things and thoughts, the undaunted challenge of events, the unfailing child-like appetite for what next, and the joy and the game of life.

"You are as young as your faith, as old as your doubts; as young as your confidence, as old as your fears; as young as your hopes, as old as your despair.

"So long as your heart receives the messages of beauty, cheer, courage, grandeur and power from

the earth, from man and the Infinite, so long you are young.

"When the wires are all down and the control place in your heart is covered with the snows of pessimism and the ice of cynicism, then you are growing old indeed—and may God have mercy on your soul".

YOUNG IDEAS

THE present age is the age of Youth; at once our greatest asset and our biggest headache. But, whatever one may say or feel about the angry young men (and women) of today, tomorrow clearly belongs to them. And, young people have a mind of their own. What is worse, they insist on thinking for themselves; making no secret of their thoughts, however embarrassing it may be for their elders. A typical example of this "revolutionary" thinking is the views expressed by a Filipino boy on the principles governing taxation, and, we quote:

"When politicians talk about democracy and the people in general, they pontificate that everybody is equal before the law, that all of us have the same voice in the government—beggars or tycoon, jeepney driver or owner of a Cadillac. And yet when it comes to getting money to run the government, suddenly we are not equal anymore. The rich must pay more because, well, they have more. And yet, during elections, we do not think of giving the rich more than one vote on the ground that they have more stakes in the government, or making the scholar vote twice because he has more ability to choose the better candidate. Oh, no, suddenly we are all equal again—the idiot and the intelligent, the drunk and the executive, the *canto* boy and the boy wonder!

"Our theory is that the poor have the same rights as the rich. But when it comes to obligations, the poor have no obligation to support this government while the rich have.

"Why don't we, for a change, tax the poor? In other words, let



IGNORAMAN

Wants to Know

If
One can Save
for Prosperity
without being
Prosperous.

us tax poverty instead of wealth.... by taxing the rich more than the poor, you discourage people from being industrious, and from earning more. After all, the more they earn the more you tax them. So what's the use? And you discourage them even from being honest because you force them to hide their real income. Now, if you tax the poor instead, you indubitably discourage poverty, give everybody an incentive to work overtime to become rich.

"Anybody who cannot pay his taxes because he has no job is immediately seized and given a job by the government. And in the event of refusal to work, he is sent to jail. He'll work in jail, anyway, so he might as well for instance, go to Mindanao and work there. With this scheme, you solve the unemployment problem, you abolish poverty because you make it difficult to be poor, you encourage industry and personal initiative because to be rich is to be exempt from burdensome taxes, and reward is given to people who deserve it. Right now, to be poor is to be privileged and to be rich is to be punished."

You and I may not agree; but this is certainly one way of looking at the problem!

THIS INDIA

It was election time and candidates belonging to different political parties were going round wooing the voters. About this time, my 'dhobi', who was always prompt in delivering the clothes, began to be irregular. When I asked him about the delays he first hesitated, but then said, "Bibi, you know the elections were in full swing. For the past one week, supporters of the Congress, the Jan Sangh, the Swatantra and the Independents had been calling at our doors every day and serving us lavishly with bottles of liquor. We were completely lost in the drinks and had little time for work."

"And whom did you vote?" I asked.

"None," grinned the washerman, "who had the sense to go to the polls or do anything, after taking such heavy drinks".

Delhi (Mrs.) Jai Narayan

I was a regular customer of a restaurant in a village in Madras State. Though it was a small hotel it was known for its delicacies. As I used to go often the Manager had become my friend.

One fine morning, as usual, I went to the restaurant to have my breakfast. I was surprised to see a notice board at the entrance reading "No coffee and No Tea". I noticed many people going away without breakfast. However, as I was waiting for the coffee after finishing the snacks, there came a sign for me to go inside. To my great surprise I found the coffee waiting for me. I was impressed by the courtesy shown to me by the Manager.

The next moment I saw another man having his coffee.

When I visited the restaurant again in the evening, I found the notice-board had been removed.

My curiosity made me ask the Manager about the strange things since morning. The Manager said with a mischievous smile,

YOJANA invites contributions to this feature from its readers all over the country. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

"It was all a show to get extra quota of sugar from the rationing officer, and I have got it.

Durgapur S. Sundaresan

One of my relatives runs a lubricant shop in Delhi. His only servant suddenly disappeared last month and the work was held up. Despite his efforts, he could not find a capable hand for this job for over a fortnight.

A young beggar, physically sound but posing himself as totally blind, used to sit before his shop for begging. My relative, who knew that the beggar was not actually blind, requested him to work as a servant in his shop and earn honourably.

The beggar politely brushed aside his request saying, "At the most, you will offer me Rs 100 per month or so. But my begging assures me an average daily income of about Rs 15 and that too without any manual labour".

New Delhi R.P. Grover

I was returning from the last cinema show. On the solitary

way, I came across a man who looked lame and was walking very slowly. Out of pity I approached him and asked, "May I give you a lift on my bicycle?" He sat on the carrier and caught hold of my loin as if he was afraid of falling down without such a support.

After passing some distance, he requested me to drop him. After getting down, he folded his hands and said, "Babuji, You are very kind. I can never repay kindness."

I felt happy for this expression of gratitude, though I said "Oh, don't mind it."

And thus we parted.

When I reached home and put my hand into my pocket my money purse was missing. Indeed, the unknown friend could never repay my kindness for the purse contained my salary of one full month.

Jaipur Laxmi Narain Ranga

Driving along a main street in Delhi one late afternoon recently, I had to pull up suddenly as the car ahead of me came to a grinding halt. On recovering from this emergency operation of coming to a dead stop, I found to my surprise that the way ahead of the car in front was wide and clear. As I was wondering what it was all about, the vehicle still continued to block the way and a long line of cars and other vehicles collected behind me honking frantically for the way to be cleared.

Impatient to get at the mystery, I went up to the man at the wheel who, clad in a lounge suit, was casually munching a betel leaf. Rather apologetically, he explained to me and others around him that a black cat had crossed his way and he had perforce to wait for some time before he could continue his journey. More disgusted than amused, I managed to pull out of the traffic jam with great difficulty.

New Delhi Ram D. Taneja

Planning Improves MALAYSIA'S ECONOMY

S.M. AGRAWAL

ECONOMIC and political disturbances throughout the world are creating headache to the planners of Malasian economy. A general recession throughout the Western Europe has adversely effected the most important rubber industry of Malaysia. Depression in the world price is also responsible for the fall in export earnings of the country and this leads to uncertain outlook for the country's economy. In spite of these difficulties, Malaysia has adopted the policy of diversification of industries through joint ventures. At this juncture, if an attempt is made to increase trade and economic relations with Malaysia, India can earn good dividends for herself by contributing to Malaysia's economic development.

Malaysia is a Federation of 13 States. It came into existence on September 16, 1963, as one of independent countries of the British Commonwealth. Her population growth rate of 3 per cent is one of the highest in the world, and the population is expected to reach about 11 million by the middle of 1970.

Nearly 60 per cent of her population live on agriculture, making a major contribution to the national income. Agriculture accounts for 34 per cent of the gross national income, provides employment to 57 per cent of the people, and earns about 60 per cent of the total foreign exchange for the country.

Malaysia has launched a long-term perspective plan covering 20 years. The main object of the plan is to promote traditional industries, to create export possi-

bilities and to increase food production. During the first plan period 10,500 million dollars will be spent, 4,550 million dollars in the public sector and 5,950 million dollars in the private sector. Of the public sector outlay, 3,470 million dollars will be spent on physical capital formation and the remaining 1,080 million on development activities.

If the plan succeeds, national output will grow at an average annual rate of 5 per cent, and real per capita income will rise to 980 dollars by 1970 from 930 dollar in 1965 i.e., by one per cent every year. The per capita income is expected to increase further at the rate of 4.1 per cent a year by 1980-85, giving an average annual rise of 2.7 per cent for 20 years.

