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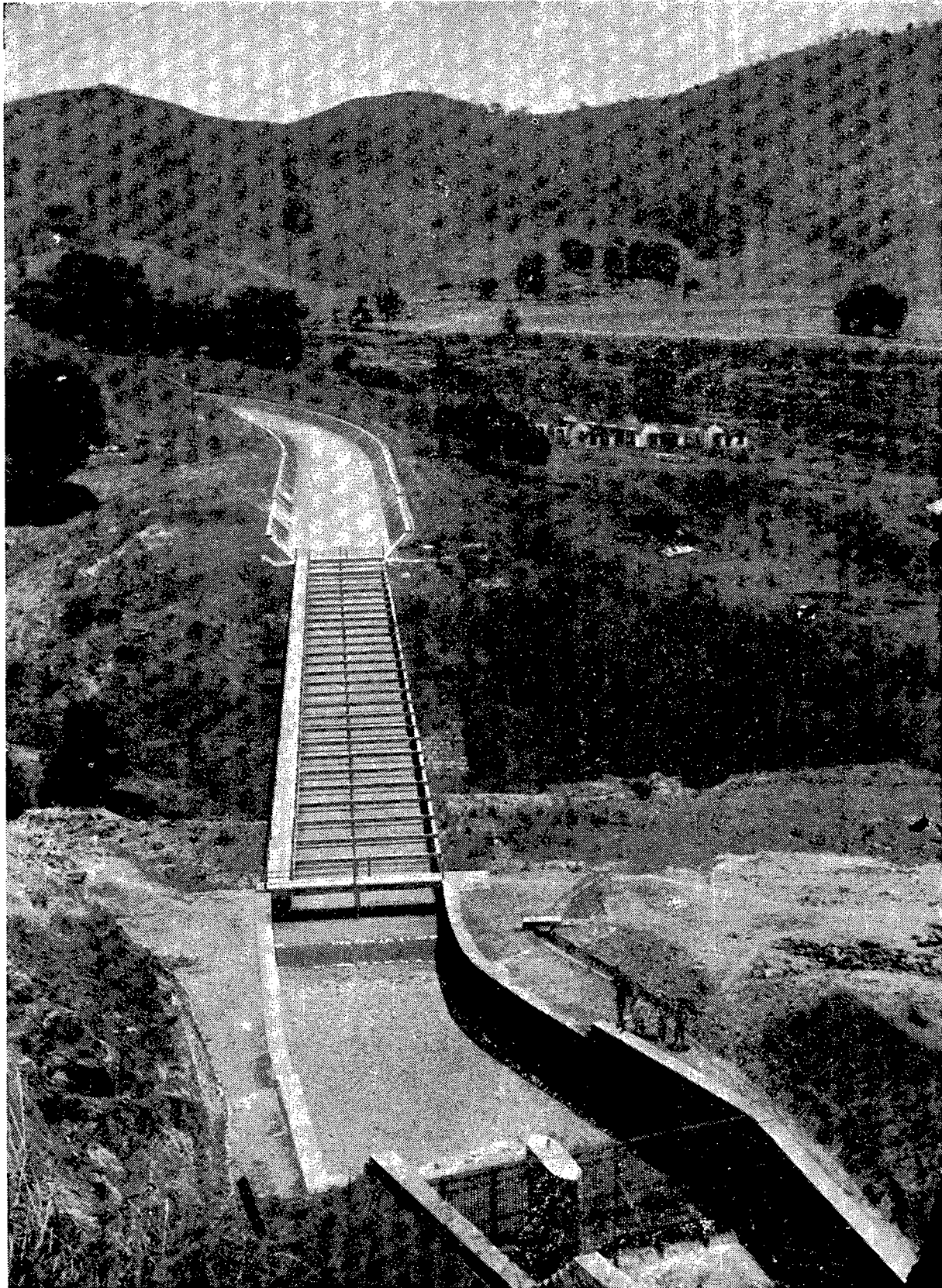
YOJANA

JOURNAL PUBLISHED ON BEHALF OF THE PLANNING COMMISSION



OUR NATURAL RESOURCES

A TOTAL VIEW OF



**A concrete-lined
irrigation
channel of the
Machkund
Project,
Andhra Pradesh**

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OUR NATURAL RESOURCES

Central Committee Set Up by Planners

FROM THE ABUNDANT ELEMENTS A RICHER INDIA

OUR prosperity depends mainly on the judicious exploitation of our natural resources. For ages our country has been famous for the richness of its resources, but in the past very little effort was made to utilise this abundant wealth from the perspective of the country's economy as a whole or even systematically to assess the extent of this wealth. However, since planned development was taken up ten years ago, vigorous attempts have been made to take stock of our resources. It is one of the functions of the Planning Commission "to make an assessment of the material, capital and human resources of the country". This is a primary necessity for the Planning Commission to fulfil its objective of formulating "a Plan for the most effective and balanced utilisation of the country's resources".



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Several organisations are engaged in the assessment of our material resources, chiefly the Survey of India, the Geological Survey of India, the Indian Bureau of Mines, the Oil and Natural Gas Commission, the Atomic Energy Commission, the Central Water and Power Commission, the Central Board of Irrigation and Power, the Forest Research Institute, the Botanical and Zoological Surveys of India, the Indian Council of Agricultural Research, and the Council of Scientific and Industrial Research and its National Laboratories. The surveys carried out so far by these organisations have helped a better assessment of our resources and have filled, to some extent, the deficiencies in data previously available. As a result, we now know that we have larger quantities of many minerals, and new deposits hitherto unknown have

Until recently we did not know how to make the best use of the sea around us to increase our food resources. Deep-sea fishing has now been taken up, leading to a rapid rise in our fish catch.

come to light, such as oil at Ankleshwar or copper in Rajasthan.

The availability of additional resources and materials lead to acceleration of technological and industrial development. The demand shifts from one material to the other. For instance, we may now look to atomic resources for energy instead of depending wholly on coal and water. Technological and industrial development, in turn, necessitates search for more resources—in kind or quantity. This dynamic process of development emphasises the need for a continuous investigation of resources on a long-term basis and reformulation of policy from time



Scientists of the Central Fuel Research Institute, Jealgora, where much work is being done to see that our fuel resources go a longer way.

to time. Possibilities have to be established ahead of needs.

