

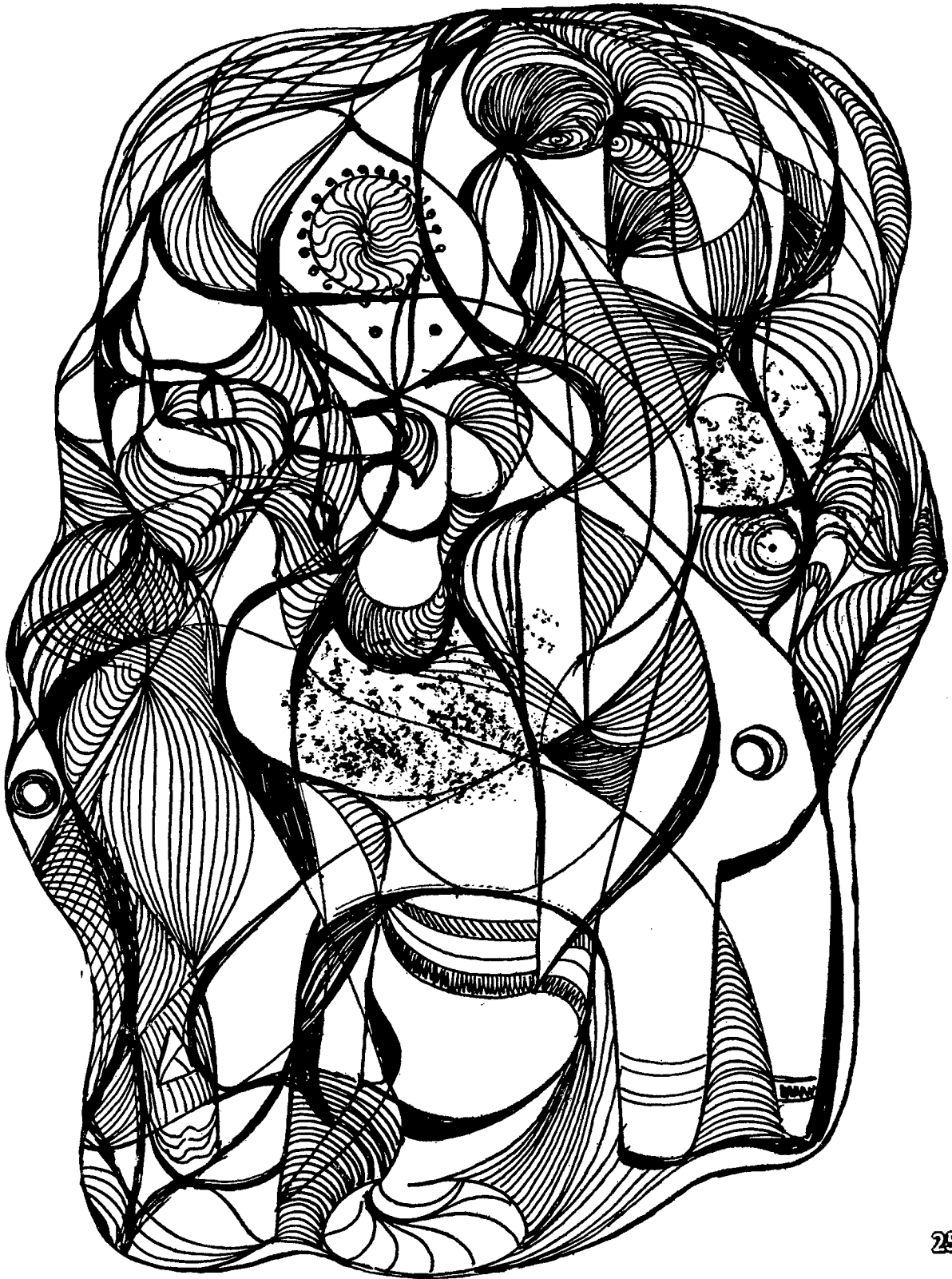
NO-14

YOJANA

TWELFTH YEAR

14

JULY 21, 1968



25 PAISE

Strides state trading

During the twelve years of its existence the State Trading Corporation has diversified India's export potentialities by extending markets and exploring new ones. It has also helped to channelise imports of essential and bulk commodities.

From a modest beginning of Rs. 9.2 crore in 1956-57, the Corporation's direct trade turnover shot up to Rs. 101.5 crore, in 1966-67. This includes an increase of Rs 58.5 crore over the previous year.

The total volume of direct trade—external and internal—during the 12-year period would amount to Rs. 770 crore.

Exports by the Corporation were valued at Rs. 8.9 crore in 1963-64. They rose to Rs. 13.1 crore in 1965-66, an increase of 47 per cent in two years. In 1966-67, the exports were valued at Rs. 31 crore, far exceeding the original export target of Rs. 19 crore.

STC's export programme for 1968-69 envisages a further increase by about Rs. 20-25 crore over the 1967-68 figure. This year the exports would amount to Rs. 55-60 crore.

STC has concluded a preliminary contract for the supply of 500 covered railway wagons, costing Rs. 12 crore, to Poland.

STC has already in hand contracts for the export of railway rolling stock to several countries. An initial supply of 500 flat four-wheeler wagons valued at Rs. 2.5 crore to Hungary is nearing completion.

The U.S.S.R., Burma and Thailand are also buyers of Indian wagons and passenger coaches. STC has recently won a global tender for the supply of 1,050 railway wagons valued at Rs. 7.8 crore to Korean National Railways. A protocol has been signed with the U.S.S.R. for the supply of 2,000 wagons by 1969-70.

STC has boosted leather footwear industry by raising exports and creating markets in foreign countries. Starting with a small export of Rs. 70 lakh in 1956-57, it has stepped up the figure to Rs. 3.4 crore in 1967-68. Indian shoes are now worn in Russia, Bulgaria, Poland, the United States and Hungary.

New markets have been found for woollen knitwear and ready-made garments in the U.S.S.R. Hungary, Czechoslovakia and some other East European countries. In 1962-63, STC exported such items worth Rs. 1.2 crore. In 1967-68, the exports were worth Rs. 3.8 crore.

STC has collaborated with private trade and industry to set up joint sales teams and has procured business to the tune of Rs. 6.2 crore. These joint arrangements have set a pattern for other sectors of the Indian economy which are in need of institutional assistance. In the last four months, STC has finalised contracts for about 58,000 tonnes of cement valued at Rs. 64 lakh for export to Ceylon.

STC also seeks to promote exports by investment or participation in the capital of the export-oriented corporations. It is the largest share-holder in the Indian Motion Pictures Export Corporation.

Import of newsprint is another significant example. STC has brought down the prices of standard newsprint from the average of 200 U.S. dollars per tonne in 1960-61 to 145 dollars.

STC has been helping in stabilising domestic prices of sensitive commodities like sulphur and rock phosphate. It has made arrangements with some producers in Canada and the U.S.A. whereby sulphur would be imported at internationally competitive prices. It has also diversified imports of these commodities which will help an assured supply for industrial and fertiliser production.

V.M. SOORMA

YOJANA

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LEST WE FORGET

"Planning by itself has little meaning and need not necessarily lead to good results. Everything depends on the objectives of the plan and on the controlling authority, as well as, of course, the government behind it."

Jawaharlal Nehru

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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A PEOPLE'S PLAN

THE process of economic planning within the framework of democracy inevitably postulates the involvement of the people to a much greater extent than would be the case if it was imposed from above. This is obviously necessary because the successful working of any such plan would largely depend, not only on its willing acceptance by the people, but on their understanding of it. As far as India is concerned, the people's role in the formulation of the plans for economic development so far executed have been only indirect. That is, through their elected representatives in Parliament and in the State Legislatures. The National Development Council, which is the highest policy making body as far as planning is concerned, also, in a way, reflects the views of the people through the Chief Ministers of States. The planners have also been influenced in their task by the views publicly expressed by economists, industrialists and others.

A major departure has been made by the Planning Commission in the preparation of the Fourth Five Year Plan, which is now on the anvil. With the publication of the "Approach" document last May, the matter has been thrown open to public debate more directly than ever before. And, what is more important, this has been done even before the Plan has reached the drafting stage. The Planning Commission has also taken the unprecedented step of inviting the political parties and heads of Universities and institutions of higher education to express their views on the "Approach" document. In a personal letter to leaders of political parties, the Deputy Chairman of the Planning Commission has invited them to have informal discussions with the Commission on the Fourth Plan. The discussions, he points out, "should assist in the emergence of broad agreement" and "prove useful in securing co-operation in its implementation." Prof. Gadgil has also expressed the hope that academicians and student members of College Planning Forums would study and discuss the problems relating to the preparation of the Plan. This exercise, which is a massive effort towards assessing public opinion, is intended to ensure that the Fourth Plan becomes, in every sense of the word, an instrument forged by the people for the economic betterment of the nation. This gesture has lifted planning out of exclusiveness, into a truly national effort.

The *Yojana*, too, is playing a role in throwing open the "Approach" document to a national debate. Many of our readers from all parts of the country have sent us their views on a matter of vital importance to the country's future. The comments on the "Approach" document are not always favourable, nor are they expected to be so. There is bound to be divergence of views on every matter, and, in this particular instance, opinions are more divided because of the serious implications of the decisions that will be ultimately taken. Neither the planners nor the people finally responsible for giving shape and substance to the Plan would have it otherwise. For, out of all the discussion and debate, argument and counter-arguments that will precede the Plan being given final shape, will emerge the blue-print for the nation's future and of ensuring the lasting happiness of our people.

The Fourth Plan, it is essential, should not only have the advantage of being formulated on the basis of a consensus, but should give every citizen the feeling that he has had a hand in shaping it. It is only then that the country can go forward, with united endeavour, towards the goals that we set for ourselves on the morrow of freedom.

Problems of Planning

D.R. GADGIL

AMONG the problems that confronted Planners in India in 1951 or 1956, when the major planning strategies were formulated, the basic problem was poverty, which made economic progress difficult. Planning was undertaken because, in conditions of dire poverty, only an intelligent, properly directed effort could enable us to make progress at all. A signal feature was the low rate of savings in the economy, which is the direct result of poverty, and the actual effort in savings in 1951 or 1956 was pretty low. Another factor was the structure of our economy. Basically we were primary producers and, being a rather old country, there was not much of virgin land or unutilised, unexploited natural resource. Therefore, the man-land ratio or the man-natural resources ratio was somewhat adverse. We also had to face the problem of a relatively underdeveloped industrial structure. Our resources had not been exploited in order to build up the kind of industrial structure on the basis of which it could grow and diversify. Then, there was the problem of employment. There was also inequality in the distribution of wealth among regions and classes.

These were the major problems when planning was thought of in 1951 and 1956. In the 1951 Plan there was hardly a strategy, but in 1956, the strategy was to increase agricultural production, not in terms of certain institutional changes, such as land reforms and co-operatives; but by emphasising such things as irrigation for increasing agricultural production.

The other strategy, if it can be described as such, was to develop basic industries. In the 1956 Plan we quite clearly said that the employment problem was not going to be solved very early, but that if all else happened, a great deal could be done to ensure future progress.

Today, we have to see to what extent the problems are still there. I should like to draw attention to one or two basic points here. One is that the increase in agricultural production, which was then thought would be sufficient, did not prove to be so. It is important to remember that in 1954-55 foodgrain imports were the lowest in a decade. Despite the increase in agricultural production, the food problem from 1956-57 to 1966-67 was the worst that we have had to face. As far as the institutional aspect is concerned, the basic land reforms for the abolition of intermediaries were fairly quickly completed. But, land reforms which affected the producer at the bottom and the position of the tenant and the share cropper, were found to be very much more difficult to implement than had been thought earlier. In this respect, I believe, very largely we are more or less still in the same position.

Excerpts from the speech delivered by the Deputy Chairman, Planning Commission, at the University College Hall, Trivandrum.

In the co-operative field, we find that in some States the programme launched in 1956-57 has paid dividends, and there has been a real change, almost a revolutionary change, in basic rural conditions for the middling and substantial farmers. But for the larger part of the country the change has been slight, in some areas, almost nothing.

As far as industry is concerned, two things have happened. One is that the initial programme in the public sector succeeded up to a point. In the private sector, especially after massive import restriction quotas were imposed, a diversified, though high cost, economy was built up. This has happened especially during the past five or six years. Thus, two definite changes have come about; a fairly high investment in the public sector with some extremely important units being established, and a fairly diversified, though a high cost structure, coming up in the private sector.

The question is, to what extent have we solved the problems mentioned earlier. Taking agriculture first, it may be said, at least after last September, that a solution is in sight. It is so, largely because of the good response that the production of cereals, rice, wheat and millets, has shown. This is due to the use of new seed varieties. It must, however, be noted that this has taken a number of years. The important thing is that, without these highly responsive seeds, all other things would have availed nothing. This is a significant commentary, in a sense, on the chance element in some development processes.

The main thing is, are we close to a solution of the problem of agricultural production? As a matter of fact, one may say that so far as this year's Plan and the Fourth Five Year Plan are concerned, we are able to put something around a frame entirely on the assumption that we are near a breakthrough. It is because of this that we are really able to look forward to something happening in the next five years. Most experts seem to be agreed that we are near a breakthrough, in the sense of being able to achieve each

year a 5 per cent increase in agricultural production for the next five years. I should like to make a reservation here. When we talk of development over a long period, anything like a 5 per cent growth in agricultural production for five years is not sufficient. Apart from the problem of agricultural productivity, there is the problem of agricultural organisation which is not being broken into yet. The middling and substantial producers will most probably go through with the new seeds, and the marginal producers may move into the middling class; but the uneconomic holders and small producers will still be left behind unless their specific organisational problems have been solved. It is, therefore, necessary to look into their problems quite seriously in the future. The breakthrough may serve as a breather, a period during which these problems can be tackled.

In industry, the diversified and broad structure that has been built up is the result of the planning effort that has brought about a change in the structure of our economy. Roughly five years ago, any major industrial project had to depend very largely on the World Bank or some donor country. Today, to a very considerable extent, we no longer need do that. Whatever the new type of industry, a considerable part of the plant and machinery components are being produced or are capable of being produced by the engineering industry in our own country. Also, we have a fair amount of consultancy and design engineering talent available. This is an extremely important step forward, and is partly a justification of the strategy that was adopted in 1956.

On the other hand, an examination of some other aspects of the problem will show that these problems have not been solved at all satisfactorily. This applies particularly to the transformation of traditional industry and the dispersal of small-scale industry. Are there any other problems which we have solved even partly? There is the problem of population. Can we say that we have even partly solved the problem? Are we at all on the way to a solution of the problem? There have been announcements made so often in the past that we are at the end of the road, or that we are about to reach our goal. This is a little doubtful. At the same time, it does appear that in some areas, with intensive effort, a fairly rapid change in the net decrease in population can come about. There are other areas where indications are that the programme can succeed. But I would be very chary of saying at this stage that, on a mass or countrywide scale, we are anywhere near a solution of the problem. Another direction in which part of our problems have been solved concerns the infrastructure. The larger infrastructure has been built-up to a considerable extent with investments during the last ten years.

When you have said all that, you still have to admit that the problems listed earlier still remain. Take the tenants problem: it is not purely a tenancy problem or a problem of tenancy rights. It is a problem of tenancy rights and economic organisation. What does one do with really small-scale organisation? The logical reply was given a number of years ago—co operative farming. But the logical reply, everybody understands now, is merely logical in the

sense that it is not feasible. Nothing really is happening in that direction. Can anything be done by way of consolidation, or bringing people together so that the land can be fully exploited? The problem is not a big problem in terms of land surface; but our failure has been more on the human side. Whatever has been done has been in those directions where a fairly small number of people engaged in agriculture, with large resources, can go ahead.

So far as the basic problems are concerned, employment or regional imbalances—we have not been able to tackle these. In fact, we have to admit that, in a sense, we have not even begun to tackle them. There has been so much emphasis, so to say, on the production aspect that so far no serious thought has been given to these problems.

The next important question is, what new problems have cropped up since 1951, or those that were not there in 1951-56? Take for example the problems of the metropolitan cities of Calcutta, Bombay and others. For cities like Calcutta or Bombay, the task of management and the need to provide the necessities of life, is an extremely difficult problem. For instance, the cost of maintaining roads in Bombay city alone is almost as much as for the whole of Maharashtra. It is the same as far as the provision of electricity, water and housing is concerned.

Then, there is the question of foreign debt. That is entirely a new problem. In 1956 we had no such problem. Today, we have a fairly large and growing problem of foreign debt. We have built up the industrial structure largely with foreign aid. It has now become so important that whatever may be the feelings of any individual regarding the desirability or otherwise of foreign aid, almost everybody realises that we must begin to reduce the extent of foreign aid. The servicing and repayment of foreign debts are problems with which we have to live, in terms of our own balance of payment, in future years. Our import and export policies have to be very considerably oriented towards the meeting of the special balance of payment difficulties that have been created.