TWIN PILLARS

The budget of 1967 has revealed that the Malaysian economy has taken a serious turn. Three industries, namely rubber, tin and palm-oil, are the backbone of its economy but the average value of the three major exports has declined by 17, 7.5 and 5.5 per cent, respectively.

Rubber and tin industries are rightly called the twin pillars of the Malaysian economy and Malaysia leads the world in the production of natural rubber and tin. The rubber industry accounts for 40 per cent of the country's total export earnings and contributes 20 per cent to the national product.

Natural rubber industry is now facing a keen competition from synthetic rubber. Today the world consumption of synthetic rubber



exceeds that of natural rubber, 3.2 million tons against 2.5 million tons in 1966. The production of rubber is likely to rise 1.25 million tons by 1970 from 9,13,000 tons in 1965, but world prices of rubber are falling, so much so that they have now come to their lowest for 19 years. This depression is mainly due to the large releases from the U.S. stockpile and modern devices adopted by the producers of synthetic rubber. The fall may further hit the prosperity of Malaysia. It is estimated that the export price of Malaysian rubber will fall from 70 cents per lb. in 1965 to 55 cents by 1970. A drop of one per cent per lb. will cost the country over 25 million Malaysian dollars.

Malaysia is rich in many minerals like tin, iron, bauxite, lime-lite, gold, columbite, monazite and copper. Tin occupies the second place in the country's exports, but lately it is running in short supply. Although there are 700 mines, the reserves are rapidly exhausting. There is a general feeling that the production might further decline unless new deposits are found. Malaysia is trying to obtain a favourable international price for her tin. The Third International Tin Agreement, which fixed a floor price of 1100 dollars per ton, is received with satisfaction by the Malaysian tin industry.

NEW PATTERN OF ACTIVITY

The Government has realised the dangers looming ahead and has taken several steps to reduce

dependence on the exports of rubber and tin. A policy of diversification of industries has been adopted, and the first plan aims at diversifying and developing new patterns of economic activity. As a result, the percentage of rubber and tin in the national product has already come down from 42 to 26, and the corresponding figure for manufacturing industries has almost doubled to 11. Besides, the rubber industry is being modernised.

To make full use of local and improved raw materials, the Malaysian Government has switched over to consumer goods industries. Many industries have sprung up recently in Penang, Johore, Perak and Malacca. There are about 140 units manufacturing chemicals, paints and varnishes, canned food, non-metallic mineral goods, basic metal goods, electric appliances, bicycles, furniture, tyres and tubes and beverages. Three cement factories, three condensed milk factories, two oil refineries, two factories for making asbestos cement products, two textile mills, a tyre factory and an aluminium rolling mill have also sprung up recently.

A notable feature of the development of industries is that the new projects produce more than the domestic demand and thus would cater to export trade.

A number of industrial estates have come into existence in the country. Particularly on the west coast they have better economic facilities like power, water and sheds. To accelerate the programme of industrialisation, several surveys are in progress. The Plan target of 10 per cent increase in the output of manufacturing industries could well be achieved.

Private sector is playing a key role in Malaysia's economic development. It is estimated that private foreign investors will invest about 1,100 million dollars during 1966-70. Malaysian Industrial Development Finance Limited, set up six years ago, is the main agency for meeting the medium and long term credit requirements of industrialists. Its total business has almost doubled from 24.5 million dollars to 41.1 million dollars in 1965-66.

The Malaysian Government offers the same incentives to foreign investors as are given to local entrepreneurs. The interests of foreign investors are protected. Investment Guarantee Agreements have been signed with the U.S. and Germany. Malaysia's membership of the Convention of International Disputes, sponsored by the World Bank, which permits foreign entrepreneurs to resort to the International Arbitration for the settlement of disputes, ensures additional protection to foreign investor.

The Government also offers tax exemptions for selected industries and easy availability of foreign exchange for profit remittance and capital repatriation. Accord for relief from double taxation has been reached with the U.K., Japan, Denmark and Norway. Malaysia has received 100 million Malaysian dollars as foreign grants. She has also received loans and credits to the extent of 180 million Malaysian dollars from the U.S.A., 20 million dollars from Canada and 1.7 million dollars from the Netherlands. During 1967, U.K.'s contribution is expected to be 20 million dollars.

Many countries like Australia, Canada, the Netherlands and Japan are taking interest in putting up joint ventures with Malaysian industrialists. Japan is concentrating on steel plants. Mining industry is being exploited with Canada's assistance. The Netherlands is helping to the development of oilpalm, fisheries, rubber, livestock and other agricultural products. Dutch specialists are busy framing a 20-year development plan for the state of Trengganu.

SCOPE FOR INDIA

India has enduring cultural relations with Malaysia for centuries but she has an unfavourable trade balance with the country i.e., Rs.2.8 crore in 1966-67. In the past, some industrialists had made attempts for setting up textile mills, sewing machine units and furniture and office equipment factories; but they failed due to disagreement with profit sharing policy. The establishment of closer trade and economic relation with Malaysia should be the main consideration with India rather than the profit

motive. For, India can play a significant role in improving Malaysia's economy. In this direction, an agreement laying down broad prospects of technical cooperation has recently been signed between the two countries and it will pave the way to sound and purposeful Indo-Malaysian economic cooperation. There are several fields in which India can help Malaysia. For instance, Malaysia is facing acute shortage of trained and skilled manpower. India is in a position to impart technical and other essential training to a good number of Malaysians. India can also supply intermediary and capital goods besides engineering, electrical and mechanical goods and capital goods like sugar, paper and cement plants and textile machinery at competitive prices.

HAL's Fifth HS-748

THE fifth HS-748 aircraft, formerly known as Avro 748, built at the Hindustan Aeronautics, Kanpur, will be delivered to the Indian Airlines Corporation, in May 1968, two month ahead of schedule.

The HS-748, a twin-engine, turbo-prop, medium-haul transport plane is safe, strong, reliable and economical. It is pressurised and air-conditioned, and is specially designed to have a fail-safe structure, capable of short take-off and landing as well as operating from unprepared surfaces. Its Series-II type can carry 40 passengers at 250 miles per hour, and fly up to a height of 25,000 feet. The aircraft is powered by Rolls-Royce engine manufactured at the Bangalore Division of HAL.

From a pioneering unit, set up in 1959, HAL, Kanpur, has become a commercial organisation and entered a new phase of production with successively increasing indigenous content. The production capacity of the factory has now increased to 6 aircraft per year.

A number of HS-748 aircraft, including VIP types have already been delivered to the Air Force and are in regular use.

Books

Strategy Of Development

The Pattern of Investment and Economic Development by Dr Hannan Ezekiel. Published by University of Bombay. 119 pages. Rs 9.50.

M. R. Kulkarni

DURING the last 20 years considerable literature has been produced on the subject of economic growth. The strategy of development naturally occupies the central position in this literature. It may appear rather late in the day to discuss the alternative strategies in the Indian context after 15 years of planning. It must, however, be remembered that anything like a definitive strategy was evolved for the first time in this country in connection with the formulation of the Second Five Year Plan. This strategy was supposed to be the basis of the Third Plan as well with suitable modifications. But even a cursory reading of the Second and Third Plan documents will show that there is good deal of confusion regarding the approach to development and the pattern of investment embodied in them. The scheme of priorities does not stand out very clearly as the tendency on the part of the planners was to emphasise the utmost importance of rapid development of almost every sector of the economy. It is essential to study more closely the different alternatives available in respect of strategy of economic development, and their implications, and to arrive at the optimum pattern of investment which would make the strategy most successful. Dr Ezekiel's lectures on alternative pattern of development delivered in the Bombay University in 1965 and now compiled in the present publication, therefore, assume significance in the present Indian context.