PLANNING FOR 15 YEARS

THE investigations conducted so far have by no means exhausted the full potentialities of our natural resources. There are several gaps in the data collected so far, calling for closer studies. At the same time, a stage has now been reached when we can and should plan for the utilisation of our resources in a comprehensive manner and on a long time-scale, say-15 years ahead. Surveys carried out by different organisations tend to overlap. A proper co-ordination of all the different investigations is necessary. Besides, the present set-up of organisations leaves out certain fields of resources uncovered, such as the resources of the sea around us. Again, a drawback in our present economy is that it suffers from regional imbalance. Our growing economy has to be planned on the basis of balanced regional development. This also calls for the proper assessment and use of resources in different regions.

THE Planning Commission has taken up these problems of natural resources and recently a Natural Resources Committee has been set up under the chairmanship of the Deputy Chairman of the Planning

Commission. The main functions of the new organisation are:

- (i) to assess from time to time the available information regarding the natural resources of the country and to identify gaps in it in relation to programmes of planned development;
- (ii) to arrange for the formulation, in collaboration with the various organisations concerned, of co-ordinated programmes for surveys of natural resources in different parts of the country in relation to plans for long-term economic development;
- (iii) to initiate studies on problems relating to natural resources and to make recommendations for their conservation, utilisation and development; and
- (iv) to disseminate information concerning the country's natural resources through publications.

The Committee will have a standing committee "to consider schemes for studies received from the ministries of the Government of India, State Governments, universities and other organisations and also look after day-to-day problems". It will also have four subordinate technical committees, one each for land, water, minerals and energy. The technical committees will be split up into sub-committees and working groups.

This newly formed organisation for resources and scientific research will study the problems of natural resources on a long-term as well as a short-term basis. The distinction is not rigid. It only implies that in respect of some problems, studies have to be completed within a short period, while long-term studies may be broken up for short-term investigation.

The problems for study are numerous and diverse. One of the immediate problems is to minimise the gap between the findings of research and their practical application. It is observed that the new knowledge got

by research is not readily put into practice in agriculture and industry. Another important problem is how to meet the demands of the growing population so that the results of development effort contribute substantially to the raising of living standards of the individual as well as of the country as a whole.

Our natural resources have been broadly classified, for the purpose of study, under four heads: (1) land—including agriculture, forests and pisciculture; (2) water; (3) minerals; and (4) energy. These four categories cover a vast field of subjects, each having a number of problems of its own.

NO. 1 RESOURCE—LAND

NO co-ordinated study has so far been made of the system of land records in different States so that it may provide a sound basis for the planning of agriculture at the national level. An inventory of our agricultural resources has therefore to be prepared. It should give information on the existing pattern of land utilisation, indicating area under crops, extent of prevalence of soil erosion, salinity, water-logging, wastelands fit for agriculture, survey and classification of soils, etc. Agricultural development in India is fundamentally regional and there is need for the delimitation of agricultural regions on a scientific basis.

The pattern of our crops is varied depending on different soils and climatic conditions in different regions. It is to be studied how far the present crop pattern reflects geographical or economic factors such as transport and markets. Similarly there is vast diversity in the per acre yield of crops. In this context, the general comparison of yield in India with that of other countries becomes misleading. The areas of yield are to be demarcated. Thirdly, certain regions are most suitable only for specific crops. For instance, spices can be grown only in regions like Kerala, Madras and Mysore. This fact brings home the need for agricultural development on regional basis, i.e. cultivation of crops which are most suitable for a region should mainly be taken up in that particular region. With this specialisation of crops comes the question of income from crops, especially the commercial crops. Can India produce crops more valuable as compared to food grains? Materials,

marketing facilities, transport and other services for different crops have also to be provided. The use of fertilisers and crop protection measures also come in. However, an immediate task is to find out the potential for increased production in respect of each crop, given all facilities for development.

The problem of soil erosion is, to some extent, connected with forests. The assessment of our forest resources is another subject for study. It is rightly said that our country has plenty of jungles but only a few forests. Data on forest products, particularly timber, are unsatisfactory. It is time for adopting a more dynamic policy on forests. Fast growing trees of more economic value are required to grow maximum wood in minimum time and space. To meet the demand of pulp, paper, rayon and match industries, we have to rely more and more on fast growing soft woods. Forest resources of the inaccessible areas are not still adequately determined. Legislation to prevent denudation and indiscriminate exploitation of forest produce is yet another question.

With the growing population and increased emphasis on commercial crops, it is imperative that we should tap other sources of food such as



source of not only fish but also of valuable commodities such as sodium and magnesium salts, other chemicals, sea weeds, etc. The beds of our seas offer an unexplored field for survey.

Sand has many industrial uses. This photograph shows sand being loaded into freight-cars in Bihar.

Of this, only 90 million acres are expected to be brought under irrigation by the end of the Third Plan. In this context, it is also necessary to demarcate the areas of assured rainfall in the country.

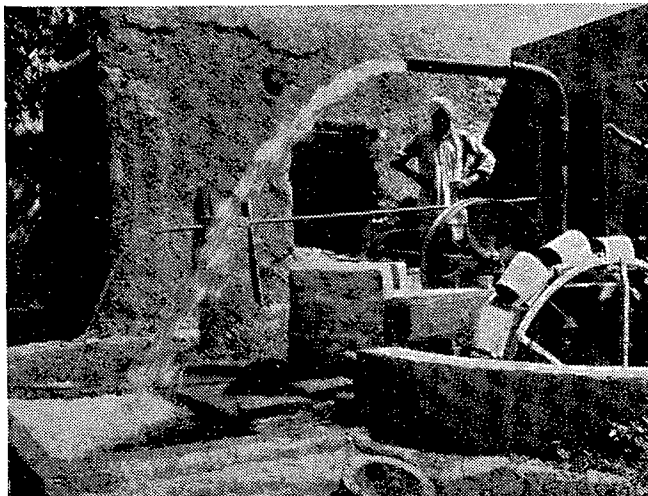
Underground water belts are another source of water supply. A systematic investigation of underground water belts relating to quantity and depth of water level and the legal status of ground water in respect of its exploitation by individuals has to be made.

No. 3 RESOURCE—MINERALS

MINERALS are the most valuable source of our industrial progress. It is encouraging that during the past decade, our surveys have added substantially to the knowledge of our hidden mineral wealth. Oil has been discovered in vast areas of the country apart from Assam, and the reserves of non-ferrous metals like copper, lead and zinc, for which our country has so far depended on foreign country, have now been found in Rajasthan. However, we still do not have adequate reserves of coking coal, chromite, asbestos, phosphates, zinc and lead, and tin and nickel. Our most pressing need in the context of growing industries is for

No. 2 RESOURCE—WATER

INLAND water resources have a triple use—transport, irrigation and generation of power. Surveys of inland waters from the point of view of irrigation are nearing completion. Through major and minor projects we shall be able to irrigate as much as 175 million acres of land.