There is the question of nationalisation. I believe that, for the time being at least, we have played out this card. We took two very important decisions—nationalisation of the Imperial Bank and Life Insurance. In retrospect, one can say these were wise decisions. But, both these decisions have exhibited the limitations of nationalisation. When it was nationalised, the State Bank opened a large number of branches so that the framework of national remittance facilities has now come into being. The State has in its hand an extremely important commercial bank, but if one examines the extent to which a nationalised bank can really serve certain needs, the limitations will become obvious. To put it differently, our experience of the public sector shows that the nationalisation card has been played out. A great deal of emphasis was naturally and rightly laid on developing the public sector. The steel and machine manufacturing units that have been built, are extremely important national assets. At the same time, it has brought home to us that this is not an easy way of making progress. If the public sector had been giving

anything like a modest return of five and six per cent on the investment there would be a strong case for extending the public sector. As things are today, this has not happened, and it is in this very peculiar context that we have to look into the future.

So far as the Approach to the Fourth Five-Year Plan is concerned, all that we have done is merely to highlight the problems. Nothing more. All that we have said in the "Approach" is that there are the problems of the small holder, the rural landless labourer and the weaker sections. It has been pointed out that, in a sense, providing more employment is the only kind of insurance that you can give to people in general. Beyond highlighting problems, we are suggesting solutions. Or rather, we are suggesting pilot or experimental efforts so that solutions can be found.

What are our prospects? As far as I can see, the prospects are good. If we can carry through with anything like a 5 per cent growth rate. I think this is not beyond our capacity. If the industrial structure is activated this is fairly easy, because the capacity is already there. If the demand is there and we can get a little more export-oriented then production should go along.

But, the basic problems that I have mentioned will remain. For tackling these a careful experimental attitude and the will to solve them are needed. These problems, I may add, are not the sort which can be

pushed under the mat. These are problems which have to be looked into. I would like to emphasise that in the matter of economic development, there is no magic at all. There are no short-cuts. It is hard work, self-discipline, a great deal of inputs and intelligence which alone can ensure the progress of the country. Quite a number of people in the world are surprised that we are where we are. That we have survived all these years is a matter of amazement to a lot of people. We have to take comfort from the fact that with all these difficulties we have achieved what we have. Nevertheless, it is necessary to remember that, neither in terms of self-discipline nor in terms of hard work or intellectual effort in depth to solve our problems, have our inputs been very remarkable. There is no national solution to our problems. It is not possible to plan for the country from Delhi alone. This was possible when we were building a few irrigation works or setting up a few steel plants and solving the problems of industrial diversification or merely experimenting with hybrid seeds. But, if one is solving local problems they must be looked at locally by local people. To plan the solutions of these problems is more difficult than planning at the top. That is why I think it is only when people everywhere participate in the process of planning in a more meaningful manner, they begin to understand the problems and bring their minds to bear on their solution that the country can go somewhere. I am confident that if there is proper response we will go somewhere.

CENTRAL ASSISTANCE TO STATES IN FOURTH PLAN

THE Committee of the National Development Council has decided that the general criteria governing the distribution of Central assistance to the States should be; (i) population, (ii) per capita income, (iii) tax effort related to per capita income, and (iv) continuing major irrigation and power schemes in the Fourth Plan. Special requirements of individual States should also be taken into account in determining the allocation of Central assistance to them.

The Committee agreed that a block grant for Assam, Jammu and Kashmir, and Nagaland should be set aside from the total quantum of Central assistance for the Fourth Plan.

The weightage for each of the general and special criteria, however, could not be decided upon,

CRITERIA EVOLVED BY N.D.C. COMMITTEE

because of differences of opinion among the State Chief Ministers.

It was also agreed that while the total ceiling for Central assistance should be adhered to for the five-year period, flexibility might be introduced in allocations for the Annual Plans of the States in the light of their requirements from year to year.

The Committee also resolved that a special meeting of the Committee should be convened to discuss the role of Central financing agencies, including banks, industrial licensing and grant-in-aid policies of the Government and location of projects since 1951, in order to devise measures for subserving the

The N.D.C. Committee met in New Delhi on July 11 and 12 under the presidentship of Dr. D. R. Gadgil, Deputy Chairman, Planning Commission. The Committee was set up by the National Development Council in May 1968, to examine issues relating to the Fourth Plan. Prof. D. R. Gadgil is the Chairman of the Committee and State Chief Ministers and Members of the Planning Commission are its members.

goal of doing away with regional imbalances and disparities in the Fourth Plan. It requested the Prime Minister, Mrs. Indira Gandhi, Chairman of the National Development Council, to authorise the Deputy Chairman of the Planning Commission, to arrange such a meeting at an early date.

This was in line with the resolution of the National Integration Council, adopted recently at Srinagar.

The Committee reviewed in general the existing patterns of

Central assistance to the States for Centrally-aided and Centrally-sponsored schemes

Prof. D.R. Gadgil, suggested to the Committee to take into account the recommendations made by the Study Teams appointed by the Administrative Reforms Commission in this regard. After discussion, the Committee agreed that the recommendations made by the A.R.C. should be accepted in principle and loans and grants to the States should be given in blocks instead of in accordance with the detailed schematic pattern, as at present.

To ensure priority to certain programmes, it was decided that Central assistance-loans and grants could be tied to some of the schemes.

With regard to the criteria for the selection of Centrally-sponsored schemes, it was suggested that they should relate to research, surveys, pilot projects or demonstrations. Such schemes should have overall significance at the all-India level or should be of a regional or inter-State character. It was also agreed that the number of such schemes should be kept to the minimum. These suggestions generally followed the recommendations of the A.R.C. Report on "Machinery for Planning".

The Committee also felt that details regarding Centrally-sponsored schemes should be examined by the officers of the Planning Commission, in consultation with officers of States and Central Ministries concerned.

BACKGROUND OF THE ISSUE

THE Planning Commission had prepared a background note for consideration by the N.D.C. Committee. A summary of the note is given below :

The practice of giving Central assistance to the States for financing development schemes had been in vogue even before the advent of Five Year Plans. On the termination of World War II, the Central and the Provincial Governments had embar-

ked on certain development projects which received Central assistance in the form of what were known as post-war development grants. Though some of these grants had stopped by 1950-51, grants for "grow more food" schemes and certain other schemes continued.

With the introduction of the Five Year Plans in 1951, a system was evolved for distribution of Central assistance to the States. Under the system, the quantum of Central assistance was fixed for the Plan period as a whole (except during the Second Plan), and State Governments were informed about their respective shares before the commencement of the Plan. For Annual Plans, Central assistance was fixed at the time of the Annual Plan discussions, keeping in view the amount available to States for the five-year period.

This agreed quantum of Central assistance was made available for the State Plans in the form of loans and grants, according to schematic patterns of assistance. These patterns varied for different schemes, as also in the successive Plans (1951-66) and the three Annual Plans (1966-69).

In addition, there were the Centrally-sponsored schemes for which Central assistance was given to the States in the form of loans and grants in varying proportions and, in many cases, with matching contributions from the States, the latter forming part of the State Plans.

During the first three Plans, stress was laid on the principles governing the determination of the Plan outlays, rather than on quantum of Central assistance. For the Fourth Plan, a few criteria were formulated in 1966 for determining the quantum of Central assistance.

With regard to the pattern of Central assistance for Centrally-aided scheme, which formed part of the State Plans, and for Centrally-sponsored schemes, attempts to rationalise them were made since the Second Plan.

In the reformulation of the Fourth Plan (1969-74), it is now proposed: (i) to review the principles governing the distribution of Cen-

tral assistance for the States' Fourth Plans, as envisaged in 1966, (ii) to rationalise further the patterns of Central assistance for Centrally-aided schemes, and (iii) to evolve an agreed list of Centrally-sponsored schemes in consultation with the Union Ministers and the State Chief Ministers.

Assistance in 1951-1969

In the First Plan, the Central assistance to States, as originally suggested, was Rs. 193 crore, but the actual amount distributed added up to Rs 332 crore. In addition, a sum of Rs 548 crore was distributed to the States for schemes included in the Central sector which should have been part of the State sector. In the Second Plan, the Central assistance amounted to Rs 1058 crore, against the State Plan outlay of Rs 2083 crore. In the Third Plan, the Central assistance was Rs 2515 crore against the State outlay of Rs 4069 crore.

During the first three Plans, the quantum of Central aid was determined mainly in the light of the gap between the resources and the Plan outlay of each State.

The desirability of evolving objective principles for allocating Central assistance was emphasised by several Chief Ministers during discussions in July 1965 on the Memorandum on the Fourth Plan. Views of the State Governments on this subject were thereupon invited and incorporated in a paper placed before the National Development Council in August 1966. Diverse opinions were expressed by the Chief Ministers, who suggested different priorities, and no agreed set of principles could be evolved. Accordingly, the Planning Commission drew up the following guidelines for determining the quantum of Central assistance for each State for the Fourth Plan as then envisaged :—

(i) Every State should receive first the quantum of 70 per cent of the total amount to be distributed in proportion to its population;

(ii) The balance should be distributed after taking into account (a) special needs of Assam, Jammu and Kashmir and Nagaland; (b) commitments of some of the States

required to spend large amounts on continuing schemes of irrigation and power which are of national importance; and (c) the requirements for ensuring accelerated development of certain backward regions, hilly areas, etc.

For financing the States' Plan outlay of Rs. 7,073 crore indicated in the Draft Outline of the Fourth Plan, the Central assistance was envisaged at Rs. 3,500 crore. On the basis of these guidelines, the Planning Commission finalised the amount of Central assistance and outlays after detailed discussions with the Chief Ministers in October-November 1966. The total assistance indicated to the States as a result of these discussions aggregated Rs. 3,571 crore.

Annual Plans

Under the Annual Plans for 1966-67 and 1967-68, certain States had to be given accelerated assistance to meet the situation created by external aggression, drought, and their commitments. The quantum of assistance to them for the two years was, therefore, decided on an *ad hoc* basis. The effect of the *ad hoc* distribution over the first two years deprived some other States of their share in the Central assistance. These States were pressing for making up the entire shortfall in 1968-69 only.

Notionally, all the States had to be given the agreed assistance over a period of five years. For determining the amounts of Central assistance for 1968-69, therefore, calculations were made in the proportion of the Central assistance indicated to the States to the overall assistance for all States estimated earlier, and a corrective was applied to the amount so calculated to the extent of one-third of the difference between the assistance that was due to a State and the amount that was actually received by it during the two years, 1966-68.

Main Issues

While formulating the new Fourth Plan, the State Governments were requested to express their views in this regard.

After considering the views expressed by the States, the follow-

ing main issues emerged in determining the principles for distribution of Central assistance:

(i) Should the Central assistance to individual States be pre-determined for the Plan period as a whole? Should the allocations in the annual Plan of a State be necessarily in proportion to the predetermined five-year assistance? If not, what should be the considerations governing variations from year to year? How should adjustments be made to ensure correspondence with the pre-determined amount of assistance for the whole Plan?

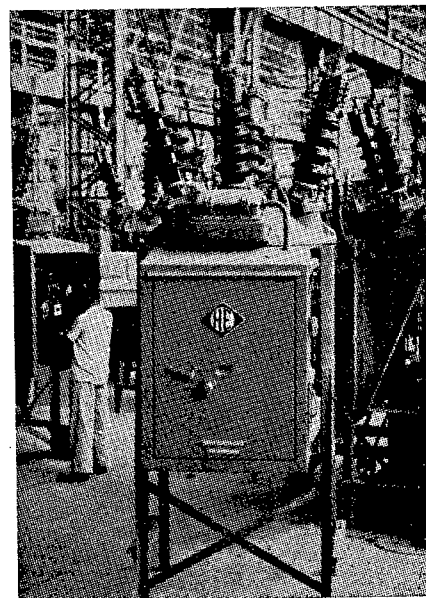
(ii) If the assistance to individual States is not to be pre-determined for a five-year period, what should be the principles governing the distribution of Annual Plan assistance?

(iii) Should special consideration be given to the requirements of border States like Jammu and Kashmir, Assam and Nagaland, as hitherto?

(iv) Should population constitute one of the main criteria for determining Central assistance and, if so, what should be the weightage given to it?

(v) What weightage should be given to the following facts in determining the quantum of Central assistance to individual States? (a) Economic backwardness of the State as determined by per capita income, concentration of tribal population, markedly backward and hill areas, chronically drought affected areas, and desert areas; (b) Commitments on account of continuing schemes; (c) Potential for raising resources and the performance of the individual States in mobilising them; (d) Central sector investment in individual States; (e) The quantum of assistance received by each State over the last 18 years; (f) Special features, such as density of population, rehabilitation of displaced persons, etc.

BHEL's New Products



The Bharat Heavy Electricals, Hyderabad, is diversifying its activities to include the manufacture of turbo-compressors and blowers for steel plants, industrial motors, and other items of industrial utility. It has also undertaken outside jobs to enable fuller utilisation of its capacity.

The hundredth Air Blast Circuit Breaker (220-245 KV), manufactured indigenously by the Unit will shortly roll out of the plant to be delivered to the U.P. State Electricity Board.

The first Air Blast Circuit Breaker was delivered last year to the Shapurnagar Sub-station of the Andhra Pradesh State Electricity Board.

A distinctive feature of the Air Blast Circuit Breakers manufactured by BHEL is the unit construction; they can be assembled for different voltages and ratings by suitably combining different numbers of insulators and interrupters thus simplifying manufacture, testing, maintenance and stocking of spares.

This young state-owned undertaking will shortly introduce Minimum Oil Circuit Breakers. It has also plans to manufacture Current and Potential Transformers.

FOURTH PLAN APPROACH

4

COMMENTS

EDUCATION AS A MEANS OF SOCIAL CHANGE

C. B. PADMANABHAN

"SINCE education is the main instrument of social change, opportunities for secondary and higher education must become increasingly available to all classes". In these words the "Approach" document envisages its educational policy. Economic growth is indeed a major form of social change in a country like India and one hopes that the Commission had this in mind when it wrote about education as the main instrument of social change. Of course, it is becoming increasingly clear that what the developing countries want is not merely economic growth but economic growth which is growth plus change and, therefore, the concept of education as an instrument of social change is certainly welcome.

But can we say that by making available opportunities for secondary and higher education increasingly to all the classes education can be used as a major instrument of social change? Is there not a need for priority between secondary and higher education? Can it not be said that secondary education with a vocational bias should be made available to a large number of people and admission to higher education must be selective? Of course, ability to profit by education is spread over all classes of people and economic circumstances of any section of people should not deprive them of the opportunity to have higher education. This can be taken care of by providing a number of scholarships, but this is a different from laying down a policy of spreading secondary and higher education.

What about opportunities for all classes of people to become literate

The object of educational planning is not only to provide trained manpower, where it is in short supply, but also to broaden the range of opportunities of gainful employment.

and what about primary education? Of course, the Commission has envisaged the fulfilment of hundred per cent primary education to the boys and girls in the relevant age groups and it has also envisaged functional literacy.

It is true that education is a great leveller and the availability of education to all the classes of people is one of the ways in which the concept of equality of opportunity to all classes can be translated into action. But within education it is necessary to have a priority as between literacy, primary education, secondary education and higher education. When the problem is viewed in this larger perspective, it will become necessary to make a choice regarding the first thing to be accomplished.

In the context of scarcity of resources and the need for rapid development of an economy like India, if education is to act as a means of bringing about equality, then the whole concept of education for the elite will have to be replaced by the concept of education for the masses to enable them to acquire some skills with which they can improve their position and also contribute to the growth of the economy. The mere possession of education as the hallmark will be replaced by the concept of educated

and technologically sound elite.

Linking with Industry

The Commission further adds, "at the same time restraint of resources—financial and personnel—emphasises the need to economise in and rationalise the process of institutional spread and to make strenuous efforts at maintaining minimum standards of quality." When the restraint of resources is taken into account along with the growing number of educated unemployed, the need for priority in the expansion of the different levels of education commencing from literacy to higher education assumes importance. Such limitation of resources would also emphasise the need for improving the quantitative and qualitative performance of the educational system. In quantitative terms it would mean the increase in the retention capacity at all levels and in particular at the primary level where the wastage is known to be very high, and also the elimination of wastage at the higher levels of technical education. Further, it would imply that the responsibility for giving certain kinds of training and education must be shared with industry and business. The Commission has emphasised the need for such co-operation.

The co-operation between formal educational system and other agencies like industry, commerce and agriculture has to be extended to many spheres. First of all it has to be determined whether a certain course can be introduced profitably in the formal educational system or as on-the-job training in industries or agriculture. Secondly, even the kinds of courses that have to be offered in addition to the traditional ones will have to be decided after taking into account the needs of industries, agriculture, as well as services. The intention is to establish the closest possible correlation between occupations and the educational levels. In fact, this area is a highly neglected one at present. In India one does not know enough about the present situation in the matter of educational levels and occupational structures in different enterprises. Undoubtedly, the levels of education of the persons in different occupations must enable them to have the highest productivity.

But what is the present position? For this purpose, surveys of occupational structure and educational level in various enterprises will have to be carried out and enterprises classified by the levels of technology that they have. Such a classification of industries on the basis of their productivities, levels of technology and the structure of the educated labour force will make educational planning more realistic by taking into account the needs for productivity changes in the different sectors of the economy.