As in most economic exercises of this kind, Dr Ezekiel assumes that maximum rate of growth is the only objective to be achieved

and that investment is by far the most important prime mover of economic growth. With these assumptions generally accepted as reasonable, the pattern of investment assumes greatest importance as the key factor which determines the pace and nature of development. Dr. Ezekiel discusses two alternative patterns of investment—one, a pattern which assumes a closed economy with marginal foreign trade and domestic investment mostly internally financed and the other, a pattern of investment which is related to 'consumer goods-cum-export oriented economy', as he puts it.

Apparently he equates the Second and Third Plan strategy as equivalent to the first alternative. In the second alternative, the investible resources are so allocated as to maximise the output of consumer goods for export and thus make it possible to finance the imports of necessary capital goods through export earnings. Drawing such a sharp line between a closed economy and 'a consumer goods-cum-export oriented economy' may be justified for an abstract exercise, but has limited relevance for reality. Probably, the Soviet Union once came closest to such a closed economy, but that was because it had no choice. A similar example in the present world is perhaps that of communist China. But to argue that the Mahalanobis model underlying the Second Plan envisaged something like a closed economy with emphasis on the capital goods sector to be financed mainly out of domestic resources would amount to making a sweeping generalisation.

Briefly stated, Dr. Ezekiel's thesis is that a pattern of investment which favours the emergence of consumer goods-cum-export oriented economy is superior, because it enables us to achieve a higher rate of growth without straining ourselves too much for

raising resources for financing the capital goods sector. This is so because the export of consumer goods would bring in necessary resources for the import of capital goods.

It is needless to point out that this approach is different from the one which would give priority to the production of consumer goods for increasing the level of consumption of the people. Now nobody would dispute that a sound plan of development must provide for maximum possible expansion in exports and judicious utilisation of foreign exchange earnings for further investment. Nor have the Indian plans ignored this aspect though it may be argued that much more could be done to buttress our exports. In any case, the success of this approach would depend upon the country's export prospects. Dr. Ezekiel assures us that they are not after all so dismal. One wishes they were not really so. But probably the view from Washington is much more rosy than the one from New Delhi.

Dr. Ezekiel makes a number of suggestions and points for action for promoting our exports; he also exhorts the developed nations to buy more things from us. This is all to the good; but it does not by itself assure us that an export oriented plan will solve all the problems which beset the other approach in which the emphasis is on raising resources internally for financing our capital goods requirements. In case we fail to sell all the consumer goods we have manufactured for export, we need not unduly worry, assures Dr. Ezekiel, for then we will have more consumer goods for internal consumption.

Dr. Ezekiel has discussed only two alternatives. It is possible to conceive of others. Dr. Ezekiel has touched upon the subject of pattern of investment only on the aggregate level. The problem of evolving sound investment criteria for an optimum sectoral distribution of investment as well as for the selection of projects and programmes is still in an infant stage. Dr. Ezekiel's work deserves attention insofar as it raises issues which our planners must squarely face.

STUDY OF HEALTH CENTRES

The Health Centre Doctor in India by Harbans S. Takulia, Carl E. Taylor, S. Prakash Sangal, and Joseph D. Alter. The Johns Hopkins Monographs in International Health. The Johns Hopkins Press, Baltimore, Maryland. 3.50 dollars.

Santha Rungachary

THE main virtue of this competent little work study of the functioning of health centres in India in general and the doctors working in them in particular based on interviews with 170 doctors, health administrators, teachers of clinical as well as social and preventive medicine and policy makers, is its timeliness. It has caught the Government brooding over suggestions for an administrative reorganisation of our health services made by the Mukherji Committee two years ago.

When I refer to this study as a little study I am not describing the quantum of work that has gone into it but to the slimness of the volume which has whittled the problem down to its bare essentials and discussed it without once succumbing to the space-consuming temptation to philosophise or to be so overcome by the size and complexity of the issues involved as to be reduced to a humble appreciation of the fact of anything being done at all.

The Rural Health Research Project of the Johns Hopkins School of Hygiene, which has produced this report, conducted its field studies in the teaching health centres of seven medical colleges in six States. The four-doctor study group, while being very understanding about the "quantitative-qualitative dilemma" faced by democratic Governments in the process of development, nevertheless, says as plainly as the Lakshmanaswami Mudaliar Committee did seven years ago that the whole public health service is sorely in need of a thorough overhaul and reorganisation, of a fresh redefinition of roles and responsibilities and a rational administrative control.

Government has for years maintained that practically all that is a wrong with the rural health service is that doctors refuse to go and work in the villages. An image of the selfish physician valuing self-interest above service to society has thereby been built up in the public mind. The report reveals that poor living conditions is only one of the irritations that health centre doctors are faced with.

I had been under the impression that the other main reason generally given by doctors for refusing rural service, namely that they would "lose touch with modern clinical medicine" at least proved that there was the recognition among present-day medical graduates that a man who started as a health centre doctor would inevitably develop into a breed of doctor altogether different from the clinical doctor, that is, I believed that the study of social and preventive medicine in medical colleges was beginning to give medical education a new orientation.

But, obviously, according to the findings of this study, this orientation is more theoretical than practical. For, one of the main conclusions of this project is that the question, "What are we trying to give the people through the health centres?" has not been clearly answered. There is an incompatibility in the views expressed by the various professional groups involved in medical education and service and health policy-making.

Should health centres concentrate on preventive health measures or merely function as village dispensaries? According to the Bhole and Lakshmanaswami Mudaliar Committee and one or two ambitious manuals published by the Health Ministry, the health centre doctor is expected to act as the head of a health team performing about two dozen jobs, the main one being the supervision of a preventive health service. In practice, however, the study team has found that most health centre doctors groan under a heavy clinical load of work which keeps them too busy

to supervise properly the work of the auxiliary staff under them in the centre and in the sub-centres.

But the study team does not deal quite realistically with this central point apart from recommending that the curative work of health centres doctors should be reduced. The subject, curative-preventive work division, should have been discussed at greater length with an open mind and, more concretely, by analysing a week's work load in the out-patient department of a centre and by trying to find out what percentage of the cases were caused by lack of public health services.

In this connection a survey of public opinion in the served area would have been of inestimable value. The study team has dismissed the idea of such a survey as being too important to deserve anything less than a separate research project for itself. Its total absence, even on a random sample basis, from this particular project certainly makes the study of the health centre doctor's work incomplete.

Even the "quantitative-qualitative dilemma" that the Government is credited with seems to be a bit of a farce. While the Government claims that each health centre serves eighty thousand to one lakh people in a community development block, the project conclusion is that not more than 20,000 people from within an effective range of a five-mile radius from the centre get the benefit of the centre services. We are also told that the development of sub-centres is often not planned well enough to cover the maximum population. Where then is even the quantitative achievement?

The project also touches upon other aspects of rural health centre service like lack of coordination between the centre and local community development officials, a kind of administrative control which falls between centralisation and decentralisation, lack of adequate transportation and difficulties in attracting doctors to rural service, and others which have been dealt with by governmental and non-governmental agencies in seminars and group discussions though

not in depth studies like this. And many of the well known recommendations are reiterated here in the hope that banging away at government will kindle some response.

What are needed are many more surveys like this by professional groups in different geographic areas. In fact a more efficient maintenance of statistics in the centres themselves could be of great value in itself. Obviously what we need is a lot more information about the real needs of people so that we could develop the particular kind of health service which will suit us. I shall conclude by adding that far more progress in this direction should already have been achieved considering that the Health Ministry of independent India had a head start on other Ministries with a Bhole committee plan all read for implementation.

LOCAL TAXATION

Local Taxation in Urban Areas—D. M. Nanjundappa and M. V. Nadkarni, Published by Karnatak University, Dharwar, Pages 63. Rs. 3.00

A. B. Bhattacharya

THE book under review is a part of bigger work on the finances of an Urban Local Authority. The 'Introduction' to the book, indicates that it was earlier published in the Karnatak University Journal (Social Sciences).