In regions which are far from the rivers, the farmers have now a new weapon to counteract a monsoon failure—tubewells. All over the country, a great effort is being made to tap our underground water resources.

fisheries. A survey of waters which do not dry up in summer and which can be perennially stocked with fish has to be made. Physical, biological and chemical factors of different waters have also to be investigated. Our marine fish resources have yet to be properly assessed.

India is surrounded by sea on three sides, which is an immense

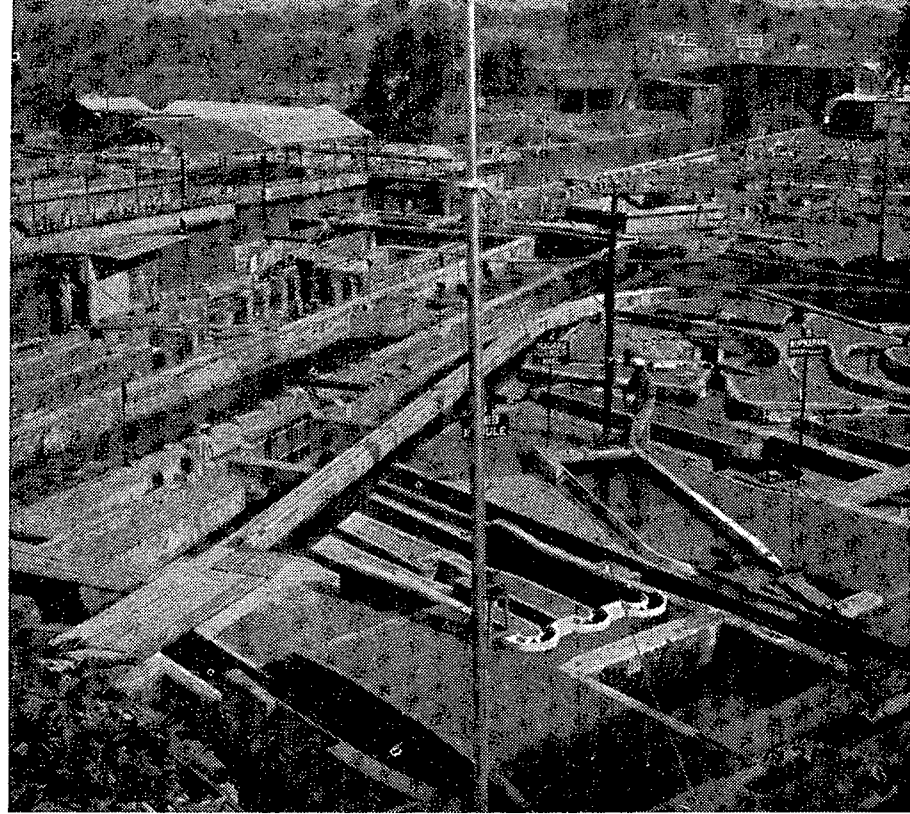
systematic and detailed surveys and investigations for quantitative as well as qualitative assessment of mineral reserves and systematic exploitation of these reserves. The monographs and other reports of surveys published so far do not provide an economic analysis of problems.

Conservation and economical use of our mineral deposits is equally important. Wastage in mining and metallurgical operations has to be eliminated. Also, it has to be studied how far scarce metals can be substituted by more abundant ones and whether metals can be replaced by non-metals like plastics and timber. Possibilities of re-using metals also should be investigated.

THE No. 4 RESOURCE— ENERGY

As regards the resources of energy, the present position in the country is very unsatisfactory. There has so far been no single technical agency which takes a comprehensive view of the energy resources. Different resources are being taken care of by different agencies: coal and oil are the concern of the Ministry of Steel, Mines and Fuel, electricity is the charge of the Ministry of Irrigation and Power, while there is a separate Department for Atomic Energy.

Economy in fuel is becoming



The problems of water flow are studied in fullest detail at the research centre of the Central Water and Power Commission at Khadakvasla near Poona.

imperative as our resources are limited. We have to find new avenues of fuel as we may run in short supply of coal, particularly coking coal. Electrification and dieselisation of railways, use of back-pressure turbines in industries, elimination of open fires and use of

improved types of stoves in domestic cooking are some other possible ways of achieving fuel economy. It has also to be studied to what extent animal power can be replaced by mechanisation of agricultural operations.



A PART from these long-term studies, there are several subjects for short-term studies. In the field of textiles, synthetic fibres such as rayon and nylon have been evolved. These may prove to be more economical and may help to reduce pressure on cotton and wool. The spurt in building activity has raised the

One of the aims of many of our multi-purpose projects is to have more canals on which navigation is possible to relieve the pressure on railways and roads.

demand for timber. Conservation of timber and substitution of cement and other materials in its place is to be studied. Fertilisers are gaining ground in agriculture. But the effects of fertilisers on the soils and the extent to which they contribute to increased output are subject to investigation. The demand on paper and pulp is exceeding the possible supply of raw

(Continued on page 23)

AGRICULTURAL PROGRAMMES

No Place for Complacency

SHRIMAN NARAYAN

AGRICULTURE has been rightly accorded the highest priority in the Third Five Year Plan. It is quite obvious that without increasing agricultural production, of both food grains and commercial crops, it would not be possible to achieve our targets even in the industrial sphere. The Planning Commission, in addition to providing the necessary funds for various agricultural programmes during the Third Plan period, has given further assurance that if for achieving different targets of production additional resources are found necessary, these will be provided as the Plan proceeds. Since agriculture forms the very basis of economic planning in India, the Planning Commission will not allow any productive agricultural schemes to suffer for want of adequate funds.

Despite several natural calamities, including floods, the progress of agricultural production during the first year of the Third Plan has been fairly satisfactory. But I would like to sound a note of caution. The target for the production of food grains at the end of the Third Plan period is 100 million tons as against the 80 million tons' production during the current year. This is, surely, not an easy goal, and it would be necessary to strain every nerve at various levels by both officials and non-officials in order to achieve these targets successfully. There should, therefore, be no sense of complacency on the part of anybody. It should also be clearly understood that the problem of achieving larger agricultural production is not merely a matter of financial resources. Much more important than funds is the urgent need for streamlining our agricultural administration and organisation, particularly at the district level and below. It is true that the Community Development movement is now being geared to the central task of increasing agricultural production in the country. But there are still serious gaps in the organisation, and every effort will have to be made to achieve greater co-ordination between various departments of the State Governments at the district and block levels.