More Job Opportunities

This brings us to the quality of education. Arthur Lewis speaks of the quality and aptness of education. The educational system may be turning out brilliant nuclear scientists, but it should also produce equally good technicians who are able to participate effectively in the productive tasks of the economy. The "Approach" document speaks of linking education with the demands of manpower, but in the context of growing unemployment in the country, where is the demand for trained manpower to originate from? The "Approach" rightly points out that the estimate of future demand can be made only on the basis of a commitment to

a certain pattern of long-term development. Meanwhile, it is necessary to get rid of the notion that manpower planning consists in providing trained manpower wherever it is in short supply.

In fact, it would be much better to speak in terms of the development of human resource as Prof Harbison has been arguing. The general development has been taking place in such a way that all sections of the population and all aspects of human resources have not been receiving adequate attention. There are certain parts of India where per capita income might be increasing, but, at the same time, the inequality in the distribution of income also has been growing to such an extent that the per capita availability of nutrition for some members of the population might have gone down. The advantage of an approach based on human resource development is that it enables the planners to take into account simultaneously all the higher levels of nutrition, better education and better living conditions. However, this kind of approach can be adopted only for planning at the grassroot level because of the variations from one part of the country to the other. In fact, there are even variations from one district to the other. District planning is, therefore, desirable and the development of all facets of human resources in the district should be the objective of district plans.

In planning for manpower development usually more attention is given to the manpower which requires higher levels of education. The manpower required for performing jobs of relatively lower orders of skills generally does not receive enough attention. This defect has to be rectified. For this purpose the problem of manpower will have to be considered from the point of view of skills that are required for the development of the economy. It is in this context that the concept of intermediate technology laid down in the "Approach" paper assumes importance. A lower order of technology has been purposefully adopted, so that employment opportunities could be created on the basis of this kind of technology. An obvious advantage is that it does not call for large physical capital.

It will also enable mobilisation of the manpower that is already available in plenty, particularly in the rural areas.

On the basis of this analysis, the role of educational planning in India will be not merely one of providing trained manpower where it is in short supply, but one of broadening the range of opportunities of profitable employment. As Thomas Bologh observes, "It can never be stressed strongly enough that the education process and the development process must be taken as an organic whole and not divided into little compartments independent of one another. Educational methods should accelerate the development process and the development process should result in broadening educational methods."

CORRECTIVE APPROACH

K.T. KUNHIRAMAN

THE National Development Council has been rather wise in throwing the Fourth Plan to the Planning Commission for working out the details after a considerable debate on the broad objectives. The Fourth Plan is a corrective Plan, inasmuch as it has been receptive of the creative criticism levelled against the conduct of planning during the past so many years. We cannot but pay for the past omissions and commissions and the earlier we recognise our failures, the better for our future.

One of the major objectives of the Fourth Plan, which is on every man's lip, is growth with stability. Spiralling prices and galloping inflation form the basic ingredients of the economic malady of the nation today. The hydra-headed monster of inflation was rather allowed to multiply its heads, than actually being fought with all might to chop off its heads. During the First Plan, the economists summarily believed

that the model will work in this economy and deficit financing and cheap money policy are definite tools for economic development. Stability of prices was at discount throughout the Plan period. Thus mild doses of inflation, which were expected to give a tonic effect to the buoyancy of the economy, resulted in total ailment. This trend continued in the Third Plan also. Added to this, the Government's decision to devalue the rupee has acted as an inflationary force. The fiscal policy of the Government could not hold the price line, even though policy declarations were made time and again regarding this objective. Thus rise in prices, which was regarded as a 'strategy of development' to begin with, ended up as an anathema for the economy. The general public practically lost faith in planning; planners required substantial time to think over issues; non-conformist group wanted a switch back to free enterprise, middlelists wanted plan-holiday and extremists clamoured for total socialisation of economic activities in the country.

The Key Reason

The key reason of our failure lies in our inability to bring about an agricultural breakthrough. Productivity in agriculture did not increase, beating up time and beating up population growth. Even though the First Plan results were promising, they were not so good as to generate smugness and complacency. This state of mind betrayed both the people at the helm and the general public. The planners brought about a shift of emphasis from agriculture to industries which did not reveal a clear sense of economic history of developed nations. The growth rate in agriculture faced a dip. The general economic atmosphere went from bad to worse in the Third Plan when we had major droughts in some parts of the country and a clear fall in the agricultural output. This situation thwarted the stability of the economy.

The 'Approach to the Fourth Plan' has revealed that now at least our planners have begun to think in terms of putting a ceiling to price rise. Deficit financing, though for historic and operational reasons could not be completely done away with, could be kept at the

minimum. As a monetary measure this is to be most welcome. There should also be a positive effort to bring down the prevailing prices to a considerable degree. Taxation policy should be so contrived as to bring about equity in all the sectors alike. One could note that, though it is not wise to tax the rural sector very much, the advantages of the price spiral were mostly reaped by this sector. The income of this sector has increased in money terms, mostly not because of real increase in productivity, but because of price rise. The strategy of taxation should take note of this factor very much in evolving a new tax policy.

The importance placed on agriculture and allied industries is perhaps the best corrective approach the Plan has devised. While there has been a progressive decline of good

availability even during the Second Plan, the real importance of food self-sufficiency was clear to us only when aids were tightened and defence needs were far more important than ever, consequent on the two foreign invasions. To strengthen the economy to enable it face the foreign threats and to infuse in the minds of the people strong confidence, the real requirement is self-sufficiency. This way, agricultural growth is the basic goal which the Fourth Plan aims at. And the annual growth rate envisaged could not be otherwise achieved.

Like a mirage, the 'take off' in our economy was betraying us. If we are active and an assiduous care is bestowed to the execution part of the Plan, the preconditions to this 'take off' could be prepared during the five years to come.

ONLY A SCRATCH ON THE SURFACE

S.C. JHA

THE reconstituted Planning Commission has by now spent several months on generating thoughts for the Fourth Plan. And if the "Approach" represents the basic thoughts generated by the Commission, I consider it most unfortunate. The Approach reflects nothing better than what had repeatedly been emphasised in the first three Plans. Growth with stability has been the primary objective of the Five Year Plans.

The Approach should have gone to examine the factors responsible for unstable growth during the previous Plans and how best the major obstacles could be handled. It is obvious that some of the basic postulates, on which the entire planning approach (starting from the First Plan) was based, went wrong. Mahalanobis planning model proved completely erroneous and the task of the new Commission should have

been to give a complete new look to the entire approach of planning and to indicate alternative courses of planning action and the consequences thereof. This could have provided stronger background for public discussion.

No attempt has been made to show if balanced inter-sectoral growth rate is necessary in the early stage of India's economic development. If the experiences of a few developing countries are to be taken into account, it becomes questionable whether India really needs a balanced inter-sectoral growth rate which is conceptually different from a stable growth rate. Even in terms of stable growth rate, it is not clear as to what rate of growth can be called stable at the present stage of development in India.

Encouraging Note

It is encouraging to note that there has been greater realisation on the role of agricultural development. But the question that does not seem to have occurred to the planners is, whether agricultural development provides a necessary or sufficient condition for overall development of the economy. On the basis of past experience and the available statistics, it can be hypothesised

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that in the Indian context, agricultural development provides only a necessary, but not sufficient, condition for faster economic growth. If this is proved empirically, the foundation of the entire new approach in the Fourth Plan may become shaky. Therefore, the Approach should have tried to determine the true nature of relationship between agriculture and other sectors, and to develop the resource planning framework under which a particular sector would have direct impact on other sectors of the economy.

While examining the role and function of agriculture in a national economic growth, one needs an analytical scheme by which to trace logically, systematically and casually the effects of changes in either the agricultural or the other sectors on the whole economic and social system. The research group in the Planning Commission has failed to develop such an analytical framework. Ideally, one would want a scheme (model) to analyse the rela-

tionship which exists between agriculture and the other sectors. This analytical framework would allow us, furthermore, to explore alternative consequences of different policies. Our past experience shows that the various sectors of the economy operate in isolation and there is no direct link between them for proper development of the economy. This is the reason why the economic opportunities and developmental forces generated in a few sectors have not been fully exploited by other sectors of the national economy. The obvious implication has been an unstable growth and wastage of the national resources.

The basic resources of a developing country like India are land and manpower. Non-agricultural sectors being weak, if these two resources are not fully used in the farming sector, they would not have much alternative use. If land is not used intensively, it would not make its maximum contribution to economic development. Similarly, measures

must be taken to absorb the maximum labour force. If not, the growth of rural manpower would swell even more rapidly than before, adding to the heavy backlog of unemployment. To neglect these basic resources, which has been the case so far, is an economic folly. If now they contribute less than they might to economic growth, it is largely because of economic and institutional impediments. The Approach should have tried to indicate the lines of action in order to overcome these impediments.

The Approach seems to have scratched just the surface of the ground. Had the ground been ploughed a little deeper, there would have been a clear insight into the major economic problems that the country has been facing during recent years. If these problems are not tackled well in time, chances are that India will have a serious economic and political upheaval. The task would be much harder to maintain the democratic institution.

**THIS
THEY
THINK**

YOJANA invited readers to express their views on the "Approach to the Fourth Five Year Plan". The response has been encouraging, which has enabled us to present this feature for readers, by the readers. This is the second instalment of readers' comments.

Two Priorities

THE objectives and the strategies of the Fourth Plan are not at all new. The same old strategies and objectives of the previous three Plans have been given a new look, a new approach and greater importance. But most of these strategies are vague.

The strategy on self-reliance is conditional, because dependence on foreign aid could be reduced only if exports could be raised and imports cut down. The question of cutting imports is rather formidable, especially when India is facing acute food shortage. Every year, we have to import large quantities of food. Under these circumstances, first emphasis goes to agriculture and next to industry. If we can solve the food problem then, no

doubt, the problem of self-reliance would be solved automatically. But, we cannot overlook the other two strategies, on industry and defence. They are equally important. The experience of the recent two aggressions has brought home the necessity of strengthening our defences. And for better defence, the country needs a sound, industrial structure. Emphasis on industry is therefore timely.

UPENDRA NATH KONWAR
Barbaruah (Assam)

Quick Action

IT has now been realised that the country cannot withhold any longer an intensive promotional programme for agriculture. This does not mean that greater priority should be given at the cost of other

sectors, but it means not only more outlay on agriculture but that bulk of the outlay on sectors other than agriculture must be so made that agriculture receives all that it should receive from other sectors.

Coming to the strategy of self-reliance, the following facts indicate that it may not be possible at the present juncture to rely on our own resources, because about 7 per cent of our annual food requirements are met by imports and 31.4 per cent of our Plan outlays come from external assistance.

The foreign assistance helps to improve our general economic conditions which will, in turn, go to develop agriculture. But, with such heavy dependence on foreign aid, it may not be so easy to speed up self-reliance as it has its own limitations, such as difficulties in

increasing rural savings, in reducing the loans, in levying additional taxes on industry and agriculture and the uncertainty of profits particularly in agriculture.

The present dynamics of the economic situation is such that the timelag between preparation and execution should not be too long on account of official inertia inherent in the administrative system even to realise the estimated targets.

Dharwar J.V. VENKATARAM

Food and Housing

THE aim of stopping imports of foodgrains under P.L. 480 by 1972 is inevitable due to uncertainties of foreign aid. There is to be a 5 per cent annual increase in agricultural production. But it is not clear as to how we can become self-sufficient in foodgrains in three years. We hope, when the draft is prepared a realistic assessment with details of expected growth in food production under different schemes will be made. Further the Commission should constantly review the progress made under these schemes and see that remedial measures are carried out whenever there is a setback. Buffer stocks can have relevance only after reaching self-sufficiency in a normal year. At present our stocks merely enable a precarious continuance of rationing in selected areas.

While the urgency of housing is recognised in the "Approach", I feel that if sufficient encouragement is given to urban housing co-operatives and adequate funds are provided in the initial stages, a self-financing system of house construction can be developed. Such a scheme will absorb the surplus incomes of the urban middle classes, control inflation and increase employment opportunities. Taxation of unearned increment in land values can be utilised exclusively for this programme.

Nagercoil (Madras) C. JOHN

Exports Are Crucial

THE 'Approach' underlines two significant aspects of India's

foreign trade: first, a balanced approach to the export promotion of 'traditional' and 'new' merchandise and, secondly, increased marketable surplus at most competitive prices.

It would be erroneous to presume that the world demand for our traditional exports is inelastic. Had this been the case, Ceylon (in tea) and Japan, China and Hong Kong (in textiles) would not have been able to make such heavy inroads into our exports. The emphasis on 'new' exports, particularly in the field of synthetic fibres, steel-based manufactures and drugs and pharmaceuticals, also seem to connive at the export promotion strategy. Similarly, the new 'need-based production-oriented' import policy calls for the necessity of higher marketable surplus at competitive prices as a pre-requisite for export promotion.

Granting these pre-requisites, exports can make a breakthrough in terms of their proportion to the value of national commodity output. If we want to increase the ratio of exports to national income to 7 per cent, as envisaged in the 'Approach', from the existing 4.5 per cent, there has to be an almost revolutionary increase in the value and volume of exports.

New Delhi J.R. CHAWLA

Family Planning

THE "Approach" to the Fourth Plan is different from those to the previous three Plans in more than one respect. Research, education and extension have been given equal emphasis in agricultural programmes. In the Section on Agriculture, due attention is given to development at the district level.

Chapter on Health gives some new suggestions for promoting Health and Family Planning Programmes. To sustain "existing health schemes and extending them where necessary", the "Approach" suggests, "a small fee on persons attending the out-patients' departments of hospitals and dispensaries and a charge per diem for stay of the patients in the hospitals". This is a good suggestion. It should be extended to the field of family plan-

ning also. Men and women taking advantage of the Family Planning Centres should pay a token fee. No monetary incentives should be given. This will create among the people a sense of participation in the National Family Planning Programme and the habit of paying for the services accepted. This will ultimately give the Family Planning Programme a new status. Motivation, the crux of the programme, has been given a rightful place in achieving enduring results.

Bombay MEENAKSHI APTE

People's Duty

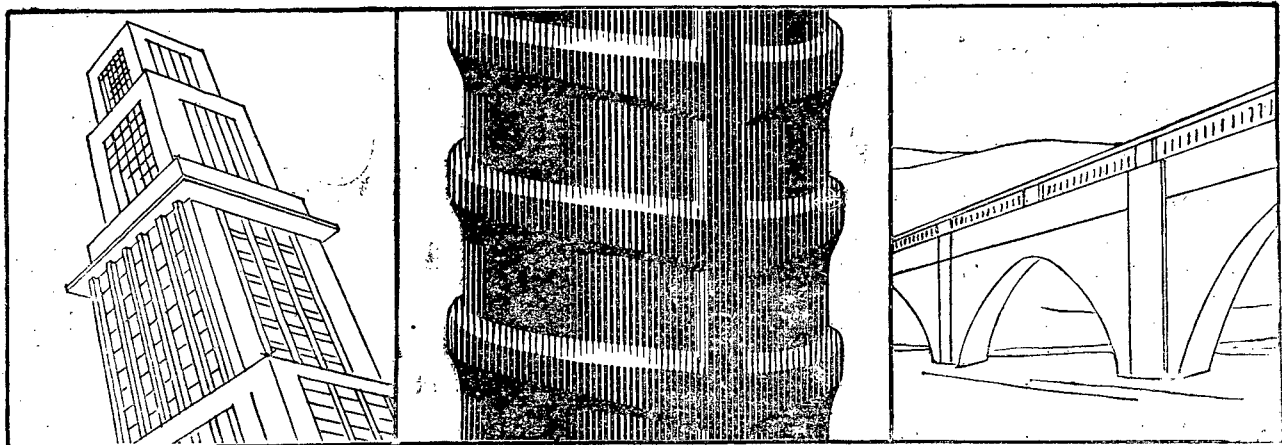
BEFORE we started with our Five-Year Plans, a number of other plans, like the Bombay Plan, the Peoples' Plan, the Gandhian Plan and the Plan for Post-War development, had been formulated in the country. However, none of them was fully representative or comprehensive as to cover all facets of the economy. Planned development, as represented by the three Five Year Plans, is actually a gift of Independence.

Regarding our Annual Plans, the Deputy Chairman of the Planning Commission had said, "In 1968 we shall know to what extent our economy would stabilise and to what extent the prices have been checked." Now the question is, to what extent the Planning Commission has been able to detect the defects in our Plans and to what extent the "Approach to the Fourth Plan" will be able to remove them. As all of us know, after 17 years of planning we are still dependent on the monsoon for agriculture.

Our economy has reached a stage where everyone has become critical of planning. But one should not only criticise. One should also realise one's duty. On doing so, we may find that there is nothing wrong with the "Approach". It is a well-thought out paper for our benefit and its success depends, not only on the planners, but also on the millions whom it seeks to benefit.

ASHOK KUMAR MOHANTY
Khurda (Orissa)

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Co-operative Credit

Its Faults and Failures

Cooperative credit is often misused by both the poor as well as rich beneficiaries.