In this book the authors have discussed the taxation of an Urban Local Authority, with special reference to Dharwar—Hubli.

It is a well known fact that except a few fortunate ones, almost all the local authorities are all the time confronted with financial difficulties. Hence for them it is a matter of primary importance to manage for more funds and to raise the sources of revenue.

It is true that the one single factor to raise the revenue of a local authority is to increase the tax rates, or to introduce new taxes. But there are numerous practical difficulties in this field and for this the local authorities

have to consider all the pros and cons before introducing a new tax, or before increasing a rate of tax.

As all the local authorities are wedded to the concept of maximum social benefit, they are required to spend more on amenities and social benefits. For this also there is a need of enhancing revenues of these bodies. For this, not only the avenues of new taxes are to be found, but is also essential to study the elasticities of taxes and the cost of their collection. A tax is levied only when it is deemed essential and beneficial to the majority. Both the authors have taken pains not only to study all these concepts in great detail but also to suggest means and methods by which all the required improvements in local taxation can be effected without great difficulty. The suggestions are worth consideration.

Table I consists of all the tax income in relation to total income and expenditure of the local authorities for pre-corporation and post-corporation periods. Table II gives the different items of revenue—tax income and non-tax receipts. A few other tables, that have been incorporated in the book, deal different aspects of local taxation.

Besides with the main contents of the book which are greatly informative, the five appendices at the end enhance the value and utility of the work. The book is in keeping with the standards of the Economics series published by the Karnatak University.

INDUSTRIAL ORGANISATION

Industrial Organisation by A. S. Deshpande. Published by Vora & Co. Publishers Pvt. Limited, Bombay 279 pages. Rs. 10.

Jayanta Sarkar

INDIA is taking a big step forward in industrialisation. The accent on building up an industrial base in the country has become more and more pronounced with every new Five Year Plan. Among the developing countries, she perhaps has the head-start, and though it is

not as widely recognised as it deserves to be, the fact is that she leads most of the other nations in this category in the pace and progress of industrialisation.

There is thus a definite need to make the process intelligible to the layman to make him realise how the contours of our industry are changing, how we are slowly but surely imbibing the latest approaches to industrial management, technique, planning, etc. One has to be told that we have already made a beginning in modern industrial techniques by introducing the latest formula for time and motion study. One has also to be told that we are adopting the latest methods of plant layout in setting up a factory.

Mr. Deshpande has attempted to do that—to bring home to us in the innocuous garb of a text book the quiet transformation taking place in our industrial organisation. He has discussed why and how we are changing over to work study to measure the productivity of labour in preference to the arbitrary rule of thumb methods of assessment. He has underlined why modern entrepreneurs duly weigh the advantages and disadvantages of line layout and functional layout for their new plants.

The author has covered a wide range of subjects and has covered it with commendable grasp and clarity. Intended as the book is for engineering students sitting for examination or seeking jobs, the volume avoids going into depth in many cases. And the engineering student of today, who would be the entrepreneur and the manager of tomorrow, has got to know something about the rules governing joint stock companies and incentive wages. The book can give him that background.

Still one cannot avoid a feeling that the treatment in some cases has been kept too vague or superficial. For instance, while discussing the subject of industrial finance, the author has made no mention of the various governmental agencies set up for industrial financing, like the Industrial Development Bank of India, the Industrial Finance Corporation, etc. Similarly on the question of wages and incentives, he simply passes over the increasingly important role of the wage boards.

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PLANNING FORUM

VILLAGES THAT ATTRACT MORE PEOPLE

Survey of Six
Group Villages
by Kumta College

A study of the impact of 15 years of planning on six Group Panchayat villages, selected by the A.V. Baliga College of Arts and Science, Kumta in Mysore State, has revealed some interesting facts. The standard of living in the villages studied has gone up since planning was started in 1951. Also, life expectancy has increased to 50-60 years. The average size of the family has remained constant at six; not because the people are unaware of the need for family planning; but because the response to family planning has been far from encouraging.

The main occupations of the villagers are farming, blacksmithy, pottery, shoe-making, mat-weaving and trade. The main crops grown in these villages are paddy, sugarcane and plantation crops. The normal means of irrigation are wells; but many farmers are willing to have their own pump-sets. However, due to the lack of inadequate supply of electricity they are reluctant to take the initiative in installing tube-wells. In general, the farmers recognise the advantages of improved methods of agriculture and would like to make extensive use of fertilisers, pesticides and better seeds. But in most of the villages the local service societies are unable to assure the farmers an adequate supply of these inputs.

Though fishing is the chief industry in the area, pottery and coir industry are equally important. Since 1951, each village has its own Mahila Samaj where training in tailoring, sewing, embroidery and other arts and crafts is given. Some of the villages also have their own public libraries, where a number of magazines and newspapers are available. Over the years there has been a significant increase in the number of

people making use of the libraries. Youth clubs are also functioning in some of the villages. In the Kujalli and Mirjan Group Panchayat villages, the youth clubs have not only helped in the construction and repair of roads, wells, school buildings and tanks; but have also worked on the land in sowing, harvesting, digging of compost pits and other operations. Elsewhere, they have taught the villagers the Japanese method of paddy cultivation.

The Panchayats in these villages have been chiefly concerned with the construction of schools, roads and bridges, for which voluntary labour was provided by the villagers.

There are primary schools in all the villages, but attendance is inadequate in relation to the number of school-going children. Midday meals are provided in most of these schools. Three of the Panchayat groups also have High Schools in their area. Though, adult literacy classes were started in all the six groups, these had to be discontinued because of lack of interest. Still, the total number of literates has increased considerably in all the villages since 1951.

The one sphere in which facilities are lacking is in the matter of health. None of the villages has a hospital or a dispensary. Usually a doctor from a nearby hospital visits the area once a week or on request. There are no trained mid-wives in the area, and maternity cases are usually handled by local dais.

The overall prosperity of the people in these groups of villages can be seen from the number of new houses that have been built since 1951. Also, more houses now have tiled roofs than ever before. Over the years, the population has increased consi-

dearably, which is perhaps due to the development of the villages and their easier accessibility. New link roads and bridges have helped to open up the villages to the outside world. New schools have come up and the cultivation of waste lands have contributed to the prosperity of the villages which are now attracting more people.

STUDENTS ASSIST DOCTORS

The Planning Forum of the Government Arts College, Tiruvannamalai, enjoys the distinction of embarking upon an unusual piece of work when it launched a TAV (Triple Antigen Vaccine) campaign against diphtheria, whooping cough and tetanus to children between the ages of 6 months and 3 years in the entire municipal area of Tiruvannamalai.

To facilitate its work the municipal area was divided into 18 divisions, each under a doctor, who was assisted by a group of students. The campaign covered 2,923 children belonging to the selected age group, of whom only 1,000 children were actually vaccinated.

UNDER-EMPLOYED VILLAGE

A socio-economic survey made by the students of the Government Training College, Vellore, of the village Kangayanallore in Madras shows that more than half of the population of the village is unemployed.

The village, situated on the banks of the river Palar, has a population of 1772 comprising farmers, weavers, artisans and other professionalists. Out of the 51 per cent of the total population which falls in the working age-group in this village, however only 45 per cent are fully employed and quite a few are distressed for lack of gainful employment.

Paradoxically enough, for agricultural operations, requiring casual and seasonal labour, the local landlords prefer to employ migrant workers from outside the village. The reason given for this practice is that the outside labour is more skilled, trustworthy and cheap.