THE two factors which will be mainly responsible for increasing our yields per acre are irrigation and fertilisers. The Planning Commission has allocated Rs. 250 crore for minor irrigation works in different States during the next five years. But every care has to be taken to see that the loans advanced to the cultivators for minor irrigation programmes are properly utilised for the purpose for which they are given. Recent studies by the Programme Evaluation Organisation of

the Planning Commission have also brought to light the fact that the potential created by wells, tanks and tube-wells is not being fully utilised by the cultivators. The State Governments have been asked to conduct proper surveys for taking up minor irrigation programmes in their areas. In the absence of such technical surveys, the funds allotted for minor irrigation are likely to be wasted at various points. There is, therefore, need for great caution in this sphere also. Wherever irrigation is not possible, programmes for soil conservation and dry farming have to be taken up in a big way with the active help of local village organisations.

In regard to the production of chemical fertilisers within the country, the Third Five Year Plan has made a provision for Rs. 225 crore for setting up a number of fertiliser factories, in both the private and the public sectors. The target of production by the end of Third-Plan period is 10 lakh tons of nitrogen or 50 lakh tons of nitrogenous chemical fertilisers. But, I am afraid, our progress so far in establishing fertiliser factories in different States is far from satisfactory. According to the latest information the production of nitrogenous fertilisers within the country by 1966 will be only about 7 to 8 lakh tons of nitrogen as against the target of 10 lakh tons. The Government of India, therefore, will have to pursue this matter with a sense of great urgency so that the new fertiliser factories are able to start functioning according to the schedule fixed for them. Moreover, the Agriculture Departments of different State Governments and the staff of the C.D. blocks must continue to carry on an intensive educative propaganda among the farmers for the proper use of these chemical fertilisers. While the farmers in the South have already become quite fertiliser conscious, the cultivators in the northern parts of the country have still to be made fully conscious about their utility. Additional production of fertilisers and the education of the farmers must, therefore, go hand in hand. Campaigns for compost and green manures should also be conducted systematically with vigour so that the Indian farmers are able to combine the benefits of both chemical fertilisers and local manures for increasing their yields per acre.

WHILE there is no cause for undue pessimism in the sphere of agricultural production during the Third Plan period, we should not become complacent in any way and begin to rest on our oars. The concerned Ministries at the Centre and different departments of the State Governments must work harmoniously and in a co-ordinated fashion for helping the Indian farmer to secure all the necessary services adequately and in time. In the absence of such a streamlined administration in the country, it would be an uphill task to achieve the agricultural targets that have been set out in the Third Plan. And if we, unfortunately, fail on the agricultural front, it is evident that our success in the industrial and other sectors will also be seriously jeopardised.

Too much is made of the 'loss of revenue' argument. Prohibition in fact is good economics for it adds to our real resources and enlarges the productive capacity in the basic and socially desirable industries.

The Economics of PROHIBITION

Dr. V. V. BORKAR, University of Marathwada

INDIA has accepted the goal of total prohibition. The Directive Principles of our Constitution require the Government to move towards the goal speedily.

The question whether prohibition is ethically justifiable is controversial. Are civil liberties infringed? Is it possible to legislate a nation into morality? Can morality be reconciled with compulsion? Is economic prosperity brought about with tainted money worth having? Should the entire community suffer poverty to save the souls of a handful of drunkards? We shall not try to answer these and similar questions.

It is, however, interesting to find economists who are wont to fall out over every conceivable issue, quickly closing their ranks, and arrayed in opposition to the policy of prohibition. The main argument advanced by them relates to the loss of revenue from taxes on spirituous liquors suffered by the State on the introduction of prohibition, necessitating a corresponding cut in the developmental expenditures. Prohibition of the consumption of alcoholic beverages is thus a drag on progress. Our material advancement is retarded because of the wilful throwing away of large revenues by our morality-ridden policy-makers. Prohibition may or may not be good ethics, but it is downright bad economics.

The unanimity with which economists seem to hold fast to this misleading and unchallenged view is a bit disturbing. It bespeaks partly of the hold of notions of classical economics on the minds of economists, and the sacrifice of rational thinking at the altar of dogma and traditional ideas.

A dispassionate appraisal would show that prohibition, far from hindering the economic development of the country, positively helps the process.

Real Resources

A major cause of confusion is the identification of real and financial resources needed for development planning. It is the ready availability of real resources—

land, labour, capital—that facilitates developmental effort. Financial resources are of importance only in so far as they represent command over real resources. Finance is a camp follower. So long as unused real resources are available for developmental projects, lack of finance is no cause for worry. If real resources are all used up, availability of finance is of no help.

Of the several preconditions of rapid economic development, such as a transformation in the outlook of the people, creation of new socio-economic institutions and achieving a high rate of investment, the last-mentioned factor is of crucial importance. The maximum rate of investment that any economy can sustain without generating inflation is determined by factors like the total productive capacity in producer and consumer goods industries, the organisation and technique of production and the marginal propensity of the community to consume. They determine respectively the maximum supply of cement, steel, machines and raw materials, of various consumption goods, the efficiency of production and the extent of increase in demand for consumption goods following an increase in investment. Here again the crucial determinants of the maximum rate of investment consistent with stability are the marginal propensity to consume and the productive capacity in consumption goods industries. For, the other two factors determine not the total volume of investment but the nature of investment activity and the efficiency with which it can be carried out. For example, if cement, steel, etc. are not available in sufficient quantity, the rate of investment can still be augmented in terms of construction of earthen bunds and brick houses, sinking wells, and so on, provided there is a sufficient surplus of essential consumption goods—let us call them 'basic wage goods'—to meet the extra requirements of the additional workers employed on these new investment projects. The less the extra demand for consumption goods by these newly engaged workers, the greater the number that can be employed on the basis of a given supply of basic wage goods. Similarly, the larger the productive capacity in basic wage goods industries, the higher the level of investment that can be secured, given the marginal propensity to consume basic wage goods.

The level of investment and therefore the rate of economic growth depend on these basic factors. Are they affected by the adoption of a policy of prohibition?

Productive Capacity

Prohibition may result in increased supply of the basic producer and consumer goods on account of the release of nonspecific factors of production from the liquor trade to be absorbed in socially more urgent uses. The strategy of development planning lies in avoiding a dispersal of factors of production over a wide range and ensuring concentration of forces around a few vital targets. All wasteful exploitation of resources going into the manufacture and import of luxury goods and superfluities has to be sharply checked and the productive agents, thus set free, utilised to build up productive capacity in basic wage goods industries. Indeed, development planning calls for an extension of the policy of prohibition to cover other non-essential goods also.