The shortfall in the recovery of loans has been increasing to alarming proportions, reducing the credit-worthiness of the credit societies.

One of the factors that lead to the misuse of loans is that the loans are disbursed too late to meet the farmers' urgent agricultural needs.

Treating the credit society as a bank is one of the measures to remove the defects in the cooperative credit system.

V.V. SHETTY

THE non-availability of credit to cultivators in sufficient quantity and at low rates for interest is considered to be one of the main reasons of the poor state of agriculture in India. Supply of agricultural credit of short and medium term through organised channels has been practically the monopoly of the co-operative agency since the beginning of the co-operative movement in our country about 60 years ago. But for various reasons the agricultural credit co-operatives have had a tardy growth.

The inability of the co-operative agency to meet the credit needs of cultivators was highlighted first by the Rural Credit Survey of the Reserve Bank, which pointed out that in 1951-52 the credit co-operatives had supplied only about 3 per cent of the total annual borrowings of cultivators. Since then various efforts have been made to revitalise the co-operative agency so as to enable it to increase the supply of agricultural credit. The improvement brought about in this regard can be seen from the fact that by 1961-62 the proportion of credit provided by the agricultural co-operatives had increased to 26 per cent of the total borrowings of cultivators. The actual amount advanced was Rs 244 crore.

There has been a steady growth in the volume of credit supplied by the rural co-operative societies in recent years. Last year (1967-68), Rs 460 crore were disbursed as short and medium term loans, apart from Rs 75 crore as long term loans. The target for 1968-69 is about Rs 700 crore.

MISUSE OF LOANS

Whereas it cannot be denied that the co-operatives supplying credit at subsidised rates of interest and in an increasing volume have been rendering useful service to cultivators, it must, however, be admitted that all has not been well

with the working of the co-operative credit system. Almost all the field surveys conducted in recent years have revealed that the loans given by the co-operatives for the specific purpose of meeting the current needs of agriculture or for carrying out land improvements are not always used for the intended purposes. Diversion of co-operative credit to unproductive purposes is a malady which it has not been possible to remedy over the years. A study conducted by the Programme Evaluation Organisation of the Planning Commission has revealed that among 946 borrowers of short-term loans in 1960-61, about 40 per cent had diverted the loans to unproductive purposes—17 per cent wholly and 23 per cent partly. As for the medium-term loans, the percentage of those who had diverted their loans was 47 per cent, of which 25 per cent had diverted loans wholly and the rest partly. It was found that 23 per cent of the amount of short-term loans and 35 per cent of medium-term loans were diverted to purposes other than intended.

The practice of diverting co-operative credit to unauthorised purposes is not confined to any particular class of borrowers. Both rich and poor cultivators are at fault. The only, and perhaps vital, difference is that, whereas the poor cultivators misuse the loans for unproductive purposes—mostly to meet pressing domestic needs, the well-to-do cultivators borrow from the co-operative society although they have enough money with them, only because the co-operatives charge low rates of interest. The needs of smaller cultivators for the purchase of current inputs such as fertilisers and seeds are limited, because they use fertilisers rarely and the seeds are mostly their own. Richer cultivators, on the other hand, use fertilisers and also buy

Mr. V.V. Shetty is Project Evaluation Officer, Shimoga.

new and improved seeds occasionally, but in fact they do not need money for such short-term purposes.

One of the measures taken in recent years to curb the tendency of misusing co-operative credit is the introduction of loan in kind—a borrower is given a portion of the loan in the form of fertilisers. Starting with a nominal 10 per cent of the total loan amount, the proportion in kind has been raised to 20 per cent. The loan amount is divided into three parts—A, B and C—of which B is the kind component. Part A (60 per cent given in cash) is given first; and Part C (20 per cent in cash) is given after some interval only if Part B (20 per cent in kind) is taken by the borrower.

After an initial resistance, the cultivators are slowly adjusting to this new system. With the introduction of high-yielding crops, it may not be difficult to raise the proportion of the kind component in the coming years especially in irrigated areas. In this connection, an experiment started by a commercial bank in the South Kanara district of Mysore State deserves to be emulated. The bank issues what are known as 'agri-cards' to those who need short-term credit, after enrolling them as members of the agricultural association sponsored by the bank. On producing the agri-card, a member can get all his requirements of agricultural inputs such as fertilisers, pesticides, seeds and implements up to a specified sum from any dealer recognised by the bank. This way the bank hopes to serve the cultivators at the same time reducing the chances of misuse of its credit to the minimum.

DELAY IN REPAYMENT

Another serious problem faced by the credit co-operatives is the delay in repayment of loans. Every year large amounts remain over-due to co-operative societies. A primary co-operative society cannot disburse fresh loans without recovering a substantial portion of the loans already advanced (up to 60 per cent in Mysore State). As a result of heavy overdues, many societies become defaulters, thus undermining the confidence of those members who have faith in the co-operative movement. Let us take the case of the Shimoga District

Co-operative Central Bank in Mysore State. Established in 1953, the bank has, at present, 9 branches and 359 credit co-operative societies affiliated to it. With a membership of 513 and a paid-up share capital of Rs 26,34,800, the bank earned a net profit of Rs.150,000 in 1965-66. The extent of overdues of short-term loans advanced by this bank during the past 5 years shows that, although demand for short-term loans has risen from Rs 63 lakh in 1962-63 to Rs 90 lakh in 1966-67, the overdues, too, have risen from 22 per cent in 1962-63 to 44 per cent in 1966-67; and for medium-term loans, the overdues increased from 60 per cent to 83 per cent.

What is more disconcerting is that the extent of overdues has been continuously rising in spite of all the emphasis on revitalisation of the co-operative structure. For the country as a whole, overdues increased from 26 per cent in 1964-65 to 30 per cent in 1965-66. With the increased supply of credit to the cultivators, more money gets locked up in the form of overdues.

However, it is not always the smaller or poorer cultivators who fail to repay the loans in time. Recently the Reserve Bank of India sponsored a scheme for the supply of additional credit to the cultivators of high-yielding crops. Accordingly the DCC Bank, Shimoga, received a special sum of Rs 8 lakh in 1966-67 of which the bank was able to disburse only about Rs 2 lakh, because that being the first year of the scheme in this district, not many cultivators had grown the high-yielding varieties of crops. And those who had grown the high-yielding varieties were well-to-do and progressive cultivators, and they took the special loans. But, out of Rs 2 lakh disbursed as special loans, only Rs 25,000 were recovered at the end of the year. The obvious inference is that overdues are the result of wrong attitudes of some of the borrowers rather than their incapacity to repay.

This is one side of the picture. The other side, namely the viewpoint of the agriculturists, is equally important. After all it is not only the size of amount disbursed that really counts, but the extent and the manner in which the cultivators' demands are met. A common com-

plaint from the members of co-operative societies is that they do not get loans in time and the delay affects the farmers in more than one way. Having applied for loan from a co-operative society and waited sufficiently long, the borrower may be tempted to go to the local moneylender to meet his immediate needs. Later, when the co-operative loan is sanctioned finally, he does not refuse it, but takes it and utilises it for other purposes.

The delay in disbursing fresh loans is caused partly by the borrowers who fail to repay the old loans promptly. Those members who do not repay their loans in time not only cannot receive fresh loans themselves but they also spoil the chances of others who are not defaulters.

The insistence on a certain percentage of recovery on the part of a primary credit society to become eligible for fresh loans from the district bank has also given room to malpractices. Some societies manipulate the accounts with or without the knowledge of higher authorities and show recovery up to the required extent; though in reality there may be heavy overdues. There are also cases of office-bearers of co-operatives borrowing money from private sources to effect necessary book adjustments at the nick of time.

How to rectify this unhealthy situation? Perhaps an intensive scheme of co-operative education may help in the long run, but can it produce immediate results? One way out is to enable the primary co-operative credit society to function like a bank. That is to say, instead of treating the borrowers as a group, each borrower should be treated separately, and on merit. Under this arrangement, those who seek loans for the first time and those who clear off their old loans in time should receive loans promptly without being tied to the defaulters and without any minimum percentage of prior recovery for the society as a whole. Needless to say that the time taken for the preparation and verification of loan records should be reduced to the minimum. This will surely act as an incentive to repay the loans in time.

Mechanisation of Farming

L. L. SARIN

THE progress of Indian agriculture is inexorably linked with the use of the latest and most efficient technological processes, which alone can bring about a change-over to modern methods of production. Unfortunately, production methods in Indian agriculture have not yet reached a high degree of intensification. Based mainly on animal and human power, the inputs utilised are extremely inadequate for maximum production. A reliable index of intensification in agriculture is the power input per unit of area. Compared to 9.10 h.p. per acre in West Germany and 6.10 h.p. per acre in Japan, power input in India is only 0.14 h.p., which is, perhaps, the lowest in the world. A substantial increase in input, apart from better seeds, fertilisers, and plant protection measures etc., is possible only through the use of improved implements and power machinery. Studies made in Punjab show that the expenses incurred by an average farmer on tools and agricultural implements is less than 2 per cent of the total expenditure, and an additional one per cent paid as wages to village artisans for repair, maintenance and manufacture.

During the last 15 years some progress has been made in this field. These include the establishment of 16 Research-cum-Testing Training Centres, 15 Agricultural Implement Workshops in selected I.A.D.P. districts, 40 Workshop Wings at the Gram Sewak Training Centres, 2 Tractor Testing and Training Centres and a Board for agricultural machinery and implements. By the end of the Third Plan, capacity for the manufacture of 30,000 tractors per year was created, and production during 1967-68 is estimated at about 11,400. Also, licenses were issued for the manufacture of 26,000 power-tillers per year; but production last year was insignificant (585). Licenses were also issued for the production of 550 crawler tractors of 50.90 h.p.

An important development has been the exemption of the tractor and power-tiller industry from the licensing provisions of the Industries (Development and Regulations) Act, 1959.

To stimulate the growth of agro-industries, Agro-Industries Corporations have been set up in 11 States with a total authorised capital of Rs 27 crore. These Corporations are distributing agricultural machinery and implements as well as equipment pertaining to processing, dairy, poultry, fishery and the industries connected with agriculture, on a hire-purchase basis. In addition, the establishment of machine service centres on a pilot basis and Departmental agricultural machinery hiring centres to provide tractor services to small cultivators is being considered.

Despite all the steps so far taken and the results actually achieved, the programme of increasing the availability of improved agricultural implements has not made satisfactory progress. This has been underlined in the Draft Outline of the Fourth Five Year Plan, which pointed out that the programme had "seriously lagged behind in the first three Plans." It was pointed out that this was "largely due to the shortage of iron and steel, lack of suitable designs of implements, high cost of manufacture, lack of adequate and timely credit at reasonable rates to farmers for purchase of implements, lack of repair and maintenance facilities, difficulty in obtaining spare parts and lack of competent extension machinery to demonstrate the effectiveness of improved implements."

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The most important single reason why the programme has languished is that the manufacture of agricultural implements is not being undertaken on a mass scale, which alone can reduce its cost and improve quality. The margin of profit in agricultural implements at present is much less than in other consumer goods industries. Therefore, not many manufacturers are attracted to this line. Moreover, the quantity of steel required for the manufacture of implements is much more than in the case of, say, a bicycle, a fan or a sewing machine. Some concessions and incentives are, therefore, absolutely necessary to encourage manufacturers.

A second reason is that Indian farmers are not using improved agricultural implements because of lack of repair and maintenance facilities. About 40 workshops have been established with the help of the Ford Foundation to train VLWs in the use of implements and, village artisans in repair and manufacture work. Since last year, the training in these workshops has been reoriented to machines such as, oil engines, pumps, seed-cum-fertiliser drills, threshers, etc. The staff has been strengthened and production of implements to a limited extent undertaken at selected workshop wings. In order to improve the standard of training, a scheme of 'Uniform Study Aids' is being implemented in preparing uniform and standard lessons and giving refresher courses to trainees.

Standardisation, which is important in any industry, applies to agricultural implements. In India, of late, random manufacture of implements has been undertaken, with the result that the farmers have suffered. For example, there are more than 100 different types and sizes of small mould-board ploughs. Every manufacturer gives a new name to a plough with the result that the farmers are confused. In Ghaziabad

(Uttar Pradesh) alone 80 different types of diesel engines are believed to be manufactured. The Indian Standards Institution has done some useful work in material standardisation but a great deal remains to be done. Also, there is no quality control on agricultural implements, either in regard to the correctness of the design of proto-types or the material used in their manufacture. This has given rise to unhealthy practices causing considerable loss to the cultivator and undermining his confidence in improved agricultural implements. Not only there are great variations in the designs, specifications, efficiency and prices of implements but the cultivator is confronted with serious difficulties in getting repairs done owing to want of standard designs and non-interchangeability of parts.

Indigenous farm implements in India are generally manufactured by village blacksmiths and carpenters. However, this is slowly changing, and organised industries, which manufacture improved agricultural implements on a mass scale are coming up.

There is need to carry out a survey of indigenous agricultural implements in use in different regions of the country for centuries. Some of these, which are popular in certain areas, have not found their way to other parts of the country, where they can be used with good effect.

Two Views

On the question of farm mechanisation two extreme views are invariably put forth. One is that we should go in for very simple implements, more or less of the traditional type, because we have a very large cattle population, our holdings are very small and the purchasing capacity the farmer is very low. The second view is that we should go in only for big power-driven implements as is done in most of the advanced countries. It is, however, necessary to strike a new equation between the traditions handed down to us from the past and the necessities of the present.

In a country like India where the vast majority of agriculturists have only two to three-acre farms, mechanisation on a large scale is hardly

a paying proposition. The financial resources of farmers and their capacity to pay for and maintain farm machinery are important factors. The unsophisticated farmer is not machine-minded and any attempt to force rapid mechanisation in agriculture is certain to evoke strong resistance. It is important to recognise that the traditional agriculturist does not change by fits and starts. Any change, has to come from within the totality of rural life. This by itself is a guarantee, at least in a democratic country, against over-hasty mechanisation. Wherever new agricultural implements and machinery have found large-scale acceptance, we may legitimately infer that the prevailing conditions have warranted the change.

While our approach should, therefore, be cautious, we cannot rule out the utility of mechanisation under all conditions. It is apparent that where there are large holdings, shortage of labour and limitation of time, mechanisation has its own place. Agriculture is so diversified and elastic that abundant production can be secured by adopting a variety of systems. The mechanisation of agriculture will, therefore, not render man-powered methods superfluous; there is scope for the development of both. The question is how far should mechanisation be promoted under any given set of farming conditions. In certain heavy operations like land reclamation, soil conservation and the like, which require considerable labour, mechanisation appears to be inescapable.

Use of Tractors

There are, at present, 53,200 tractors in the country. The availability per year is on the increase, largely due to increase in indigenous production. As against 4,030 tractors (35 per cent indigenous) available during 1962-63, more than 15,000 tractors (76 per cent indigenous) were made available during 1967-68. The number of tractors in relation to cultivated land is an index, though a very rough one, of the degree of mechanisation. In India, the average works up to, 1 tractor for 10,000 hectares of cultivated land, as against 330 in the Netherlands, 470 in West Germany, 200 in Belgium, 170 in France, 50 in

U.S.A. and 5 in Japan. The index is very low for India, but it is important to remember that other measures for increasing productivity will have priority here.

Role of Public Sector

Most of the developing countries, anxious to promote mechanisation as a means to increase farm production and raise the standard of living of the people, have found from experience that this is no easy task. There are both social and technical difficulties which tend to inhibit rapid advances in this field. For example, the farms are mostly small and may be divided into several separate and scattered plots. The roads may be poor or non-existent and the only possible access to a field may be across a number of plots belonging to different farmers. Imported machines may be designed for the peculiar conditions prevailing in the country of manufacture. Another obstacle frequently is the lack of knowledge of the correct use of farm machines and the special problems that are likely to arise. Suitable facilities for repair, maintenance and servicing may be lacking, while the supply of spare parts may be inadequate.

In developing countries, farm machinery is often made available by Government agencies on hire. Gradually contractors on a full-time basis appear and, as farmers obtain machines of their own they show growing interest in carrying out contract work for their neighbours as an additional occupation. Also, governments try to develop co-operative societies and encourage them to take over the government farm machinery hire services. In most cases, the government is finally responsible for the service, with the co-operative society acting as an agent.

One of the fundamental things about the mechanisation of farming is that it should not be undertaken without an accompanying programme for training and extension. Wherever the introduction of farm machinery has been successful, it has been co-ordinated with an intensive training scheme and the dissemination of information to

turn to PAGE 18 :

India's food problem is, in fact, the problem of shortage in subsidiary foods. The planning for food should, therefore, aim at producing subsidiary foods in the long run, along with self-sufficiency in foodgrain production as an immediate objective.

Shortage of Subsidiary Foods

G. VISWANATHAN PILLAI

INDIA'S food problem is in fact the problem of shortage in subsidiary foods. It is true that the effective demand for foodgrains in the country exceeds internal supplies. The deficit in supplies fluctuates widely over years in consonance with the variation in internal production. Easy imports of foodgrains under PL-480 in the past coupled with the casual approach to development of subsidiary foods has landed the country in a food crisis. Despite all this, the level of foodgrain production in India is sufficient to meet her dietary requirements by any standard. The effective demand for foodgrains is much higher than the actual requirements mainly on account of the shortage of subsidiary foods, which are being absurdly substituted by foodgrains.