INDUSTRY : from Page 8

co-operatives for undertaking construction works or for setting up repair and servicing facilities for agricultural machinery in the rural areas. It may also be necessary to make credit available for hire-purchase of machinery. There is scope in India for the adoption of an 'intermediate type technology'. A considerable amount of research has to go into this adaptation. A programme such as the one that has been moderately successful during the last ten years in the spheres of handlooms and powerlooms needs to be devised in selected industries. The economic advantage of superior techniques may be so large that without some measure of initial protection systematic development of small-scale industry may not be possible.

The problem of dispersal has to be tackled at three levels. The first is the level of the traditional village industry. In this case there

is a two-fold problem of (a) immediate sheltering so as to avoid additions to technological unemployment and (b) that of programming for continuous technological improvement so that the wage income of operators in the industry reaches average levels at an early date. The second area is that of small-scale industry which is not the out-growth of traditional village industry but which is established either in consumer goods with wide-spread demand or in the processing of local agricultural material or in providing intermediate goods or small-scale instruments and implements in general demand. The third area is that of small-scale industry which is ancillary to or subsidiary to individual units in large-scale industry. Whatever the area, it has to be emphasised that unless effort is made in a variety of directions to (a) establish such small-scale dispersed industry as viable and (b) to protect it and to ensure its progressive technological progress, the objective cannot be attained.

IRRIGATION



Efficient Water Management

It will be necessary to pay special attention to the speedy completion of projects already under construction and bringing about full utilisation of those completed. In this connection, attention has already been drawn to the need for proper water management. It would be desirable that new schemes to be taken up are studied against the background of a perspective plan of long-term development of water resources within particular States and particular river valleys. Special attention should be paid to the development and integrated use of underground water resources. All new schemes should be fully

investigated and detailed project reports with firm estimates of costs and benefits should be prepared before they are included in the Plan. The preparatory work would include plans for development of the area for speeding up utilisation after water becomes available and study of effects of the project on such aspects as drainage and water logging. Experience has shown that lack of adequate preparation leads to increases in cost and to delay in construction and utilisation. Advance studies of long gestation projects and projects which may be taken up in the Fifth Plan period should be initiated early. Special attention will have to be paid to needs of areas where the percentage of irrigated land is much below the average.

POWER

THE power plan would be based on the integrated operation of power systems in each of the five regions in the country. For this, it would be necessary to complete the inter-State lines already under construction and also take up and complete construction of new lines necessary for the regional operation. Larger investments on transmission and distribution will be required for fuller utilisation of potential already created and for new capacities being added. With the introduction of the integrated operation of regional systems, assessment of power requirements would be made on the basis of the requirement of the region as a whole and selection of new generation schemes would be made to serve the requirements indicated by load characteristics of a particular region.

One of the objectives for the Fourth Plan would be to inter-link the various regional systems with a view to formation of an all-India grid within the Plan period. In view of the appreciable economies involved in regional integrated operation and also operation on an all-India grid basis and with a view to promote speedy and co-ordinated growth of regional grids as also an all-India grid the construction of inter-State lines and inter-regional lines may have to be undertaken by the Centre.

It would be necessary to have an authority for operating each Regional Grid System. Regional Electricity Boards, which are at present only advisory bodies, could be entrusted with the co-ordination of inter-State transmission and distribution of electricity.

Keeping in view the benefits accruing from rural electrification programmes and in particular from the energisation of irrigation pump sets, investments on rural electrification should be fully co-ordinated with these programmes and expanded adequately.

TRANSPORT

Completion of National Highways

THE transport sector has accounted for about one-fifth of the total investment in the economy during the first three five-year plans. Past experience has highlighted its crucial role in economic development. Individual investments in transport has long gestation periods and are often lumpy. However, any marked shortages in transport, even in the short run, lead to serious impediments in the smooth functioning of the economy. Therefore, it is necessary that transport requirements are assessed in detail in advance and suitable measures for development of transport capacities are taken sufficiently ahead of requirements. Planning for transport investments should take into account requirements of not only the Fourth Plan period but also of the longer perspective.

The transport network comprises railways, road transport, shipping, inland water transport and air transport. In order to ensure that the transport requirements of the economy are met at minimum overall economic cost, it is necessary to aim at a co-ordinated development of the various modes taking into account the future growth of traffic. It is also necessary to co-ordinate the working of various transport agencies. The recommendations of the Committee on Transport Policy and Co-ordination provide a suitable framework for this purpose.

The expansion of the port and shipping programmes, especially in order to facilitate the export drive, needs early attention. The absence of proper loading and other facili-



ties at ports has hampered the export of iron ore and other commodities and the delays in turnover of ships at ports have resulted in discriminatory freight rates. More Indian ships are also needed to meet the expanding trade requirements. The indigenous production of ship ancillaries and crafts should be given priority.

EDUCATION

Linking Education with Man-power Demands



IMMEDIATE attention must be paid to implementation of the directives in the Constitution regarding primary education. The implementation will require provision of special facilities to backward areas and backward sections of the community and for the education of girls. The extent of wastage and stagnation in primary education is at present proving very costly. It would be necessary to devise measures to reduce this substantially. In the field of adult literacy, it is proposed to emphasise the functional approach.

Since education is the main instrument of social change, opportunities for secondary and higher education must become increasingly available to all classes. At the same time, restraint of resources—financial and personnel—emphasises the need to economise in and to

The completion of the National Highway System warrants attention. There are still some bridges which remain to be constructed. States will have to build up their road system to open up backward areas and to integrate the economic life of various regions with each other. Commercialisation of agriculture, which is a condition precedent to intensification of productive effort, cannot become universal without an adequate system of rural roads.

It is necessary to take note of rapid technological changes which are taking place in civil aviation and plan ahead for aircraft with larger carrying capacity and improvement of air ports and connected services.

rationalise the process of institutional spread and to make strenuous efforts at maintaining minimum standards of quality.

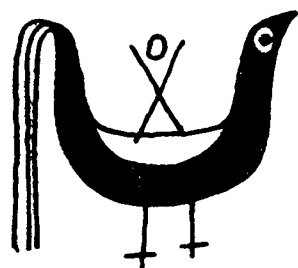
Considerations arising out of man-power planning have special relevance to the field of technical, vocational and professional education. The institutional and other facilities brought into existence to provide this education must be linked to estimates of future demand for trained man-power. This is because the educational effort in this field is relatively costly, and excessive supply wastes national resources and because over-supply of highly qualified technicians leads to special difficulties in the case of unemployment. The estimate of future demand can only be made on the basis of a commitment to a certain pattern of long-term development. Further, industry, business and commerce need also to be closely associated with this sphere of educational effort.

Enlargement of research activity is essential. All such activity should be co-ordinated fully between the institutions and universities specially with post-graduate work and that in its applied aspects it is closely linked with the appropriate sectors of economic activity.

The relatively early stage at which a large majority of students in India find it necessary to leave educational institutions and the requirements of a changing technology indicate the importance of providing facilities of part-time education, correspondence courses and other training programmes. These should be so designed as to facilitate lateral and vertical mobility of members of the working force.

Because of our poverty it is not possible for the State to maintain free a system of widespread and varied educational services. While it is necessary to provide special facilities for the poor it is not financially desirable to afford free facilities to those who can afford to pay for education of their children. Therefore, a system in which an appropriate charge for educational service is made, combined with a scheme of scholarships, freeships and loans appears the most appropriate. It is also desirable to encourage voluntary contributions for educational activity, especially in relation to non-recurrent and capital expenditure, from the community and individuals.

While programmes for the expansion of facilities at different stages will have to continue, it is essential to lay greater emphasis on programmes of qualitative improvement. Among these, special attention will have to be given to the improvement of the skills and status of teachers, indigenous book production and promotion of student welfare.



HEALTH

Improved Primary Health Centres

In the health sector priority should be given to the establishment and strengthening of the primary health centres to serve as the main agency for medical and public health programmes in rural areas. Communicable disease control programmes, especially in the maintenance stage, should also be carried out through the primary health centres. In areas of endemic cholera and filariasis and acute scarcity, water supply and drainage schemes will require special attention.