Thus, of the two basic factors which set the pace for development, viz., aggregate productive capacity in basic

wage goods industries and the marginal propensity to consume, the effect of prohibition on the former is favourable.

What is the effect on the second strategic factor, namely, the marginal propensity to consume basic wage goods? The effect on this would appear to be adverse. Perhaps here lies the clue to the common belief that the enforcement of the dry law hampers economic progress, although economists hardly probe below the financial categories to analyse the real factors that matter. The loss of revenue from taxes on spirituous liquors is of no consequence. The rise in the propensity to consume basic wage goods has a direct bearing, as noted earlier, on the maximum attainable rate of investment. When free consumption of alcohol is permitted, it is likely to absorb a part of the income of the people. Consequently, a relatively smaller proportion of the national income would be devoted to the purchase of the basic necessities of life. The propensity to consume the basic wage goods is reduced and permissible rate of investment enhanced. Since the average consumption per individual of the basic necessities of life is lower, it is possible to maintain a relatively larger work force on investment projects on the basis of a given supply of these goods.

With the introduction of prohibition the average individual's intake of basic wage goods is likely to go up. In itself this is desirable in a country like ours where the vast majority is under-nourished and ill-clad. But all the same, the rise in the propensity to consume basic wage goods reduces the scope for investment, given the supply of such goods.

But the aggregate supply of basic wage goods cannot be regarded as fixed with the introduction of prohibition. The transfer of productive agents from the liquor industry to socially more desirable lines of production would bring about an expansion in the supply of such goods.

Moreover, scrapping prohibition and inducing addicts to throw away money on alcohol seems to be a queer and costly way of curbing the propensity to consume basic wage goods. The same degree of restriction of consumption, if that is desired, could be achieved through the requisite fiscal devices of control even under a policy of prohibition.

Financial Implications

The misconception about the economic consequences of prohibition springs from a superficial analysis of the financial implications. Too much is made of the 'loss of revenue' argument.

In the first place the Government is not likely to suffer any reduction in its receipts as a result of prohibition. Once the factors of production rendered idle in the liquor industry are all absorbed in alternative occupations, national income remains stable. The slice of the income which used to be formerly absorbed by liquor must now either be saved or used for other goods and services.

If the whole or a part of this slice is saved, the availability of funds for investment is likely to increase after the introduction of prohibition. This would happen so long as the additional savings exceed the former

revenue yield from various taxes (customs, excise, sales, etc.) levied on spirituous liquors. In case the savings are hoarded, deficit spending to the extent needed to offset such hoardings would do no harm. Indeed, in such a situation deficit spending becomes indispensable for avoiding a recessionary fall in the level of prices, output and employment.

There is no reason to expect a decline in the revenue yield of taxes even assuming that people do not save any part of the outlay formerly directed towards alcohol and that they now utilise it for buying alternative goods and services. Since there is an increase in the expenditure on other commodities, the existing customs, sales and entertainment taxes will bring more revenue to the Treasury.

Even if some fall in tax revenue does eventuate, this need not in any way retard the pace of economic development of the country. The limits to the expansion of public expenditure are set not so much by the amount of revenue from taxes and even loans, available for this purpose, as by the nature of taxes and loans, yielding this revenue and the extent of unutilised productive capacity in the economic system.

Do the taxes and loans impinge on active elements in the economy? The more severe the restriction of consumption and private investment effected by these levies, the greater the expansion in public expenditure that can be brought about on the basis of a given revenue yield. On the other hand, if the imports are mainly paid out of savings and passive balances, the scope for expansion of public expenditure is limited despite accrual of large revenues. This is because in the former case there is a stricter restriction of the propensity to consume and emergence of a larger unutilised productive capacity relatively to revenue collected, than in the latter. We have already noted that the scope for expansion of public investment expenditure depends upon the marginal propensity to consume and the aggregate productive capacity in the economic system. Taxes should be regarded in this context not as devices of raising revenue but of manipulating these strategic variables. Since prohibition, accompanied by suitable fiscal measures, enlarges the productive capacity in the basic and socially desirable industries without stimulating the propensity to consume, the scope for investment is increased.

Effective Administration

This analysis presumes an efficient enforcement of the dry law. The administrative problems posed by this need not be considered here. Planning necessarily involves a system of checks and incentives over the entire range of productive activity aimed at diverting economic resources from the socially less to more urgent uses. This presupposes an efficient administrative organisation without which no planning is possible. To argue that the policy of prohibition, which has beneficial economic consequences, should be abolished because it cannot be administratively enforced amounts to pleading for scrapping our Plans on the ground that the administrators are unequal to the task of implementing them efficiently.

Administrative efficiency is one of the prerequisites of all planning of which prohibition of the production and consumption of non-essential goods forms an integral part.

YOJANA



Yojana seeks to carry the message of the Plan to all sections of the people and to promote a more earnest discussion of problems of social and economic development. It is issued every fortnight in two separate editions, English and Hindi.

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Task for the Second Year

IN a few weeks the first year of the Third Plan will be up and the second year begins. Discussions have just concluded with the State Governments on the programmes they have to complete during 1962-63. These discussions, naturally, have been accompanied by a review of what has been done in the current year. The State plans have a crucial role in fulfilling the agricultural and social objectives of the Plan. Advance in the large industries and transport is mainly the responsibility of the Central Ministries, with whom, also, there have been continuous consultations. In drawing up an annual plan, purposive attention is given to the lags that might have occurred, and to the action necessary to overcome these lags so as to work to the required speed. The financial allocations are also determined during the annual plan discussions. It should be remembered, however, that planning consists not in apportioning and spending certain sums of money but in achieving the desired results in the available time.

The Third Five Year Plan pointed out that for achieving results we had to master the art of anticipation and phasing. With large projects, for example, a considerable quantity of work has to be completed before construction actually begins. It might be of interest to know that such preliminaries have been completed in regard to many of the projects due to start production in the Third Plan period. For example, while the project reports on the second and third heavy electrical plants will be received only in August, the work of acquiring land, levelling the sites and building railway sidings, technical schools and houses has already begun. Large progress has also

been made in the continuing projects such as the heavy machine building and foundry forge plant at Ranchi, the coal mining machinery plant at Durgapur, the four drug projects and the fertiliser factories at Trombay and Nahorkatiya. Three other projects—the HMT watch factory at Bangalore, the raw film plant at Ootacamund and the fertiliser factory at Rourkela—will start production for the market within the year.