The Nutrition Advisory Committee has recommended for a daily intake of 17 oz. of foodgrains (14 oz. cereals and 3 oz. pulses) per adult. The requirement at this rate for the present population in India is 77.8 million tonnes per annum. As against this the production of foodgrains in 1967-68 is estimated to be over 95 million tonnes. This should leave a considerable surplus over consumption even after allowing for seed, animal feed and wastage. There is, therefore, no shortage in the supply of foodgrains. The shortage actually experienced is but a manifestation of the dearth of subsidiary foods in the country.

Unbalanced Diet

The standard of 14 oz. (398 gm.) of cereals per day fixed for India is itself too high compared to the actual availability and consumption of cereals in most of the advanced countries. The following figures will substantiate this:

Country	Daily per capita net availability of cereals* (gm)
India	404
France	248
U.K.	213
Germany	201
Italy	358
Netherlands	195
Norway	202
Canada	185
U.S.A.	182
Japan	394

*The figures refer to the period 1964-65 in most cases. Source: F.A.O. Production Year Book, 1966.

A close scrutiny of the statistics regarding availability of cereals in various countries would show that the consumption of cereals bears an inverse ratio to economic development. It is, therefore, only reasonable to expect that, as India progresses on the path of development, the per capita consumption of cereals will go on falling, and, as a corollary, the consumption and hence the demand for subsidiary food materials will go on rising. The country is now fully alive to the urgent need for stepping up the production of foodgrains, and it

can be hoped that the output of foodgrains will increase substantially in the coming years. In the mean time (say, within the next 5 to 10 years), the real problem, namely the scarcity of subsidiary foods, will come to the fore. It is, therefore, necessary that the country now adopts a far-sighted policy of developing subsidiary foods side by side with foodgrains.

In an underdeveloped country like India suffering from food shortage, it is only natural that the supply of foodgrains attracts exclusive attention. But the importance of subsidiary foods, supplying essential nutrients, is much more than that of foodgrains for maintaining dietary standard. In physical quantity also the share of subsidiary foods is more than double that of foodgrains.

Importance of Milk

The most important item among subsidiary foods is milk, which is accepted as a complete food. It has a high protein content and is acceptable to both vegetarians and non-vegetarians. Meat, fish and eggs are also rich in nutritive value. Other subsidiary foods are vegetables, fruits, vegetable oil and sugar.

In a balanced diet, out of the 48 ounces of food needed per day, foodgrains account for only 17 ounces, and the rest are subsidiary foods. The foodgrains, however, provide more than 50 per cent of the calorie requirements.

The most important among the nutrients is protein which is necessary for growth as well as replacement of the body tissues. Protein is obtained from both vegetable and

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animal sources. Animal protein is considered to be superior to vegetable protein. All foods of animal origin such as milk, meat, fish and eggs are rich in protein. Other major nutrients are the minerals like calcium and iron and various vitamins. Cereals supply a substantial part of energy requirements and pulses a substantial part of protein. The rest of the energy and protein requirements as well as all the other nutrients like minerals and vitamins are provided by the subsidiary foods.

The country produces more cereals than required for a balanced diet. In regard to pulses the deficit is only nominal. In contrast to this, the country's position in regard to subsidiary foods is not very satisfactory. The supply is adequate only in respect of sugar and jaggery which, incidentally, are the least important among the nourishing foods. The supply of fruits and nuts is comparatively satisfactory. The availability of all the other items is far below requirements. The result is that while 80 per cent of the energy requirements are met with, large deficiencies exist in the essential nutrients like protein and calcium, particularly in animal protein.

A nutritious diet should contain 100 grammes of protein, of which 33 to 50 per cent should be in the form of animal protein. The availability of animal protein in India is less than 10 grammes per adult per day. The main problem that calls for urgent solution is the correction of this protein deficiency. Once this is done, the deficiencies in other nutrients will either vanish or be reduced to a safe minimum.

The only possible way of removing the animal protein deficiency is to consume more milk, meat, fish and eggs. If the prescribed standard of 10 ounces of milk and 4 ounces of meat, fish or eggs is reached, it will ensure a more or less adequate supply of animal proteins. Infants, mothers and growing children require much larger intake of protein and hence much greater consumption of milk than adults.

Rich Sources

A large proportion of the Indian population is vegetarian. To balance the diet of these people in the matter of protein intake, they

will have to consume about 30 ounces of milk per day instead of 10 ounces. The non-vegetarians might substitute meat, fish and eggs for milk. However, in view of the large number of vegetarians and the shortage of meat, fish and eggs, demand on milk will increase greatly, at least in the short run.

Milk production in the country will have to be doubled if the per capita availability of milk is to be raised to 10 ounces a day. The deficit is much larger in the case of meat, fish and eggs. Another area of shortage is ghee and vegetable oils. All these shortages can be made up to a large extent by developing animal husbandry and fisheries. The supply of vegetables also is unsatisfactory, only 40 per cent of the demand.

India had 207 lakh cows and 126 lakh she-buffaloes in productive stage in 1961. Together they produced 207 lakh tonnes of milk in the year. India is the only country with such a large population of buffaloes in the world, but their milk producing capacity is very low compared to world standards. There is vast scope for stepping up productivity by improving the breed and better feeding of the cattle. If we can achieve an average yield rate of 2000 kg. per year for our cows and she-buffaloes taken together, the production of milk, based on the cattle population of 1961, would be 666 lakh tonnes a year, which is more than sufficient to feed India's population in 1975 at the rate of 10 ounces per head per day.

There is also unlimited scope for the development of poultry and fisheries.

India has some of the richest fishing grounds in the world which remain largely untapped. We have made only a beginning in deep-sea fishing. With mechanisation of fishing operations and the introduction of large trawlers, the fish production of the country can be increased several times.

The development plans so far lacked in a co-ordinated and comprehensive approach to the food problem, and emphasis has been given only on foodgrains. A food development plan should be formulated on the basis of specified short-term and long-term objectives. The

short-term objective should obviously be to make the country self-sufficient in foodgrain production and the long-term objective should be to ensure a balanced diet for the people. It is time to launch a plan to achieve this long-term objective. The plan should concentrate on the following points:

- 1) Selective upgrading of the existing cattle breeds with a view to developing a highly productive milch stock.
- 2) Development of animal husbandry by encouraging mixed farming and devoting a large part of the newly reclaimed land to grazing and fodder production;
- 3) Priority to production of milk, meat and eggs;
- 4) A programme based on purely economic considerations to limit the cattle population and eliminate the unwanted cattle heads. It would help to increase the production of meat, hides and bonemeal.
- 5) Emphasis on poultry development.

MECHANISED FARMING

from page 16

farmers, operators, mechanics and managers of hire services by intensive public relations and extension. The best method of approach may often be a pilot scheme, which can be expanded at a rate within the capabilities of the people who manage and operate it. Moreover, it is no use telling the cultivators about modern scientific agriculture unless supplies can be made available to them.

Generally speaking, the more expensive machines, such as threshers and certain types of tractors, utilised on a collective basis, is the only solution for the small farmer. Apart from being able to use many types of equipment, which he would not otherwise be able to afford, this will ensure the maximum use of their working capacity. There is, therefore, need for the promotion of collective use of machinery. Other promotional measures include an abatement of fuel prices for agriculture and exemption from the tax on tractors for agricultural use.

INVISIBLE TEACHER

How many of us, during the course of our school life, have pined for the day when we would arrive in school to find that the teacher was magically absent? And, how often we have been disappointed; because, teachers being dependable individuals, rarely obliged. But, for 36 children of an elementary school in West Berlin, this student daydream has come true. One day when they trooped into the classroom they found that the miracle had happened—the teacher was not there. Little did they realise that this was only a mirage, because the teacher had left a substitute—not a person of flesh and blood, but an electronic computer!

At the push of a button, the mechanical teacher automatically played a pre-recorded tape concerning the adventures of Hansel and Gretel while, at the same time, projecting slides on to a movie screen to illustrate the various points in the tale. After 20 minutes of instruction, the computer questioned each pupil about what he had learned, *via* a small, desktop console, with which each one was equipped. And, almost immediately after receiving their electric 'yes' or 'no' answers, it flashed either the 'correct' or 'incorrect' lights on the panels of their consoles.

Although the whole process sounds relatively simple, it is really comparatively complicated. And, it is also extremely expensive, having cost the school authorities almost \$ 250,000 for the classroom and its computer equipment. But this ultra-modern instruction system is well worth the expenses. For, as tests have shown, pupils retain 80 per cent of the material presented to them *via* the computer as compared to only 22 per cent of that taught by a "live" teacher.

The school's computerised classroom is the first of its kind in

Europe and the second of its type in the world, the other being located in Santa Monica, California.

Population Explosion

ACCORDING to the Bible, God created Adam and Eve; and that is as far as He went. But, the human capacity for procreation, limited only by the effects of poverty, disease and wars, far surpasses those of his Creator. This is the obvious conclusion that one can draw from the staggering, almost astronomical, figures of world population growth in the past fifteen years.

Now let us look at the cold statistics of the population "explosion".

In 1953, the world population was 2,500 million; by January 1, 1969 the population will be 3,500 million. Another 1,000 million gain is expected by 1983. About 7,000 million people will be crowded into the world by the year 2000.

In 1968 approximately 118 million babies will be born, 324,000 a day or 225 every minute. Also, in 1968 almost 49 million people will die, 133,000 each day or 93 per minute. About one-third of the people now living are under 15 years of age. In the developing countries, the figure approaches one-half.

The world's highest population growth rates are in El Salvador (3.7 per cent), Dominican Republic (3.6 per cent), and Venezuela (3.6 per cent). About 85 per cent of all births today are occurring in the less-developed countries, where food is insufficient, illiteracy widespread and personal incomes extremely low.

Some experts foresee millions of people in overcrowded urban centres suffering from the effects of malnutrition or hunger, other millions dying from famine. They

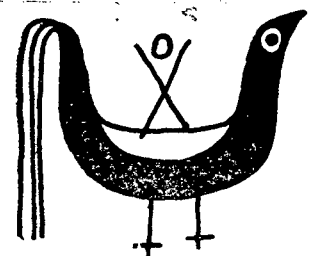


IGNORAMAN

Wants to Know

*why
State insistence
should become
a criterion for
Central assistance*

anticipate hunger riots as well as political and economic upheavals in some countries. Other experts however, take a more optimistic view of the situation. They are now heartened by the progress being made in birth control and in food production. Pessimists and optimists alike concede that time is the crucial factor—how rapidly nations can bring populations and food supplies into closer balance. Dozens of countries already have largescale family planning programmes under way, and agriculture is being intensified. Pessimism is yielding to optimism. An American demographer, Dr Donald J. Bogue, of Chicago University, believes the population explosion is turning out to be a myth. The rising global birth rate, he is confident, will be brought under control by the year 2000.



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AN OCEAN OF FOOD

G. DE SABATINO

A vast, natural food reserve that has barely been touched awaits exploitation by a hungry world. It is the Indian Ocean.

Third largest ocean, the Indian Ocean comprises one-fifth of the world's watered surface. Its 28 million square miles range from above the equator to the Antarctic and from western Australia to eastern Africa. Historically it was the first commercial seaway from Europe to India and the Orient. Magellan's ships crossed it during the first circumnavigation of the globe. Yet, only in recent times, with growing populations and food needs, has its importance to feeding been recognised.

The Indian Ocean has the attributes of a good, fertile ocean. Its deep, warmish waters, swept by powerful currents and twice-yearly monsoons, contain encouraging amounts of phytoplankton and zooplankton, the tiny organisms which are the fish fodder of the sea. Tests held in the Arabian Sea to determine its rate of productivity compare favourably with the most fertile spots in the Atlantic and Pacific. Tunas and billfishes abound throughout the Ocean while its bays and seas are rich in other varieties of fish, including bottom species.

The Arabian Sea, one of the Ocean's most fertile areas, may have a potential yield of some 10 million tons of fish a year. The Bay of Bengal could produce two and one-half times its present yield of 260,000 tons of open water fish. The Persian Gulf, generally shallower and good for bottom species, has attractive shrimp deposits. Other fertile areas lie in the regions off Indonesia and Australia, and along the African coast.

Unfortunately, the Ocean gener-

ally has a narrow continental shelf. It also lacks the temperate areas that in other oceans support large fisheries. But it has various zones of upwelling, where upward current action enriches the water with nutrients for a greater sustenance of life. This is the same phenomenon that occurs off Peru and makes the South American nations the world's No. 1 fish catching countries. Zones of upwelling exist in the Arabian Sea, Bay of Bengal, south of Java and off the north-west coast of Australia.

Yet, despite its size and potential, the Indian Ocean remains

The rich reserves of natural food in the Indian Ocean still await exploitation to meet the hunger needs of the world.

lightly harvested. The yearly catch amounts to about 2 million metric tons, based on a 1964 estimate by the UN Food and Agriculture Organisation. By contrast, the Atlantic Ocean yielded that same year more than 18 million tons and the Pacific 25 million tons. Considering that the world marine take from the Indian Ocean corresponds to only one-twenty-fifth of the whole, is a poor showing for such a large ocean. One explanation is that so little is known about its potential. The FAO, in fact, warns that more and better data are need-



WORLD SPOTLIGHT

ed on fish stocks and other resources for the proper assessment of its value and possibilities. Such data must include statistics on catches and landings.

A second explanation is the underdeveloped state of fisheries along the coasts. The nations bordering the Ocean take very little from it. Much of the fishing remains coastal and traditional: virtually shorebound. Small, un-motorised boats of limited operating range and simple gear are largely used and catches are subsequently small. Development is hindered by the general lack or scarcity of refrigeration, storage, distribution and other shore-based facilities without which no modern fishing industry can operate. Marketing practices remain antiquated. India has made progress in modernising and expanding its fisheries, but other nations, especially along the African coast, have to build up theirs.

Still another reason is the Ocean's remoteness from traditional fishing grounds elsewhere. Only in recent years have the developed fishing nations—Japan and the Soviet Union among others—ventured into the Indian Ocean from the Pacific and Atlantic. Speeding them there were increased food demands at home which led to development of modern fishing fleets capable of journeying far and for long periods. All major pelagic (open ocean) fishing is now done by these countries, including Formosa and Korea. Their fast, electronically equipped fleets range over the Ocean where they catch among others, tunas and billfishes of which the Ocean abounds.

Despite its prospects, the Ocean's

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potential was slow to be recognised. In 1930, the Japanese exploratory vessel, *Shirotaka Maru*, fished with longline gear in the Bay of Bengal and off the Maldiv Islands. She was followed by the research ship, *Haruna Maru*, which conducted fishing operations off Java and Sumatra. Their catches showed for the first time that yellowfin tuna and billfishes were to be found in good commercial quantities in the Indian Ocean.

Pelagic fishing got underway only after World War II. In 1952, the Japanese returned to fish primarily for yellowfin tuna in the eastern Indian Ocean. Fishing was stepped up the following year, when the pelagic fishery was launched. By 1956 operations had extended westward to the African coast and by 1960 Japanese vessels were operating north and south of the equator. Peak catches were reported in 1956 and in subsequent years. Other nations followed, the latest one being Korea.

OCEAN COMMISSION

The increased fishing has served to make the problem of proper assessment and controls urgent. Some of the Ocean's tuna stocks are already being heavily exploited, as occurred in both the Pacific and Atlantic where international action was found necessary. To promote international action and co-operation for the proper exploitation and management of the Ocean's Fisheries, the FAO last year established the Indian Ocean Fishery Commission. Formation of the Commission was first approved in June by the 31-nation Council and ratified in November by the Conference, representing all FAO member-states. To date, more than 22 nations, including India, have applied for membership, which is open to all FAO member nations and associate members. The Commission will hold its first session on September 16-21, at FAO Headquarters in Rome.

The new Commission will co-operate with the Indo-Pacific Fisheries Council, established in 1948 and the oldest of FAO fishery bodies. The 18-nation Council, of which India is a member, interests itself in fishery matters of the Pacific-Indian Ocean region and has established an advisory group for the programming and co-ordination of high

seas fishery investigations in the Indian Ocean. Consolidation of efforts in this and other areas of joint interest is expected.

Meanwhile, FAO continues to assist India and other countries bordering on the Ocean in developing their fisheries. Such projects are generally financed under the United Nations Development Program and thus carry the weight of international support. At present the Organisation is assisting the Indian Government with two such projects. The first is a three-year, \$ 2,400,000 project for a Fisheries Training Institute in Bombay to train fishery officers. Enacted in September 1964, it was extended for one year until 31 August, 1968.

The other is a five-year \$1,200,000 project begun last year, for a pre-investment survey of fishing harbours. Based in Bangalore, its purpose is to study and select sites for possible fishing harbours along the Indian coast. Also envisaged is the drafting of complete preliminary plans for construction of such harbours with all supporting facilities.