While the main responsibility for sustaining the existing health schemes and extending them where necessary will rest on the States and local agencies, such as panchayats and municipal bodies, they have to be strengthened and supplemented by mobilising community resources except in areas which are very backward and poor. Some of the suggestions, which could be considered, are a small fee on persons attending the out-patient department of hospitals and dispensaries and a charge per diem for stay of the patients in the hospitals. Indigent persons would, of course, be excluded from these charges. Apart from Government health insurance schemes, health insurance may be introduced for special groups in industry and co-operatives. Another suggestion for augmenting financial resources is by a health cess.

Family Planning

The family planning programme has been given the highest priority and has already been accepted as a centrally sponsored

programme for a period of ten years. Whatever can be usefully spent on the programme may be provided and it may be ensured that performance is commensurate with the expenditure incurred. The approach should be to achieve ensuring results through building up appropriate motivation. The programme needs to be backed by adequate research.

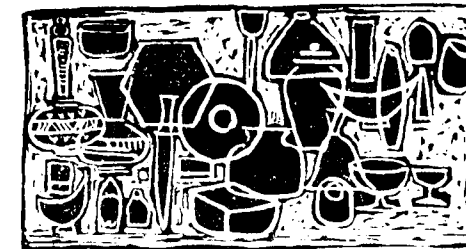
Urban Development

The high rate of growth of population of our cities and towns has resulted in growth of slums and fall in the standards of civic amenities. It is necessary to take up urgently programmes of urban development including urban low income housing and slum clearance and improvement, transport, water supply and drainage to ensure that urban standards can be maintained. In making such efforts at urban planning the problems of the entire area have to be taken into account and regional development ensured.

It has been recognised by the Constitution that a number of categories in our society, such as Scheduled Castes and Scheduled Tribes, must be specially looked after by the State. Attempts have been made in the past to deal with the problems of these categories, particularly those indicated in the Constitution, through specific programmes designed for benefiting them. The basic assumption in the formulation of these programmes and in allocation of finance for them was that these categories would receive a minimum level of assistance from the general programmes of economic development and social services. However, it has been the experience that whether these categories inhabit a special area, such as tribal blocks, or are integrated with the rest of the population, they obtain relatively little assistance from the general programmes. In consequence the special programmes which are formulated as additive to general development effort prove infructuous. Intense effort will have to be made in the Fourth Plan to devise measures which would enable these classes to share benefits arising from economic growth and social improvement.

MIXED ECONOMY

Diffusion of Economic Power and Monopoly



The term 'mixed economy' connotes the coexistence of a number of different forms of economic activity each with its own objectives, motivations and methods of operation.

Among the constituents of the mixed economy the operations of public sector units are under direct control of government. Therefore, with proper organisation and administration, it should be possible to ensure that they work according to the Plan. The co-operative sector is also, though not equally, amenable to official direction. In relation to the private sector, however, some measures of restraint and inducement are usually needed to see that its activities conform to Plan expectations. These measures could be divided into those relating to (1) prices and allocation, (2) investment outlays and patterns, (3) entry and location, (4) monopoly and concentration and (5) operation of individual units.

The use of buffer stocks to stabilise prices of agricultural commodities and to ensure an even flow of physical supplies has already been accepted. Recent years have also convinced most State Governments of the need for the maintenance of a fair price shop system, well distributed over the States for distributing supplies and restraining rise in prices of essential goods. Efforts have to be made to see that in the Fourth Five Year Plan the place of the fair price shop system is taken to the greatest extent possible by co-operative consumer stores or shops of multi-purpose societies, especially in rural areas. The dependence of the fair price shop system on State initiative and action has made for large fluctuations in its extension and operation from year to year. The system is apt to be dismantled as soon as adverse conditions disappear. This is wasteful and, therefore, deliberate attempts must be made to establish viable co-operative shops at all points at which the existence of fair price shops in the past has been thought desirable. Moreover, the business of such co-operative shops should deliberately cover, in the first instance, consumer goods of mass consumption.

In conditions of general shortage of foreign exchange, the pricing and distribution of materials which are imported on the basis of quotas and licences have given rise to complaints of undue advantage and misuse of privilege. Perhaps, a better way of ensuring fair distribution and preventing unnecessary imports would be to import through public agencies, such as State Trading Corporation, Minerals and Metals Trading Corporation and Food Corporation of India.

State trading would also prove useful where export of goods is undertaken in which there is a sharp differentiation in internal and external prices. The differentiation may be either way. The Commodity Export Boards in all countries enable uniform average price to be paid to the internal producer and create a reserve of foreign exchange when international prices are high and which can be drawn upon when international prices are especially low. Where the international prices are lower than the internal prices and the State yet decides to export in order to obtain some foreign exchange resources this again is best undertaken by a public agency. When a public agency enters into import and export trade on a large scale and establishes wide contacts it should undertake extensive promotional activity in relation to new, promising lines of exports. At the same time, it may be desirable to review recent performance of public agencies in this field and to suggest means for improving their efficiency.

Outside the fields indicated above, it would be desirable to reduce price and allocations controls to the minimum. Also where undertaken it would be desirable to define their purpose and mode of operation in specific terms.

The present system of controlling investment, entry and allocation through licensing, capital issues control and quantitative import restrictions has not functioned as satisfactorily as was envisaged. The operation of controls should be gone into in considerable detail and case studies undertaken. The Ministry of Industrial Development has set up a Committee on Industrial Licensing. The present situation can be altered in the direction of a more thorough and integrated regulatory system. However, in the existing situation this is not likely to prove acceptable or workable. An alternative is that of allowing free entry and operation and aiming at increasing efficiency and cost-consciousness through increased competition. In view of the continuing scarcity of some resources and the need to ensure investment and production effort in particular directions, a compromise solution may be attempted through a selective process of delicensing. The broad features of a possible compromise are indicated below.

(i) All basic and strategic industries involving significant investments and foreign exchange should be carefully planned and subjected to industrial licensing. It is necessary to ensure effective performance and to keep a close watch on

the development of these industries. Hence once the licence is granted, credit, foreign exchange, scarce raw-materials, etc., should be earmarked for them and made available on time. This should be done for units both in the public and the private sector.

(ii) Industries requiring only marginal assistance by way of foreign exchange for capital equipment may be exempted from the need to secure industrial licences. For this purpose, the foreign exchange ceiling may be stipulated at say 10 per cent of the total value of the capital equipment. The release of foreign exchange would continue to be regulated and the import of capital goods screened by the Capital Goods Committee. However, in industries in which though the foreign capital equipment component is low, the maintenance import component is high, it may be necessary to continue licensing.

(iii) Industries which do not call for foreign exchange for import of capital equipment or raw materials should be exempted from the requirements of industrial licensing. In these industries, there should be freedom for private enterprise to operate in accordance with the market requirements. However, in order to protect traditional and small-scale industries from undue competition within the greater freedom envisaged to the private sector, the existing reservations, suitably modified from time to time in accordance with the requirements, should continue.

(iv) It may also be explored to what extent maintenance imports, especially components, parts or materials required by specific industries for a narrow range of uses could be freed from import control and subjected only to an appropriate customs duty. It may even be possible in this context to revive the practice of discriminating protection and to levy a protective duty above the general customs level after enquiry and for a specific period.

(v) Concentration of economic activity in particular locations is presenting an increasingly difficult problem. The socio-economic costs of servicing industrial centres above a given size are particularly heavy. Active steps will have to be taken to plan the future of metropolitan regions in the country.

Wide dispersal of industrial location can be brought about chiefly through positive and negative measures, such as fiscal concessions, the building of industrial estates and areas and the facilities

afforded by them and through disincentives such as higher power and water tariffs and cesses.