Experience everywhere shows that it is easier to plan for industry than for agriculture. But unless agricultural production increases at the required rate, development will be unsound. As Mr. Shriman Narayan has pointed out in this issue, the annual plan discussions with the States have shown the need for more determined effort in agriculture. The Third Plan target of 100 million tons of food grains must be achieved. It so happens that we have only four years to do it, the first year in the Third Plan not having yielded the expected increase.

Whatever money is required to fulfil the targets will be forthcoming. Success in agriculture depends on stepping up effort in a number of directions. To mention only a few, fuller use must be made of the irrigation potential already created; minor water sources must be maintained in good repair; extension work must be geared to teaching farmers, especially in the northern states, the use of fertilisers; and green manuring must be popularised all over the country. This is a task primarily of administration, and administrators must take up the challenge.

So Young, So Quick?

IN an article in *Capital* Mr. C.D. Deshmukh has subjected our educational system to a searching analysis. One point made by Mr. Deshmukh deserves to be widely noted and discussed—namely the age of admission to colleges. As Mr. Deshmukh has said, “in no country of the world except India are young people admitted to the university stage proper unless they attain the age of 18”. In our country, however, boys and girls of even 15 and 16 are let into colleges—“an age at which they still lack the emotional or intellectual maturity necessary for making their university education fruitful”.

The colleges in the advanced countries have more earner-learners than with us. In some, the national service regulations result in young men returning to colleges mentally and physically sturdier. Another conclusive reason for the higher average age is that pre-college education is stretched over a longer period—a year two more than in our country. Apart from a more mature college population, this results in school-leavers being better equipped and more self-assured.

Lengthening the school years is not going to be easy or popular. But that is precisely the reason why educationists and everyone else who has the country's interest at heart should discuss the question at length. If the advantages are seen to outweigh the difficulties, there will be an opportunity for public men of courage to convert the rest.

THE THIRD PLAN'S SECOND YEAR

Planning
Commission
Newsletter

States' Programmes Drawn up

THE drawing up of annual plans for the States, when there is a Five Year Plan for the whole nation, may appear a mere clerical exercise to a superficial observer. To the officials of the State Governments, Central Ministries and the Planning Commission, however, it is a matter of crucial importance. As the Third Five Year Plan observes, some of the most important programmes necessarily fall within the State Plans. Broadly, the State Plans are oriented towards securing larger agricultural production, increasing income and employment and developing social services, in particular elementary education, water supply, sanitation and health services in rural areas.

During the discussions on the annual plans of each State, there is not only a review of the progress achieved during the current year in various sectors but special efforts are also made to ensure that the complementary nature of planning at the national and state levels is maintained. This is a complex task because, as stated in the Third Five Year Plan, "to be able to preserve the national priorities while seeking to adapt in its myriad forms to the conditions and needs of each area, and each community is no small objective". The annual plan discussions are thus a vital stage in the implementation of our development programmes because through them we seek to co-ordinate the machinery and process of planning at the national and State levels.

These discussions are now over and a fairly clear picture has emerged. It is much too early to come to firm conclusions about the exact measure of progress achieved in the first year of the Third Plan. But certain broad indications are clearly discernible from the experience in all the States so far. While in some sectors there is striking performance, in some others evidence is more or less conclusive about the need for more determined efforts.

THE performance in the social services, particularly education, has been commendable. The target was that during 1961-62, 27 lakh more children of the age group 6-11 should be brought to the schools. In almost all the States, this target has not only been achieved but has even been exceeded. This is particularly so in the field of girls' education in which many of the State Governments have launched a special programme. The other important programmes in the field of education, such as expansion of teacher-training facilities, development of science education in secondary and university stages, qualitative improvement at the elementary and secondary stages, and

orientation of schools to the basic pattern, have also recorded satisfactory progress.

THE picture, however, slightly changes when we see our performance in the field of agricultural production. The unprecedented floods in most of the States account only partially for the result. Greater co-ordination seems to be called for on the part of the administrative machinery to secure the targets laid down. Some of the major fields in agricultural production where there is room for improvement are: demand and supply of fertilisers; production, distribution of good seeds; utilisation of the irrigation potential, keeping in good repair resources of minor irrigation and co-operative rural credit. With all these limitations our performance in the aggregate is not depressing.

THE anticipated expenditure of the Third Plan in all the States in the first year will be around Rs. 560 crore, which will be only Rs. 18 crore less than what had been budgeted for.

For 1962-63, the second year of the Third Plan, the discussions have led to an allotment of Rs. 715.5 crore for all the State Plans. The allocations for the three important heads are :

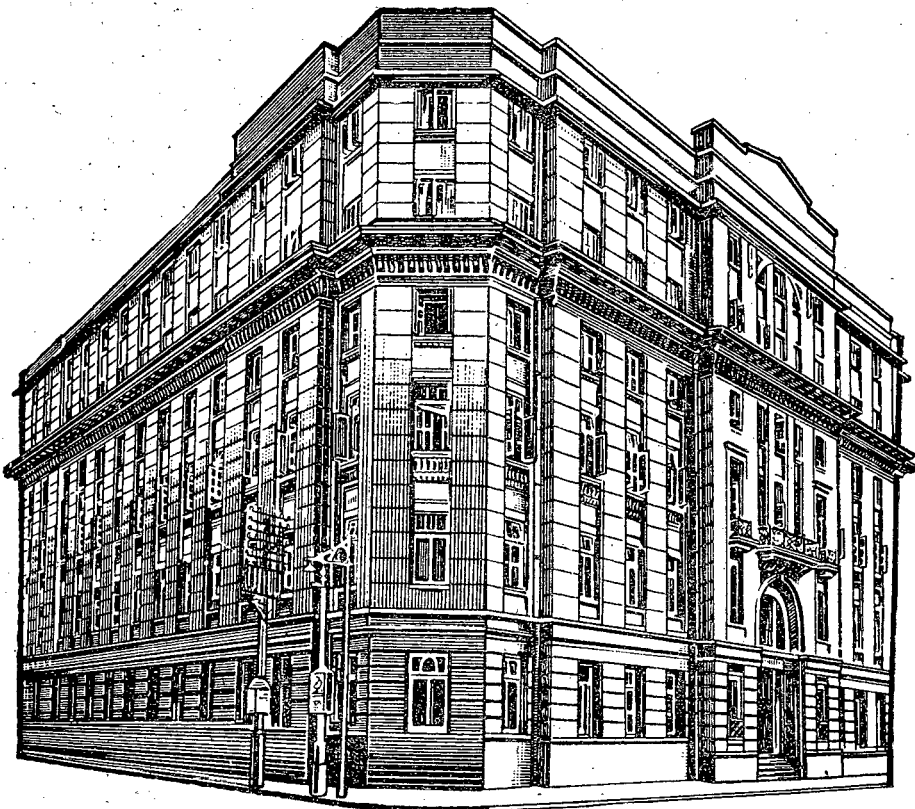
Irrigation & Power	Rs. 299 crore
Agricultural Programmes and Community Development Social Services	Rs. 166 crore Rs. 151 crore

The following table gives the allocation for each State for 1962-63 together with estimated expenditure in 1961-62.