Past FAO aid, in addition to technical assistance in many fishery disciplines, includes the mechanising of small fishing boats in India, Pakistan, Ceylon and other Asian and African countries, with out-board motors to increase their range and efficiency. It was a small, but important boost toward fishery development in what has become a growingly important ocean.

QUOTATION BOX

We should speak not of our civil servants but of one civil masters.

—Ronald Butt in the *Sunday Times*

Family Planning posters invariably show one boy and one girl making a happy family. So even according to the Government every family must have a son! Will such a poster motivate a couple with two daughters to take to family planning?

—Ashish Bose in the *Statesman*

One does not know for certain whether an election is a love affair or a war of sorts but whether it is one or the other, politicians are convinced that nothing is unfair in it.

—The *Sunday Hindustan Standard*

The central problem of the Wilson Government is Mr. Wilson.

—Ian Trethowan

The Ministry of Communication is an outstanding example of an organisation that has its head in the clouds and its feet in the mud.

—The *Hindustan Times*

'Democratic Socialism' is the name given to central planning when it fails to secure adequate funds.

—C.R. in *Swarajya*

Worry, headache and suspicion (W.H & S) is his Ministry.

—Jagannath Rao
Union Minister for Works,
Housing & Supply

God indeed has the devil in a chain, but has horribly lengthened out the chain.

—Cotton Mather in
New Statesman

It is often said that the House of Lords is the only legislative assembly in the world which is made efficient by the persistent absenteeism of the greater part of its members.

—Weekend Review

Whereas nuclear power can only reduce us and our world to a cinder, the camera grinds us down to a spiritual dust so fine that a puff of wind scatters it, leaving nothing behind.

—Malcolm Muggeridge
in *New Statesman*

If I earn, I have to pay income-tax;
If I save, I have to pay wealth-tax;
If I spend, I have to pay

expenditure-tax;

If I die, I have to pay death-duty;
What do I live for?

—R.R. Morarka said in
Parliament, quoted
from *Swarajya*

Proverbs which express the laws of commonsense:

"What goes up must come down;

You can't get something for nothing;

What goes in must come out."

—Weekend Review

"First registration, then discrimination, and finally confiscation."

—Time

The Radicals seek the source of all social ills in defective laws and institutions, and look to the State to set them right. In contrast, the Conservatives seek to find the source of these ills in defective human nature.

—Niranjan Dhar in *Swarajya*

SIX CROPS ROUND THE YEAR

EXPERIMENTS BY A BIHARI FARMER

THESE days 'Bihar' has become a synonym for drought and scarcity conditions. Its agriculture is backward and unyielding and the farmers poor and unenthusiastic. But there are also industrious and progressive farmers like Satrughna Prasad of Hazaribagh whose ingenuity and planned effort can make the useless land yield rich crops in the face of unfavourable conditions.

Satrughna Prasad has two farms—one a 10-acre plot at Petarbar, about 75 miles from Hazaribagh, and the other a 10-acre piece near the town itself. The land is undulating and the soil red laterite sandy type, considered unsuitable for cultivation. There were no irrigation facilities except a few wells when he started work there. Now he reaps bumper crops from the unyielding lands. His paddy yield exceeds 50 maunds per acre and he raises as many as six crops from a piece of land in a year.

It is remarkable that he did not use chemical fertiliser to increase the yield. His success depends mainly on hard work on a three-faceted strategy—correct dose of manure, adequate irrigation and proper husbanding of the land.

Satrughna Prasad uses only compost manure. Several pucca pits have been dug where cow dung, urine, etc. of the 16 heads of cattle are dumped daily. Every year about 4,000 maunds, or 12-13 truck-loads of manure, valued at about Rs. 5,500, are produced and all used in his own fields. The exhaust of the septic tank at his house and drain water is also used for manure.

For irrigation, he has constructed a dam across the Petarbar farm to collect the seepage water which used to flow, through his low-lying

fields. The water is lifted with the help of a 5 H.P. diesel pump and stored in an overhead tank. Another tank has been built at a higher level where water is carried by means of a pipeline from the main tank as and when required.

At the other farm, water is lifted from a nearby rivulet by a pumping set. The water stored in the main overhead tank is enough to irrigate the entire holding of 10 acres. The cost of installing the pumping set, the construction of the two tanks and the pipelines amounted to Rs. 26,000. He thinks that the

BIG DEEDS, HUMBLE MEN

In this new feature *Yojana* seeks to present the outstanding achievements of some of the many millions of obscure farmers who are fighting the nation's battle for food.

cost of irrigation at the Petarbar farm can be further reduced by constructing a few more tanks at higher terraces and interconnecting them with the main tank. The storage device has facilitated the maximum use of the water resources which was wasted so far. It has also benefited other fields by raising the level of subsoil water in the surrounding area.

The field is situated at a fairly high altitude with uneven levels. It has therefore been divided into even terraces at different levels and soil conservation methods have been adopted all over the 30-acre plot under cultivation.

The result of all these measures is the blooming of the wasteland. Multiple cropping is being successfully practised for the past few years. Three crops in a year are grown in a six-acre plot. A mixed

crop of potatoes and wheat is followed by chillies. After harvesting potatoes, maize is grown.

In another piece of one-fifth of an acre, he raises six crops in a year. Potatoes and wheat are sown side by side with proper spacing. Potato is harvested in January and maize is sown in the beginning of April and is harvested at the end of May or the beginning of June. A second crop of maize follows before sowing paddy in July.

Satrughna Prasad hopes to increase the yield and reduce the cost of cultivation if he can get better irrigation facilities. A 15 H. P. pumping set can work wonders, he says; but he needs power supply to run it.

His Hazaribagh farm gave a yield of 41 maunds per acre of local improved variety of paddy in the Kharif of 1967. Under the National Demonstration Programme, he sowed Taichung-Native-I in a plot of half an acre in the last Kharif. Here he used chemical fertilisers but only to the extent of half the recommended doses and for the other half he used the compost. The yield was 90 maunds per acre, one of the highest for the district. The same plot has again been selected by him for sowing the S-227 variety of wheat. He expects to get an yield of 35 maunds per acre from this plot.

A.K. Chakravorthy

New Method of Irrigation

MADHAVAN Nair of Ottapalam in Palghat district of Kerala has developed a system of irrigation which has attracted several visitors, Indian and foreign. He has tapped subsoil water through an ingenious underground damming method. He has constructed underground walls down reaching to the rocky substratum to check the horizontal flow of subsoil water and store it for irrigating his 15-acre plot.

He now takes three crops a year in the cement troughs, using high-yielding paddy varieties like IR-8 and Taichung Native-I. In the remaining plot, he takes two crops.

Madhavan Nair is not a traditional farmer. He took to farming only three years ago with the advent of the Tainan-3 programme. Even since, he has experimented with different high-yielding varieties of paddy seeds and the use of different cultural practices. He has found that IR-255 is better than the officially recognised IR-8, as it requires less fertilisers, and yields more grains as well as hay. All this experimentation on his own initiative has raised Nair's per acre yield to 5,200 kg of paddy, which is five times the yield of ordinary varieties.

Another important innovation of Nair is the daily-harvesting scheme. He has so adjusted the schedule of cultivation on his plot that on all the 365 days of the year, while one patch is being sowed, another is harvested. This has reduced his cultivation cost to such an extent that he can manage with only a few labourers round the year.

Nair has been approached by several people for new ideas in farming.

Hybrid Town in Kurnool

YEMMIGANUR, in Kurnool district famous for its handloom fabrics, is now passing through revolution. It began with the extensive use of high-yielding varieties of paddy, jowar, bajra and maize, which were first introduced in the area in the 1965-66 kharif season. A National Demonstration Seed Farm for jowar was set up which gave a record yield of 6,380 kgs per hectare. This stimulated the interest of farmers so much that soon there was a regular run on the seed farm. An experiment was made on a plot of 150 acres of barren alkaline land in Banavasi village. It was put under hybrid jowar and to everybody's surprise it yielded 15 to 20 bags of grain per acre.

In the wake of hybrid jowar came hybrid maize and bajra and IR-8 paddy. Now, there is no farmer in the village who is not using one or the other hybrid variety of grain.

The farmers never had it so good in the past. Poor farmers like Nabi

Saheb and Guntappa of Yemmiganur have greatly benefited by adopting the high-yielding varieties. Within a short span of three years both of them have added a few more acres to their ancestral lands. Nabi Saheb stood third in the All-India Paddy Competition, with 2,160 kg of G.B. 24 paddy per acre.

There are several farmers in Yemmiganur and the neighbouring villages who are now exploring new avenues of prosperity opened to them by hybrid varieties and the assured supply of water from the Tungabhadra project.

Hirana—Home of Bumper Producers

THE little village of Hirana in Amreli district of Gujarat has achieved outstanding success in groundnut production. This has attracted a lot of attention as Hirana land is of very poor quality. Out of about 1630 acres of land under cultivation only 56 acres are under irrigation. Groundnut is widely grown and covers three-fourths of the cultivated land.

An extensive programme of sinking wells has been taken up by farmers following the results of cropping in irrigated and non-irrigated areas. While non-irrigated farms gave a return of 400 to 500 kg of groundnut per acre, the irrigated farms yielded as much as 1,200 to 1,500 kg per acre. Dahyabhai Bhimjibhai Patel obtained 2428 kg. per acre, which is ten times the average production in the district. He won the first prize in the district-level groundnut crop competition of 1967-68.

The second prize was won by his fellow villager, Vithalbhai Khedabhai Patel whose per acre yield was 2415 kg. Khedabhai's per acre profit more than doubled when he harvested the wheat crop on the same land during the rabi season.

Asked about the reason for his success, Vithalbhai said, "I have been cultivating groundnut for the past fifteen years and the average yield was about 200 kg per acre. But I have since learnt by experience that with timely preparation of

field, adequate dosages of fertilisers, right type of seed, proper irrigation and crop protection measures, bumper crop is within the reach of every farmer".

Orissa Takes to New Methods

THE farmers of Orissa, by adopting new farming techniques, have demonstrated their ability to forge a breakthrough in agricultural output. There are visible signs of prosperity even in the remote backward areas where agriculture was regarded as an uneconomic proposition.

Sisupalgarh near Bhubaneswar is one such village where a few years ago people earned their living by stone-cutting and working as labourers. A decade of education and training by extension workers of Krishi Mahavidyalaya acquainted them with the new methods of cultivation. They now get five to ten times more price for their paddy than what they earned as labourers. They grow now hybrid maize, vegetables and high-yielding Taichung.

Middle-aged Raghunath Jena, started growing high-yielding Taichung last year. This Rabi season he hopes to get an yield of nearly 65 maunds per acre from his 10-acre plot—four acres of Taichung and six acres of hybrid maize. Jena says that he has been growing maize for the last six years which brought him good income.

In a 12-acre plot in Ujanipada village in Pipli block, hybrid maize was grown by 25 farmers. The net income from this was about Rs. 600 per acre. Multiple cropping, of maize and paddy is the common pattern in most of the villages in this block.

In another six villages in the Puri district, high-yielding, varieties of Taichung native-1 and I-R-8 were grown in 120 acres during the current Rabi season. An yield of 80 to 90 maunds of paddy per acre is expected. Two years ago, the hilly and forest land produced only one-sixth of the present yield. The indigenous Tenda method of lifting water from tank by manual labour is still followed for irrigating the fields.

THEY SPEND MORE THAN THEY EARN

SURVEY OF MALKHERA (M.P.)

A socio-economic survey of village Malkhera in Madhya Pradesh by the Planning Forum, Government Degree College, Neemuch (M.P.), has highlighted the lack of enthusiasm and optimism of the residents for bettering their lot. A small village, only 3 miles from Neemuch, Malkhera has about 150 families out of which only 4 live in pucca houses.

Though the nearest railway station is only 4 miles away and there is an arrangement with Neemuch Post Office for weekly clearance and delivery of mail, yet some of the villagers find the communication facilities inadequate.

The village does not have its own Gram Panchayat, Co-operative Society or Marketing Society. However, its interests in this direction are served by a Panchayat, which covers an area of 4 to 5 villages, and the Co-operative and the Marketing Societies of Neemuch. Some of the villagers are also members of these institutions. The National Extension Block at Neemuch also serves Malkhera.

Though agriculture is the primary occupation of 75 per cent of the villagers they do not look upon it as a profitable or desirable profession. This is perhaps due to low productivity for which there are several reasons.

Taking into consideration the requirements of the cultivators the, irrigation facilities available in Malkhera are inadequate, and they have not improved much during the past five years. There are only about 60 wells in the village out of which only 16 are pucca.

Wheat, opium, groundnuts and urad are the main crops grown in

the village. Every year some fertilisers and better quality seeds are distributed to the villagers which have improved to some extent the productivity of some crops. Plant protection both by machine and by hands is undertaken by the cultivators. Under the Package Programme of oil seeds some equipment had been provided to the farmers for this purpose. In 1964-65, however, only 6 acres of land had been protected under this method. Soil conservation is mainly done by contour and field-bunding. In 1962-63 contour bunding had been done on 70 acres of land.

Fragmentation of holdings is common and no attempt has been made so far to consolidate the holdings in the village. Besides there is great disparity in the size of land-holdings.

Castration of bulls and animal vaccination is done every year. In 1964-65 about 500 animals were vaccinated at Neemuch.

Though the village has its own carpenter, blacksmith and a cobbler, there is no organised smallscale or cottage industry in the village. And there are no avenues of employment for the villagers in the off-season.

The per capita income of the village is Rs. 178 which is very low as compared to the all-India per capita income of Rs. 334.

While the monthly income of a family is Rs. 99, its expenditure per month is Rs. 117, which means that each family runs into a yearly debt of about Rs. 216.

The income distribution of the households is uneven and there is great disparity between the minimum and the maximum income.

The average wage of labourers is very low, about Re 1 per day; there are some workers who even get about 50 paise a day.

The standard of living of the people is very low. Living in the vicinity of Neemuch town does not

seem to have made any impact on the lives of the people as regards dress, eating habits, house-construction, roads and lanes etc. This is again due to their extreme poverty which does allow any scope for advancement.

The only satisfactory thing here is that about 75 per cent of the residents own their lands and implements of production. Most of them also own the houses they live in.

The village has its own primary school, with one teacher and 50 students. However, there is no provision for adult education in the village.

There are no medical facilities in the village, and in case of illness the villagers have to go to Neemuch.

The message of family planning has not reached the village. Though family planning week was observed in Neemuch, not a single man or woman could be induced to undergo an operation in the village.

BHAGORA IS HALF LITERATE

AGRICULTURE is the primary occupation of the people in village Bhagora. The main crops grown are wheat, gram, jowar, cotton, maize and groundnut. Situated four miles away from Mhow, a tehsil in Madhya Pradesh, the village has a population of about 1,450. A socio-economic survey of the village conducted by the students of the Government Degree College, Mhow, has revealed that nearly half the population of this village is literate. The village has its own middle school, a girls primary school and an adult education centre. Quite a few of its students go to nearby towns for higher education.

There is an Agricultural Development Co-operative Society in the village which provides good quality manure and seeds, taccavi, short and long-term credit to the cultivators for the installation of pumps and wells. Most of the cultivators, however, were dissatisfied with the method of distribution of seeds which was not according to the size of the holdings. Well irrigation is common and there are about 60

kacha and *pacca* wells in the village. About half of these have been constructed by the Government or with the loans extended by the co-operative societies. Holdings are so fragmented that there cannot be any profitable utilisation of modern agricultural machinery.

There are no first-aid health centres in the village. A family planning camp organised in the village proved only a partial success. Very few people have taken to small and cottage industries in this village. Chief reason for this is the non-availability of funds and training. During the agricultural slack season some villagers earn extra money by selling straw, leaves, fuel, etc.

There is a village level worker to help the villagers.

THEY DO NOT KNOW PLANS

SURVEY OF A RAJASTHAN VILLAGE

DARRAH, a famous lion sanctuary of Rajasthan and nearly 50 km from Kota city, is an attractive picnic spot, visited by many tourists. An important traffic centre of the area, the village has its own railway station and a big bus stop. But in spite of all this, its people have never heard of our national Five Year Plans, and are practically ignorant of the big development efforts taking place in the country. This interesting fact came into light when the students of the Government College, Kota, made a socio-economic sample survey of Darrah and its neighbouring village Amzar.

Twenty-seven households were selected for this purpose from the two villages. The average size of the household was five, and not a single household had a joint family system. Though agriculture was the mainstay of the people in these villages, it was found to be a depressed industry. The economic condition of the people was very poor. Sixty per cent of the cultivated land was un-irrigated. Wells were the only source of irrigation. Though River Amzar flows very near these villages, surprisingly its water has not yet been used for irrigation. Cow-dung is commonly used as

manure though some of the farmers also use chemical fertilisers.

The place is known for its *khoya* and *khoya* sweets. Though milk is the chief industry in the area, it is not a very profitable one. The villagers do not have much surplus milk to sell, and most of the *khoya* is made of skimmed milk, which

accounts for the low price of the commodity in the area.

There is no school in the village and even the children of primary standard have to go to adjoining villages for schooling. Awareness of family planning is also completely lacking. Probably the people never heard about it.