The problem of concentration of economic power and of the monopolistic position held by some units in the private sector is another aspect that needs attention. To the extent that entry is made free, competition increases, concentration and monopoly may decrease. However, even so possibilities such as of collusion and merger will continue to be present. In this regard legislation is before Parliament which contemplates control of undue concentration and of restrictive trade practices. It is assumed that the proposed Monopoly Commission will be functioning during the period of the Fourth Plan. However, certain other measures may be suggested for curbing an undue concentration. Among these are the following:

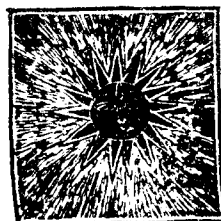
It may be necessary to lay down the principle that new industrial licence would be given to an industrial house in the light of proved performance in relation to earlier licences. A further step that might be taken is to orient the credit policies of

the financial institutions so as to prevent an undue proportion of the available financial resources being directed to large industrial houses. It may be desirable to stipulate that in the case of large industrial houses, their own contribution in a project should be proportionately higher compared to medium-scale or new entrepreneurs and funds should not be made available to them for non-priority industries.

The newly set up National Credit Council will be an important agency for directing and regulating the supply of credit in the economy. The main purposes which the Council may be expected to serve in this context are (i) to ensure flow of credit in accordance with plan expectation for particular purposes, types of establishments and locations and (ii) to narrow progressively, through a variety of measures, the existing gap regarding the availability and the terms and conditions of credit as between the richer and well-entrenched categories and the progressive areas on the one hand and the backward areas and locations and the poorer and weaker sections of producers and consumers on the other.

As regards operations of individual companies, powers under the Regulation of Industries Act enable Government to take over management of industrial establishments in certain circumstances in the capacity of trustee. This does not appear to be adequate. Where Government takes over the management of such an establishment, it should assume wholly or in part the ownership thereof, as is contemplated in the proposed Textile Corporation. Similarly, where public financial establishments including the Life Insurance Corporation have substantial shareholding in a company, they may preferably exercise their full rights including the appointment of representatives to the Board of Directors. If public financial institutions have full knowledge of the operations of the larger corporations and are in a position to influence important decisions, this should prove an important factor in assuring the harmonious operation of our mixed economy.

The abolition of the Managing Agency system is currently under consideration. Care has to be taken that the abolition is effective and does not mean merely a change of names.



DEVELOPMENT AND DISTRIBUTION

Reaching Benefits to Weaker Sections

To spread development effort more evenly and to ensure that its benefits accrue, at least in some measure, to the weaker and poorer sections of the community is an important objective of planning. In a rich country this can be achieved in part by transfers of income through fiscal, pricing and other policies. No significant results can be achieved through such measures in a poor country. With us, therefore, the only effective course of action is to see that development takes place everywhere. In a mixed economy the pace of development is a function, in part, of action in all three sectors, State, private and co-operative. However, before the development process can be initiated effectively certain preconditions must be satisfied. In particular, the necessary facilities, utilities and services must be provided everywhere.

The existing imbalance in regional development is reflected in the maldistribution of facilities and services required for development. This is evident not only as between State and State but also as between Metropolitan and other areas within a State and other parts of the State. The obvious first step in correcting regional and area imbalances is to provide the appropriate infrastructure needed for development. This has to be accompanied by programmes of development of agriculture and industry which will be generally

based on conservation and development of natural resources in the area. If planned development effort includes all aspects instead of only some (e.g. animal husbandry as well as agriculture, dry agriculture as well as irrigated agriculture, traditional village industry as well as small-scale and large-scale modern industry), appropriate programmes of development could be planned to suit each area and another source of imbalance eliminated. A programme of developing infrastructure and resources of all areas and of accelerating diversified economic activity will initially come up against the problem of financial resources. The backward regions and States suffer from relative paucity of financial resources. This handicap could be corrected in some measure through special programmes and allocation of funds. Such action is, however, limited by the overall constraint of resources.

More Employment

The provision of larger employment opportunities is one of the main objectives of a plan of development. At the same time, the pattern of employment has to be such as to promote further development. In the agricultural sphere, the emphasis on non-irrigated agriculture, on the small holder, on the fuller utilisation of labour as a resource, would help to spread the benefits of development and provide opportunities for gainful employment. In the industrial sphere, apart

from the development of the infrastructure, the emphasis on the dispersal of industries and the encouragement to the small-scale sector will have a similar effect. If ways can be found to canalise the increased incomes of these categories in savings or insurance, this would give them greater security.

Another step is the extension of public services which raise the standard of living of the mass of the people. The two most important directions in which this has happened significantly during the last 15 years have been the spread of educational and public health facilities. Education is the most effective means for progress. An appropriate spread of educational opportunities is an extremely important instrument of social policy. It is noteworthy that backwardness in economic organisation and co-operative effort usually goes hand in hand with backwardness in education. Similarly, a wider dispersal of health services contributes to improvement of the standard of living and raises the productive capacity of the population. Improvement in nutritional standards is also desirable. Under-nutrition and mal-nutrition exist widely in the country. Beginning has to be made with a planned programme in maternity and child welfare centres to cover the most vulnerable sections of the population.

It is possible to incur expenditure on specialised programmes, such as school

meals, nutritional programmes in favour of definite areas or categories of people and programmes for the welfare of children. If these are properly articulated, they may benefit specially the handicapped classes and categories. Subsidies have been given in the past through the lowering of foodgrain prices. It is obvious that we cannot afford general subsidies at any significant level and further that subsidisation, which is necessarily non-discriminatory, achieves social purposes at too great a cost.

Prevention of the growth of disparities and possibilities of restraining incomes and standards of consumption of the affluent sections of society have also to be considered. One of the largest existing sources of unearned increment in income and capital is the increases in land values in developing urban centres. The mopping up of these warrants early attention.

Government controls the emoluments of some categories of high business executives. A definitive policy in regard to the exercise of this control has to be evolved, and it has to be examined how far it can be extended. It will also be desirable, in this context, to examine the present level of expenses and other perquisites allowed to companies and firms. A general suggestion would be to limit the total salary and benefit payments that any executive of a firm or corporation would be entitled to for the purposes of deductible expenses claimed by the firm in tax assessment. From the same point of view the scales of expenditures on public officials and public ceremonies also deserve re-examination.

Another important way of redressing inequalities would be to improve further the present situation of the common man in relation to public administration and public utilities. If he can be placed at the centre of attention in administration and be specially catered for in public utilities and services, a great deal of the existing feeling of grievance could be removed. Very largely this is a matter of changing traditional practices and fixed attitudes. However, in good part it can be a matter of needed economic adjustment.

RAJKOT SAVES Rs 60 LAKH

The Rajkot district of Gujarat has exceeded its target of Rs. 60 lakh by collecting Rs. 63,10,022 in small savings during 1967-68. As a result of an intensive rural savings drive since January 1968, a record number of 20,000 Post Office Savings Bank Accounts and 2,100 C.T.D. Accounts were opened in the district, perhaps the highest in the whole of Gujarat.

The Kutch district has exceeded the allotted target of Rs. 42 lakh by collecting Rs. 46,59,130. It has secured investments mostly in long term deposits.

COMBATING FOOD WASTE

A bumper harvest this year has created a 'problem'. This may sound odd in the context of our constant effort to increase food production; but it is true. The 'problem', to be sure, is not one of increased production, but it is created by the shortage of storing facilities and the need to prevent losses, which amount to almost three times the national budget. It has been estimated that we lose each year almost three million tons of rice alone to insects, rats and micro-organisms.

To stop this vast wastage each year, a five-year United Nations Development Programme project, valued at about one and a half million dollars, was launched in January 1968. The project will be supervised by Mr. Gus Huysmans, a storage specialist from Holland.