Name of State	(Rs. in lakh)	
	Estimated expenditure in 1961-62	Allocation for 1962-63
Andhra Pradesh	4400	5000
Assam	1800	2700
Bihar	4600	6437
Gujarat	3800	4515
Kerala	2500	3030
Jammu & Kashmir	1000	1300
Madhya Pradesh	4200	5020
Madras	5000	5627
Maharashtra	5500	6630
Mysore	4200	4375
Orissa	2100	2876
Punjab	3500	4339
Rajasthan	2800	3999
U. P.	7000	8550
West Bengal	4200	6357

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Reporting on the Development of Rural India

IN *Blossoms in the Dust* my attempt has been to try and depict as representative a picture as possible of the human situation that obtains currently in our country's rural society. By the very nature of it, the picture can never be complete—no picture of any human society can. Moreover, I have confined myself mainly to reporting of situations that reveal some of the basic motivations, attitudes and beliefs of some of our peasant communities which to my mind are pertinent to processes of economic development and growth in the agricultural sector.

The premiss is that it is necessary to be acquainted with the prevailing value systems underlying the behaviour patterns in any human community if one is to understand fully the nature of the factors likely to be involved in that community's economic growth and development.

Without such an understanding, not only will purposeful planning be difficult but it would be impossible to achieve by design, progress to the maximum extent feasible even if all the physical and administrative prerequisites were present. Not that there would be no progress; in absolute terms it may even be impressive; but it would not be the maximum possible under the circumstances. In measuring our achievements, especially in the agricultural sector, we are apt to overlook this aspect.

I have reported the situation therefore as I came upon it and to the best of my ability, as it appeared to the man at the other end, along with some factual glimpses of his background and environments which I felt contributed to a clearer appreciation of the total situation. Even where the people I talked with had failed palpably to understand the magnitude and meaning of events or to interpret correctly the intentions underlying an official policy, I have reported their reactions factually, because the important thing in a situation is not always what is, but what it appears to be to those immediately concerned, for whom a particular scheme or reform is designed. For it is the beliefs that people hold

KUSUM NAIR

The Problem of Limited Aspirations

Mrs Kusum Nair's book Blossoms In The Dust was reviewed for Yojana (November 13, 1961) by Mr Justice Khosla and Mr J. P. Chaturvedi. In this article, Mrs Nair explains what her book is about and what it is not about. Mrs Nair developed these points in a talk at the Central Institute of Study and Research in Community Development, Mussoorie.

that condition their understanding of a situation as well as their attitudes and action, and therefore they must and do affect the pace and direction of development in any field.

These data I have presented in the raw, through the real characters themselves so that the question of the validity of my judgement or even assessment or interpretation does not arise. I appear only in the footnotes where I have given wherever possible statistical confirmation or backing to the implications of a particular phenomenon described.

I myself make no quantitative assessment, but there is practically nothing in the text that is not backed statistically by more specialized surveys. And of trends or attitudes that are not measurable in this manner also, I have not included anything, unless I make it clear to the contrary, that did not strike me as sufficiently representative and significant to deserve notice—not simply in a particular village, district or State, but generally in the entire Indian perspective.

Again, I have highlighted usually only one particular problem or aspect of a problem in each State. But it does not mean that it is peculiar to that State. It was only to avoid repetition that I resorted to this technique or device.

II

MY personal assessment of the situation is given briefly in the last chapter only, and therein too, it is confined to two major observations.

1. The first is that there is no uniformity yet in the prevailing value systems of the agricultural communities which determine not only a community's primary pattern of wants, consumption, production, investment, farm management, marketing and even housing, but also some of its basic attitudes, as for example, to work.

Often a community's attitude to work can be a more decisive determinant for raising productivity in Indian agriculture than material resources, or for that matter even technology. Not that material resources and technology are not important. But so is the attitude to work. In fact, to a great extent, the effective utilisation of resources and technology depends upon it. As will be seen from the text of the book, however, this attitude to work differs widely between regions and communities with far-reaching consequences—on patterns of farm organisation and management, and ultimately on production. You will recall in this context, the striking contrast in the tenancy and farm management systems of the Punjab and Tanjore—that of Tanjore being much more inefficient—though both have long been *ryotwari* areas.

And it is not only in their attitude to work that the peasant communities differ. As you will have noticed, there are significant differences also in respect of other traits and aptitudes, such as thrift, industry, mobility and readiness to exploit economic opportunity, the impact of which, in terms of efficiency in agricultural operations and production, is again crystal clear.

What is more, the variations are often not only striking but are to be found within groups and communities in the same region and even locality *otherwise enjoying in all respects equal resources and opportunities*, so that the plea of ignorance or lack of know-how and resources is not tenable. Here I may point out the examples of the Bagdis and the Sikh Jats in the Gang Canal area in Rajasthan; of the immigrant Mymensingh Muslims and the local Assamese peasants in Nowgong District; and of the Daldis and the Hindu fishing communities in the coastal villages of Ratnagiri in Bombay.

Obviously, in the absence of common values, one cannot expect a uniform response to common incentives and stimuli. Nor can one, in the circumstances, hope to devise a common prescription for economic development and growth in the rural sector on an all-India basis—that is, *have a blanket, uniform approach to the solution of a problem and expect it to be equally effective in all regions and with all communities*. Variations in the value system can make a substantial difference to the extent of success or failure of a development scheme or policy independently of the material and natural resources.

At present, on the operational plane at least, planners and economists tend to overlook this lack of consensus on economic values. The assumption is that, given equal opportunity along with the so-called equality of circumstances in terms of financial incentives and physical resources, all communities will respond and respond similarly in their productive effort.

In his recent talk at Calcutta University, Prof. Galbraith stated that the criterion and formula of development must vary from country to country, even amongst those that are underdeveloped; that there is no

common prescription for development that can be applied universally.

According to him processes of growth vary according to the conditions prevalent in the society concerned and even within the same country at different stages of its development.

I feel, however, that in an essentially unintegrated society like ours, wherein common value systems are lacking even within economically homogeneous groups—such as the farming community—a uniform prescription or formula of development need not and cannot be applicable even within a particular sector of the economy of the same country at a particular period of time.