RECORDS IN FAMILY PLANNING

The Union Government has taken a number of measures to ensure free distribution of condoms (Nirodh) through Government dispensaries, family welfare planning clinics, depot-holders and commercial channels.

Of the 25 million pieces, nearly 17.4 million have already been supplied to the States, Union Territories and the Ministries of Defence and Railways for distribution.

The Swedish Government has agreed to make a gift of 1 million gross condoms, besides printing units, offset paper and glazed newsprint and eight vehicles for family planning propaganda.

U.P. MAKES HEADWAY

As against the target of 1200, a total of 1,709 sterilisation were performed in the Pithorgarh district of U.P. last year, placing the district at the top in the State.

Puran Chandra Pandey, a village level worker at Dharchula, motivated 111 cases for sterilisation and was declared the best family planning worker in the district. The Medical Officer at Didihat performed 545 vasectomy operations, the highest by any one in the district.

The targets for 1968-69 are 1,887 sterilisations and 1,258 loop insertions in the district.

PUNJAB TOPS THE LIST

Punjab has reached a high mark of 26.1 loop insertions per 1000 persons, thus taking a lead over other States. Haryana was second with 12.2 and Delhi third with 10.4 insertions per 1,000 persons.

In the field of sterilisation, Madras was at the lead with 17.4 sterilisations per 1,000 persons. Maharashtra comes next with 14.2,

followed by Orissa 11.0, Kerala 10.8 and Punjab 10.1.

MAHARASHTRA'S RECORD

In Maharashtra one of the biggest sterilisation camps was organised in May last at the village Aainpur in Jalgaon district. In a single day, 210 tubectomy operations were performed, establishing a world record. Six doctors worked continuously for 29 hours.

Dr Subhash Munja, a young Civil Surgeon, performed 63 operations in a day.

Earlier at a camp organised at Chandwad in the Nasik district of Maharashtra, 207 tubectomy operations had been carried out in one day.

A CAMP IN KERALA

The mass vasectomy operation-cum-I.U.C.D. camp organised by the Junior Chamber at Balaramapuram near Trivandrum in Kerala in May last created an All-India record in vasectomy operations. The camp succeeded in performing 330 vasectomy operations and 90 I. U. C. D. insertions in a single day. Thirty experienced doctors worked round the clock.

Preliminary work was started much in advance with mass publicity. The campaign was mainly concentrated in Athiyannoor, Nemon and Perumkadavila Blocks. The Block authorities and the Panchayats of these places gave their services free in propagating the benefits of planned parenthood.

As an additional incentive, the Chamber gave Rs. 7 to 17 in each case. A lottery was conducted from among the beneficiaries and a special prize of Rs. 50 was given.

HAVE WE NEGLECTED AGRICULTURE ?

Relative Rates of Growth—Agriculture and Industry by Dr. Ashok Rudra. Published by University of Bombay. 1967. Pages 91. Rs. 8.

M. R. Kulkarni

A controversy has been raging in this country for quite some time past on the issue of relative priority given to agricultural development in our Plans. Against this background Dr. Rudra's study has great value in providing a proper lead to the discussion on the precise pattern of priorities to be adopted in the future plans of development.

There are two schools of thought holding opposite views in regard to precedence to agriculture over industry in the scheme of economic development. One contends that there is a natural order of development which assumes that unless agriculture is transformed first, development of heavy industry is just not possible. The other point of view is that technological revolution in agriculture will only follow industrial development. The controversy cannot be settled *a priori*. The exercise of the kind Dr. Rudra has undertaken may not conclusively establish or demolish any particular point of view, but it should press home the futility of taking rigid predetermined positions.

Dr. Rudra does not directly address himself to the question whether agriculture was relatively neglected in the last two Plans. His object is to examine the degree of interdependence of agriculture and industry in our economy. He primarily seeks to enquire if it is possible in Indian conditions to industrialise without any specific expansion in the agricultural sector.

Dr. Rudra conceives the following pressures to emerge if agriculture does not expand adequately rapidly, namely shortage of agricultural raw materials impeding industrial development; shortage of agricultural

products for exports, thus creating a balance of payments problem and adversely affecting the inflow of capital goods and raw materials for industry; and shortage of foodgrains etc. leading to rise in prices and wages. If the shortage is sought to be met by imports, other imports, such as industrial raw materials, may have to be reduced. If general price level is sought to be stabilised through taxes, prices of industrial end products would be depressed which would discourage industrial investment.

Dr. Rudra has used the inter-industry table for 1960-61 prepared by the Indian Statistical Institute for his simple—but, in his view, plausible econometric model. This table distinguishes 30 defined sectors and one residual sector. Of the 25 industrial (not "non-industrial" which is apparently a misprint on page 13), sectors, 14 do not take any inputs at all from the sectors belonging to the agriculture group. It is also found that the part of the economy more or less independent of the agriculture group from input point of view accounts for about 60 per cent of the total output and 69 per cent of total value added in the 30 identified sectors. Thus the table brings out the insignificant extent of the dependence of the rest of the economy on agricultural inputs.

As far as the dependence of agriculture on industry is concerned, in 1960-61 inputs from industry amounted to not more than 1.1 per cent of total production of agriculture proper. It is, of course, true that the demand of agriculture for industrial inputs like fertilisers, pesticides and implements has been rapidly increasing in recent years and the 1960-61 position cannot be representative of 1967-68. It is, however, a universal phenomenon that the first order effects of relatively slow agricultural growth would not significantly affect indus-

trial development. In a free economy, however, indirect effects can be very important which have not been considered in this study.

The lack of vital and considerable interdependence of agriculture and industry does not, however, mean that unbalanced growth would not subject the economy to various pressures. The major pressures would be balance of payments difficulties, inflation and price distortions. One must, therefore, look out for balanced combinations of rates of growth of industry and agriculture. Dr Rudra finds that 5 per cent in agriculture and about 10 per cent in industry will be the best possible combination. Incidentally, these are the growth rates being envisaged for the Fourth Plan.

As for the foreign exchange repercussions, the study comes to the conclusion that the balanced combination—5 per cent and 10 per cent—would again give an optimum result. Any other combination would either give a negative export surplus, or the surplus, if positive, would be less than optimum.

The author has attempted to corroborate his findings by past observations. He has found that during 1955-60, there was a fairly balanced growth of agriculture and industry and, if anything, the growth rate was unbalanced in favour of agriculture. Consequently, agricultural prices were stable and general price level steady. But during 1960-63 the position had somewhat reversed, the growth rate being unbalanced in favour of industry.

Any way, this sort of corroboration has limited significance in view of many reservations with which it is conducted. In spite of the inadequacies of Indian statistics and the fact that the 1960-61 inter-industry table no more correctly reflects the Indian economy today, the study, on the whole, serves to under-score two important conclusions: (1) that there is no predetermined course of development where agriculture has a necessary precedence over industry, though this does not mean that agriculture can be neglected with impunity; and (2) that the criticism, that agriculture has all along been neglected, is not quite borne out by facts.

TRAINING FOR C.D. PERSONNEL

Training For Community Development Personnel in India by M.R. Makhija. Published by the Indian Institute of Public Administration, New Delhi, 1968. 165 pages. Rs. 10.

L.L. Sarin

THE Community Development Programme now covers almost the entire country but it is at a low ebb. There is growing evidence to suggest that it has lost its glamour and there has been loss of confidence in its objectives, achievements and potential.

An important pre-requisite for making this programme successful was to have trained personnel to run it. What did we do in this regard? The present study traces the history of the training programme of C.D. personnel and brings out aptly 'how growing maturity came slowly and steadily upon this programme.' Training for C.D. was given the pride of place so much so that the success or failure of the entire C.D. programme was stated to be dependent, not on the availability of funds which were scarce in any case, but on the availability of trained personnel. The precise language, the compact presentation of the origin and growth of the training programme during the last decade and a half, in the first chapter, makes lively reading. It draws freely from the findings of the Study Groups, Teams and Committees set up earlier. The related statistical data, if included, would, however, have enhanced the value of the book.

Parts II and III of the study pose candidly the various problems encountered and the steps evolved by way of solution through the process of 'trial and error', and the efforts made in the quest for excellence. 'The endless quest for perfection keeps alive the spirit of experimentation', says the author.

The evaluation of what has actually been achieved in relation to what had been hoped for, which is the real contribution of the author based on a random sampling survey, reveals some interesting analysis. The Block Development

Officer is the chief of C.D. at the block level. According to the survey, 'They (B.D.O.'s) make the smallest percentage of those who regard the syllabus (of training) as pertinent to their needs.' Again 'The largest number among those who did not find field-work adequate was that of B.D.O.s.' A large majority of the staff included in the sample, however, looked upon the training as an aid to better relations with their colleagues and with village people. The analysis also reveals that most of the important circulars do not reach the Training Centres from their parent departments. These findings could prove useful to those responsible for the formulation of the training programmes. On the whole, the author concludes that 'the Training Centres have taken strong roots and are firmly established.'

PLANNING IN A DISTRICT

District Planning — Moradabad. Published by the National Council of Applied Economic Research, New Delhi. 217 pages. Rs. 25.

Jayanta Sarkar

THE book has been published at an appropriate time. Now that the Fourth Plan is being prepared, such a publication can be of great importance.

The book suggests a new approach to Indian planning. In a few pages at the beginning it demolishes the case of the present pattern of planning which, it thinks lays stress on schemes rather than on areas, and which tends to plan from the top rather than from the bottom.

But the basic strategy for the Fourth Plan has already been laid down, and it hardly makes any departure from the previous pattern. It would not be easy to graft at this rather late stage a completely new approach on the one already accepted.

The book then goes on to enumerate some of the basic advantages of district planning. It says that planning at the State level suffers from many limitations, and

In the concluding pages the author has made an attempt to visualise the shape the training programme should take in future. Some useful suggestions are made. With the growing emphasis on agricultural development, the B.D.O. and the village level worker (V.L.W.) should have sound knowledge, experience, and time to devote to agricultural extension, for, otherwise they might tend to become mere supply agents of the Government for agricultural inputs. In fact, in practice, a V.L.W. is found ignorant of what even an illiterate farmer knows. The author has, therefore, rightly pointed out that 'the demand on and expectation from V.L.W.s are on the increase' and that there is a need for giving adequate training to V.L.W.s to enable them to keep pace with the changes in technology and mechanics of the economics and social tasks handled by them. Different and higher kinds of expertise will be called into play.

adds: "It would be more useful if district resources and potentialities are studied first and then a plan prepared to develop them for the five year period. For instance, one district may plan a larger output through bringing more land under plough, while another district may plan intensive irrigation through wells, and a third district may give high priority to the development of pastures, depending on the resources of individual districts".

The book has also discussed if the block could be made the primary unit for planning. However, it concludes that "though the basic unit for plan implementation should be a block, the actual plans may be feasible to be prepared only at the district level".

In advocating district planning, the book has, however, not overlooked the obvious difficulties in such an approach. To get statistics at the district level has always been a difficult problem, and to get the men to process the statistics, do the sums and work out projections with imagination is still more difficult. Though the book has not dealt with these problems at length, it concedes that they are serious handicaps to district planning.

INDIA'S NEW FOOD STRATEGY

India's New Food Strategy by Rajeshwar Dayal. Published by Metropolitan Book Co., Delhi-6. 208 pages. Rs. 15.

D. P. Bhattacharjee

FOOD is the biggest problem India is faced with today. And efforts to fight it out have been ceaseless. Various schemes and plans had been launched in the past to boost food production, which had, to be sure, registered an encouraging rise. Nevertheless, we are nowhere near solving the problem. In the mean time, it is acquiring menacing dimensions. The crisis is mainly due to the alarming rate of population growth.

The Government has swung into action for meeting this challenge and initiated a two-pronged assault on the problem: constant care to raise food yield and an all-out drive to curb population explosion. In a bid to augment food supply, the Government undertook a number of projects, such as the Intensive Agricultural District Programme (1960-61) and Intensive Agricultural Area Programme (1964-65). But the failure of the monsoon during the Third Plan made it clear that a more determined drive was needed.

Consequently, the Government came out with a new programme known as the New Food Strategy or the High Yielding Variety Programme. The driving force behind the idea is to achieve self-sufficiency in food by the end of the Fourth Plan.

One of the salient features of the strategy is that it tends to be more selective regarding the area of operation with a view to eliminating as much risk as possible. It is, therefore, proposed to select within the existing IADP and IAAP a few blocks with assured water supply, satisfactory drainage and conservation system and well-developed village institutions like co-operatives, and village panchayats. Farmers of those areas, which offer maximum food potentialities, will be given all possible help so that they can reap a harvest three to four times larger than the present.

Another noteworthy aspect of the new approach is the introduc-

tion of short duration crops. This will make it possible for the same land to produce more.

Divergent views have already been aired on the new food strategy. The author has detailed the points of criticism with meticulous care. Like many other critics, he has also cast doubt on the success of the new approach.

The book is indeed a sincere and laborious attempt to analyse India's food problem. Its pages are interspersed with a plethora of figures. Like a true academician, the author has left no stone unturned to adduce evidence in support of his statement.

Challenge of Famine

Challenge of Famine by B. B. Chatterjee and Hanuman Prasad. Published by Amitabh Prakashan, Varanasi-2. 39 pages. Rs. 4.

G. Mukherjee

A famine is not a very pleasant thing, but it is unfortunately very often an inescapable reality. This is unhappily true of India, where a monsoon-bound agriculture has so often been the cause. There is, therefore, no dearth of literature on the subject; but the slim book under review does not belong to the normal run of such publications. It is not a record of happenings nor is it a scientific treatise on the phenomenon of famines; but an inspiring saga of community effort to combat the unprecedented drought and scarcity that swept over a dozen districts in south-east Uttar Pradesh in 1966-67.

The authors—a psychologist and an economist—tell their story in simple language, but with deep understanding and sympathy. Out of the cold statement of facts and figures emerge a moving story of life, untiring in its struggle against death. The severe drought of 1966-67, which hit large parts of Bihar, attracted global attention, as a result of which much of what was happening in neighbouring Uttar Pradesh was not even heard of. The present publication seeks to complete the record.

The organisational set up responsible for relief operations in U.P. consisted of various voluntary organisations and the Government. The authors chose the Naugarh Block in the Varanasi district for their case study, and observed the main aspects of relief work, namely, feeding the hungry. Their observation and analysis have helped them to formulate a number of do's and don'ts for relief workers. They have stated the bare facts without frills, and some of their observations are startling. For instance, the average cost per meal for an adult varies from 21.9 to 30.8 paise, which comes to less than Rs 9 per month. They substantiate their estimate, which sounds unbelievable on the face of it, on the basis of the price range, actual cost and other relevant data. There are about 12 tables and three graphs in the book to help the reader understand the different aspects of relief operations at a glance.

The book, though slender, is a mine of information, which can serve as a useful guide for relief workers.

OTHER BOOKS RECEIVED

Weapons—Old and New—by Mr Najabat Ali. Published by the National Council of Educational Research and Training, New Delhi-14. 198 pages. Rs. 7.50.

For a United India—Speeches of Sardar Patel 1947-1950. Published by the Publications Division, Patiala House, New Delhi-1. 76 pages. Rs. 2.25.

Papers in the Sociology of Education in India—Edited by M.S. Gore, I.P. Desai and Suma Chitnis. Published by the National Council of Educational Research and Training, New Delhi. 363 pages. Rs. 8.75.

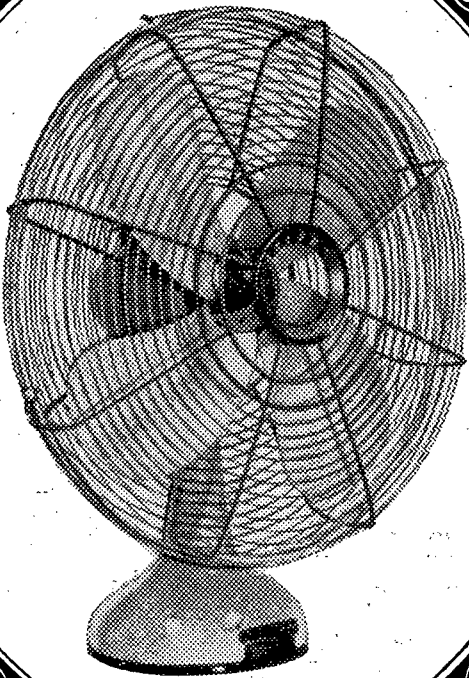
Economic Planning—Theory and Practice by B.C. Tandon. Published by Chaitanya Publishing House, Allahabad. 546 pages. Rs. 13.50.

The Constitution of India—a comparative study by S.C. Dash. Published by Chaitanya Publishing House, Allahabad-2. 621 pages. Rs. 16.

Physics—A textbook for Secondary Schools. Published by the National Council of Educational Research and Training, New Delhi. 239 pages. Rs. 5.20.

Report of the Fertiliser Credit Committee—issued by the Fertiliser Association of India, New Delhi-11. 341 pages. Rs. 15.

The Universe by P. L. Bhatnagar. Published by the National Council of Educational Research and Training, New Delhi-14. 200 pages. Rs. 6.50.