A grain storage institute is being set up at Hapur in U.P., with field stations at Ludhiana and in the Vijayawada area, to collect and assess research results from various institutions and universities and to evaluate stored grain losses. Farmers and commercial storage firms will be taught better techniques of pest control and storage.

Storage units will be built for farms and villages to be used by individual farmers or by large farmers' co-operatives. The units will be made by local manufacturers from local materials, thus achieving the twin effect of conserving food and stimulating local industry.

F.A.O. Feature

In the wake of the Sitar rage in the west, India has started earning foreign exchange by exporting sitar and other musical instruments. India earned Rs. 5,44,517 in the first ten months of 1967-68 by exporting musical instruments against Rs. 28,141 in 1965-66 and Rs. 78,210 in 1966-67.

2701 Teleprinters in a Year

The Hindustan Teleprinters factory produced 2,701 teleprinters in 1967 as against the target of 2,100. The production will be increased to 8,500 machines a year by the end of the Fourth Plan.

At present the factory is engaged in assembling nine models of teleprinter machines, the major ones being the Page Model, Moving Basket Type (T2 BSN) and the Tape Model (T2 BZN). About 97 to 98 per cent of the parts of these models had been successfully produced by the HTL during 1967, as compared to 90 per cent in the previous year. For all the nine models taken together, 89 per cent of the parts were being manufactured indigenously as compared to 75 per cent last year.

BHADRAVATI SPECIAL STEEL

The Mysore Iron and Steel Limited (MISL) of Bhadravati, touched a new high in sales, amounting to Rs. 13.04 crore during 1967-68. The sales broke the last year's record of Rs. 11.43 crore.

An important feature of the sales was the exports of iron, steel and ferro-silicon valued at Rs. 1 crore. MISL also produced 6,800 tonnes of special steel for the forging industry.

Under a credit agreement with the West German Government, the steel plant is at present being converted into a full-fledged alloy steel plant. Ultimately, it would produce 77,000 tonnes of alloy and special steels annually.

ELECTRIC SHEET MILL AT ROURKELA

The electric sheet mill supplied and erected by DEMAG of West Germany has been put on trial run at the Rourkela Steel Plant. The mill has an industrial capacity of 50,000 tonnes of silicon steel sheets, required for the manufacture of transformers and dynamos.

With the production of 103,000 tonnes of pig steel during March 1968, the Rourkela Steel Plant has registered an upward trend in production in almost all the units.

safe landings for supersonic aircraft... on Dunlop jet tyres

As an IAF supersonic fighter touches down, Dunlop jet tyres, made in India, take the shock of landing and help the pilot to stop within the limits of safety.

Ever since the first aeroplane to come to India landed on Dunlop tyres, India's airmen and Dunlop have flown together to reach new heights. Dunlop was the first to manufacture aero tyres in India. In 1953, Dunlop successfully met a new challenge: making tyres for jets. And today, IAF aircraft, including the famous Gnats and Hunters and the new supersonic fighters like HF 24 are equipped with Dunlop jet tyres. Civil aviation, too, has been developing fast and Dunlop manufactures tyres for almost every kind of aircraft flying in the Indian skies.



DUNLOP INDIA —keeping pace with India's Aviation

DPRC-21

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QUOTATION BOX

As he did not launch the anisus. (Forum of National consensus), when he was a Union Minister, Mr. Gulzarilal Nanda said, powers were inadequate while he was in office.

—A news report

A few years ago, wherever I went India, I used to be asked about Rajaji as a writer; now the interest is shifted to C.N. Annadurai as a writer.

—Mr Ka Naa Subramanyam

The Central police has circulated police stations in Delhi a list of nearly 200 persons described as professional witnesses. Some of these persons have appeared in courts more than a dozen times either on behalf of the police or the accused.

—The Hindustan Times

Mr. Morarji Desai has played good cricket in his budget with a straight and artful bowling. The Finance Minister has bowled steel furniture with an off-break, confectonary with a leg-break, liquor with a googly, postal rates with a straight one, and chocolates with a faster ball. Only one ball is left to complete the over which he will bowl in a supplementary budget.

—Mr. R.T. Parthasarthy in the Rajya Sabha

I am a strange kind of bird. I am no pigeon. I am a hawkish dove.

—Bob Hope receiving the Sylvanus Thayer award

To say that PL 480 imports should be done away with by 1971 or 1972 will not disturb the sleep of Mr. Jagjivan Ram or any of the Chief Ministers.

—Mr. Sham Lal in the "Times of India"

Many four-seater rickshaws (in some cities) carried six passengers each in some, and seven or eight after some. There was no concession in the fare. Nor were the drivers charged for violating the rules.

—Report in the "Statesman"

It will never rain jobs for the unemployed. If we want to have plenty of jobs we must plant plenty of industries and water them, as George Eliot wrote about roses.

—C.R. in "Swarajya"

I like that phrase Padma Shri. I am excited by it. It is beautiful.

—Miss Yamini Krishnamurthi in the "Statesman"

Riots and looting are the homage that a sick society pays to the memory of its martyrs.

—Mr Henry C. Wallich in "Newsweek"

The three-monkey model of avoiding evil in every shape and form is excellent only when it is universally followed.

—Mr R. Bhaskaran in "Swarajya"

President Johnson told a gathering that he once failed in an examination in which he was asked, "What does the U.S. Constitution say about education?"

"I wrote about six or seven pages", Mr. Johnson recalled, "When I got the paper back, it was marked with a big 'F' and a note from the teacher saying 'The Constitution says nothing about education.'"

—A news report

The disaster of the man of colour lies in the fact that he was enslaved. The disaster and the inhumanity of the white man lie in the fact that somewhere he has killed man. And even today they subsist, to organise this dehumanisation rationally...

—Mr Ronald Segal in the "Statesman"

LOOKING BACK

YOJANA June 1, 1958

It is time the workers, employers and the Government got down to doing more than passing resolutions. We have known for many years that the main cause of labour unrest is the large number of unions which vie for workers' loyalties and frequently foment strikes for no better reason than to remain in the picture. Most of these are creatures of political parties for whom the conditions of their members are only of secondary importance. It is for the workers to shake themselves free of political parasites and build a healthy and strong trade union movement—and get down to doing it at once.

The other day, I saw a picture of blind boys playing cricket. I would never have thought it possible. In England, in the 'Sunny Homes' meant for the blind the boys are encouraged in all types of games. Rowing, swimming, and cycling they do not feel the bitter consciousness of blindness. It will be a long time before we are able to provide exclusive schools for the blind so that every blind can be assured of special attention education and training. But youth everywhere is the same and just blindness should not be allowed to kill the joy of living.



ATOMS FOR FARMING

A nuclear research laboratory is being set up at the Indian Agricultural Research Institute, New Delhi for harnessing nuclear power to improve agriculture and animal husbandry.

The laboratory expected to start functioning from July 1 this year, is being set up with the help of the United Nations Development Programme (Special Fund).

The 3.5-million dollar project will not only provide facilities for application of nuclear energy to bring about qualitative and quantitative improvement in agricultural and animal products but will also organise training programmes in these fields for scientists from agricultural universities and allied institutions of all the developing countries of the world. It will standardise techniques for increasing crop production in unirrigated areas as well.

The laboratory will promote research on plant nutrition, fertiliser use, soil structure, root growth, water movement and conservation, pest control and development of high-yielding-cum-high-quality varieties through mutation breeding. It will also expand and intensify the existing research activities of the Indian Agricultural Research Institute, and provide additional facilities at the Bhabha Atomic Research Centre, Bombay, and basic facilities at the Indian Veterinary Research Institute, Izzatnagar, and the National Dairy Research Institute, Karnal; thus acting as a focus of co-operative activity among them.

It will also organise post-graduate training course and short-term courses at the Institute, on the use of atomic energy in agriculture.