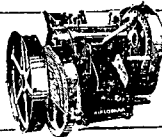
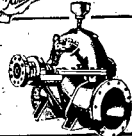
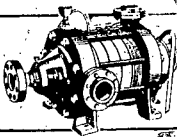
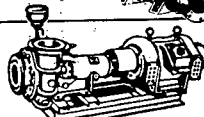
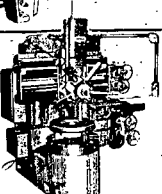
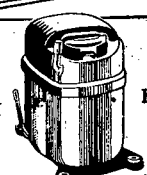


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Development Diary

- The foundation of the Rs. 16 crore Hemavathy project in the Cauvery basin has been laid at Gorur in Mysore. The project, when completed, will provide irrigation to one lakh acres in the droughtstricken parts of Hassan and Mandya districts.
- The Soviet Union and India have agreed to bring the pattern of exports and imports in line with requirements of their respective economies. Their mutual deliveries this year will amount to Rs. 300 crore as against Rs. 280 crore in 1967.
- Trade exchanges between India and the United Arab Republic during 1968-69 will be of the order of Rs. 64 crore as against Rs. 55 crore in 1967-68. Under the new agreement India proposes to buy certain new items like petroleum products and nitrocellulose from the U.A.R.
- India has signed two agreements with Sweden under which Sweden will provide two development credits totalling Rs. 10.8 crore to India. The credits are untied and will be repayable over 25 years. They will be utilised mainly for making payments in foreign exchange for the import of industrial and capital equipment needed for the development of industries, power and mining operations.
- As a part of the non-project aid, including debt relief, recommended by the Aid India Consortium, Britain has signed two loan agreements with India for £16 million (Rs. 28.8 crore). Britain is the first country to sign such loans, and the amount forms part of the £35 million (Rs. 63 crore) of aid pledged by this country for 1968-69. Including this loan, the total amount for debt relief, given by Britain so far amounts to over £27 million.
- An agreement for a loan of \$60 million to Air India for the purchase of two Boeing 747 "Jumbo Jet" aircraft with spares has been signed between India and a syndicate of 13 U.S. commercial banks. Of this the Export Import Bank shares \$25 million. The two jumbo jets are scheduled for delivery in 1970-71.
- The Government of Bihar has provided a sum of Rs 45 lakh, in its current annual plan, for the development of industrial areas at Adityapur, Barauni, Bokaro, Ranchi and Patratu.
- India and Yugoslavia have signed a protocol on economic, scientific and technical co-operation.
- Huge copper seams of good quality have been struck in the Hazaribagh district in Bihar.
- A new paddy strain, known as culture-28, has been evolved at the Pattambi Rice Research Station. The new variety has proved excellent for cultivation in all areas including the water logged fields in Kerala. The crop is ready in 90 days and three crops can be sown in a year.
- Two modern rice mills from the complex of 24 such mills are being set up at Haryana and Punjab by the Food Corporation of India.
- India and Czechoslovakia have signed an agreement for co-operation in the fields of science, education and culture.
- Phosphate deposits have been found in the Garo Hills district of Assam.
- One hundred and seventy tube-wells have been successfully sunk in the desert districts of Rajasthan at a cost of Rs. 1.50 crore, bringing relief to places which had no water for ages.
- A Rs. 40-crore Titanium complex will be set up in Kerala to process huge deposits of ilmenite sands, available in the State, for the manufacture of various by-products of Titanium.
- India and Nepal have signed an agreement to introduce a 5 KW radio-telephone link between the two countries. The cost estimated at Rs. 12 lakh, will be borne by India as part of its aid to Nepal.
- The first co-operative spinning mill of Rajasthan has been set up at Gulabpura, in Bhilwara district, at an estimated cost of Rs. 1.50 crore.
- The Heavy Engineering Corporation, Ranchi, has manufactured 1,500 tonnes of machines, both mechanical and structural, for the Bokaro Steel Project.
- A skelp mill built in co-operation with a British firm at a cost of Rs. 6 crore has been opened at the Durgapur Steel Plant. As part of the 1.6 million tonne expansion programme, the mill would greatly augment the production of steel skelp—a basic raw material required for the manufacture of steel pipes and tubes. The first all hydrocyclone coal washery, built with Czech co-operation at a cost of Rs. 4.50, crore, has also been inaugurated at the Durgapur Project. Both the mill and the washery incorporate some of the latest techniques.
- India has agreed to give Rs. 2-crore as loan to Tunisia.
- The U.S. embassy has announced a loan of \$36.9 million (Rs. 27.7 crore) for the four-field expansion of the Trombay Fertiliser Plant. The Trombay Plant will become India's largest fertiliser plant when the expansion work, partially financed by the loan, is completed by 1971.
- The Gujarat State Fertiliser factory has signed contracts with a Japanese and a German firm for technical assistance for setting up a Caprolectum Plant near Baroda at a cost of Rs. 22 crore.



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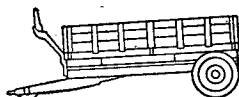
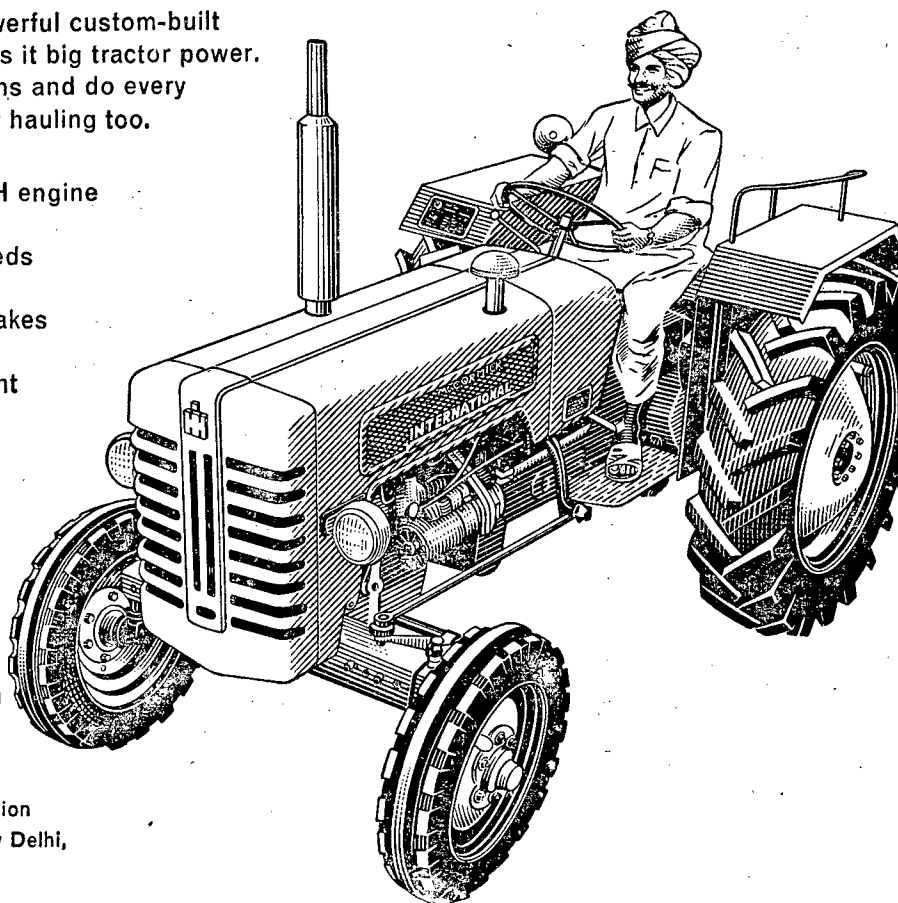
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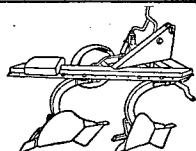
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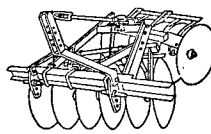
Agro-Industrial Products Division
Bombay, Calcutta, Madras, New Delhi,
Bangalore, Lucknow.



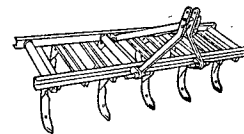
2-Wheel Trailer



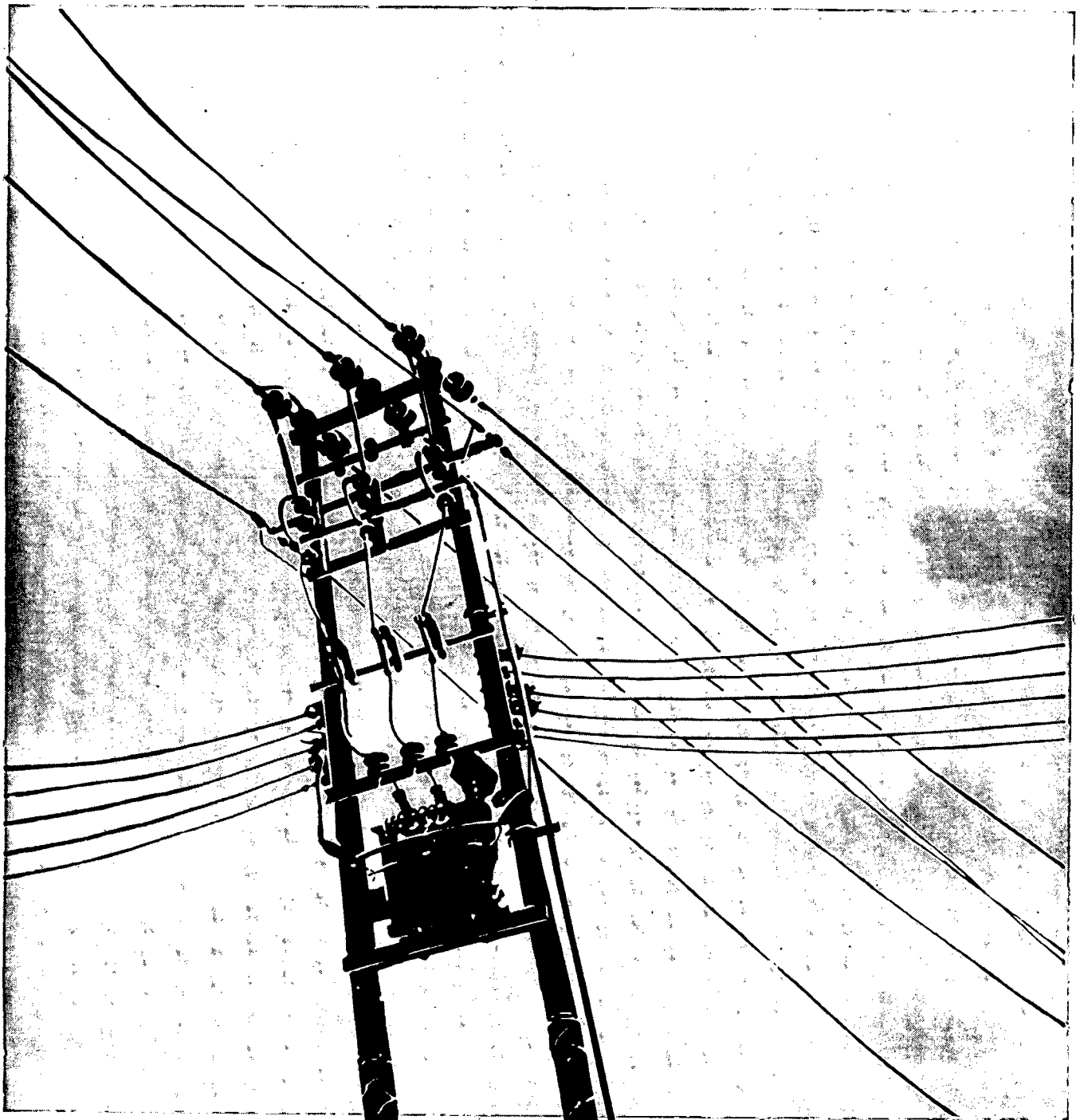
Bar-point Mould-board Plough



Offset Disc Harrow

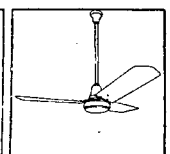
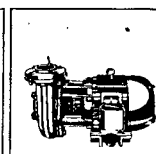
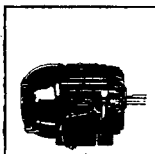
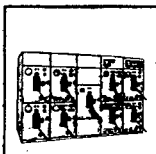


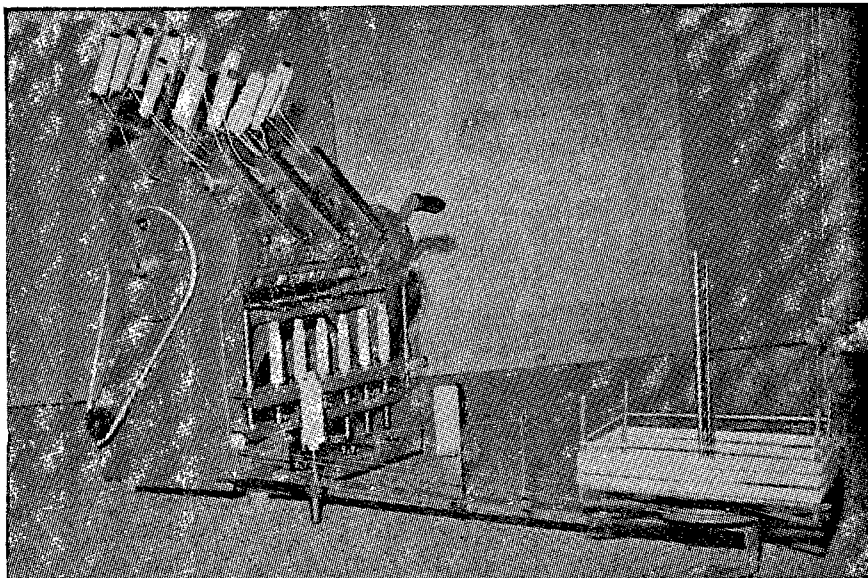
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AMBAR CHARKHA

MORE than 6,000 improved "Ambar" charkhas, developed by the Khadi and Village Industries Commission, are in use in 70 centres in Madras and Kerala. The new charkha is an improved spinning unit for the processing of cotton and spinning. This has been developed after a good deal of research and experiments conducted by the Khadi Gramodyog Samiti of the Sarva Seva Sangh and the research organisation of a firm manufacturing textile machinery.

The new model, which is an all-metal six spindle charkha, includes in its design and construction some of the modern principles of spinning and its preparatory processes. It also incorporates all advantages of the previous Ambar charka, besides having greater durability.

The main advantage of the new model charkha is that *all its processes are streamlined* from the opening of cotton to the spinning of yarn. Other important features are that it is much easier to operate and does not require long initial training. It also ensures increased production of yarn of uniform quality. Being light in operation, its wear and tear is also negligible.

Under laboratory conditions this charkha has given an average production of 20 hanks (0.74 kilogram) of yarn of 27's. Its operation has also reduced the cost of hank from 46 paise in the case of old Ambar charkha to 35 paise. When introduced in weaving mills it is expected to reduce the cost further, making it possible to sell khadi at about Rs 2.20 per sq. metre.

According to the report of an expert committee of the Planning Commission, which made a study of the economics of the working of this charkha, the use of the new model would give substantially higher earnings to the artisans. The introduction of separate implements for different processes of operations in the new model would also lead to increased efficiency. The use of electricity for carding would reduce the physical strain on the artisan. Its smooth working coupled with the potentiality of higher wage earnings would offer more employment opportunities, thus attracting more people to take to spinning.

Courtesy : Khadi and Village Industries Commission, Bombay

DESERT PLAGUE

Some 40 countries extending from India to West Africa are preparing to meet the menace of desert locusts, which have been in recession for the last five years. A 285,000 dollar emergency plan is being launched by the UN Development Programme. The campaign is being mounted by FAO in Saudi Arabia, Yemen and South Yemen, Ethiopia and the Somali Republic. Unless the plague is controlled, the north-western states of India are also likely to be affected.

Gurdas Singh, FAO locust expert in charge of the drive, is moving in trained technicians from other West Asian countries and from India and Pakistan to the Arabian peninsula to carry out large-scale control measures.

A ton of locusts eats as much food in one day as 250 people. Already a swarm of about 46,000 tons has been sighted, as many as 23,000 million locusts spread over 230 square miles.

Once on the move, swarms of the desert locust may invade a total area of 11 million square miles, equal to more than 20 per cent of the world's land surface. Their depredations can affect, directly or indirectly, one-tenth of the world's population spread from the Himalayas to the Atlantic. Much of India, Pakistan and Africa and all the countries of West Asia are liable to suffer if the plague reaches major dimensions.

When such swarms break out of the desert and semi-desert breeding areas into cultivated lands their effect is calamitous not only to farmers, but to whole populations. At least 167,000 tons of grains—enough to feed 1 million people for a year—were destroyed by locusts in Ethiopia in 1958.

To prevent such havoc the desert locust must be looked for and controlled where it breeds in the deserts. The area involved, some 6 million square miles, is a measure of the immensity of the task.

—FAO Feature