2. My second observation pertains to the desire for a higher standard of living. Planning in India is framed on the assumption that this desire is inherent and more or less universal among the masses being planned for. According to this assumption, every prevailing standard of life becomes minimal, as a base for further progress.

My experience, however, would seem to indicate that a majority of the rural communities do not share in this concept of an ever-rising standard of living. This does not mean that the desired standard is always fixed at the subsistence level, of which perhaps tribal communities with their sunset economies are the most outstanding example. It varies with different communities even if they be living within the same village, and in some groups it is very much higher than in others. But whatever the level, it tends to be static, with a ceiling rather than a floor, and it is socially determined. Generally the lower the level the more static the aspirations tend to be. This ceiling is in terms of effort and not of mere desire in the abstract.

If my observation is correct, it largely invalidates one of the principal assumptions on which present planning for economic development in the rural sector is based. For, in a situation of limited and static aspirations, if a man should feel that his requirements are just two bags of paddy per year, he works for two bags but not for more. To that

extent his poverty may be, and often is, unnecessary and his productivity lower than his circumstances and the resources available to him would permit.

Many consequences must flow from this phenomenon of "limited" aspirations. To an extent we are familiar with them. They constitute the core of the problem with which the C.D. programme is grappling. For, unless a man feels the desire to have more material wealth sufficiently to work for it, he cannot be expected to have much interest in new techniques. Naturally, there will be little attempt on his part to innovate. He may and often does disdain to engage in activities yielding the highest net advantage even within the available opportunities. And where an extraneous factor, like the introduction of irrigation or higher prices, brings about higher incomes, the increase may be wasted in non-essential forms of consumption instead of being invested further to maximise production. There are several such examples in the text of the book and many more outside it, which I have not mentioned.

In these circumstances, introduction of new techniques from outside will help only to a limited extent. Unless the desire for change and for appreciably higher living standards takes root in the peasant communities these techniques will often not be accepted or exploited fully. And even after some progress has been achieved, there will be danger of stabilisation at every new level of "induced prosperity". The peasants may continue to depend, as now, on the initiative, resources and pressures from external agencies for being driven to further progress. There may be thus, as there have been in the past—the entire history of Indian agriculture for the past century or so bears witness to this — recurring periods of stagnation even if they be at somewhat higher technological levels. Thus when cotton was first introduced in the Deccan, peasants earned so much that they put silver on their ploughs — but the ploughs remained the same and are still the same. Similarly, Tanjore received irrigation 30 years ago. It changed its entire pattern of cropping. But the tools and techniques of production remained primitive.

(Continued on page 17)

There Is Much That Cannot Be Said

IT was one of those elocution contests in which the subject is given to each speaker shortly before his or her turn to speak. In this particular instance the time allowed was half-an-hour. In order to add zest to the proceedings, the subjects chosen were highly controversial and participants in the contest were free to speak for or against or take the much-can-be-said-on-both-sides line. The contestants were not supposed to carry conviction but to display their oratory.

The hall was packed to capacity. Those who could not find a seat had lined up against the walls and knee-to-knee and elbow-to-elbow were massed the squatters on the *durries* in front. In a rectangular space marked out among the squatters sat the judges on cushioned chairs, their note sheets on their knees, pencils poised for action. On the dais sat the chairman and the secretary of the society that had organised the contest. The participants in the contest set in a room at the back of the dais where they could ponder their subjects and marshal their thoughts in peace.

The chairman rose and, after thanking the society for "the honour done to him" in asking him to preside over the function, explained the procedure for the contest. He then announced the name of the first speaker and the subject given to him: "Should students take part in politics?" The speaker was sent for and a Khadi-clad young man, who appeared to be a physical culture enthusiast, judging from his bulging muscles and swaggering gait, came across the dais, stood by the side of the chairman's table, and without wasting much time on preliminaries, plunged straight into a loud-voiced dissertation on the need for student participation in politics. "We are the salt of the earth and if the salt lose its flavour.....". In that strain he went on and on, word tumbling over word in a fast-moving cascade. At the end of ten minutes, the time allowed to each speaker, the chairman had to ring the bell several times, all to no purpose, and then the speaker had to be told to stop. He was cut short in the middle of a

sentence, the flood of his eloquence dammed but not exhausted.

THE judges scribbled something in their notebooks and then the second speaker was called in. His subject was: "Should India join one of the power blocs?" There was a stir of excitement in the audience as the subject was one on which strong opinions were held, for and against. A young man, immaculately dressed in a grey suit, blue tie and brightly polished black shoes, came to the edge of the dais with a firm step. Legs slightly apart, hands clasped behind him, he surveyed the audience for one brief moment. There

HAMARA HINDUSTAN

was complete silence. A fine performance was expected from such a smart-looking young man.

Inclining his head slightly towards the chairman, the speaker began, "Mr Chairman", and then, facing the audience, "friends". He then unbuttoned his coat, held the lapels firmly in his hands, swayed sideways a little, and repeated, "Mr Chairman and friends", with the same posturing to the left and front as before. The audience waited, with hushed expectancy, for him to begin. But the speaker seemed to have mislaid somewhere in his memory his opening words and, as happens sometimes, unless the opening words come, the rest does not follow. He once again buttoned his coat, took out a handkerchief from his breast pocket, wiped his brow and tucked the handkerchief inside his sleeve. More than two minutes had already elapsed and the chairman was looking puzzled. He glanced at his watch and then at the speaker, who was now fumbling in his pockets. He brought out a tiny sheet of paper and looked at it intently. It was blank. Bracing himself once again by unbuttoning his coat and holding the lapels, he bent slightly forward. He once again addressed the audience. "Friends", he said, this time, for some reason, ignoring the chairman altogether. Someone in the

audience shouted 'Go on,' but the indomitable speaker remained unmoved. There was nothing in his demeanour to show that he was either dismayed or perturbed. He was obviously chasing those elusive opening words which seemed to be nowhere within reach. Since the audience were not being helpful the speaker was now staring at the ceiling. He had reverted to his original pose, legs slightly apart and hands clasped behind him. There was a stir in the audience once again, this time for a different reason. They were getting impatient.

At last the speaker (if so he could be called) bent his gaze and looked straight at the judges and in a voice that did not carry beyond those worthy gentlemen, he said, "Thank you". Someone in the audience shouted, "Silence is eloquent, my friend." Other remarks, perhaps equally complimentary, were lost in the thunderous applause that broke out.

R. S.

NEXT ISSUE

WATERLOGGING IN
THE PUNJAB
Narindar Singh

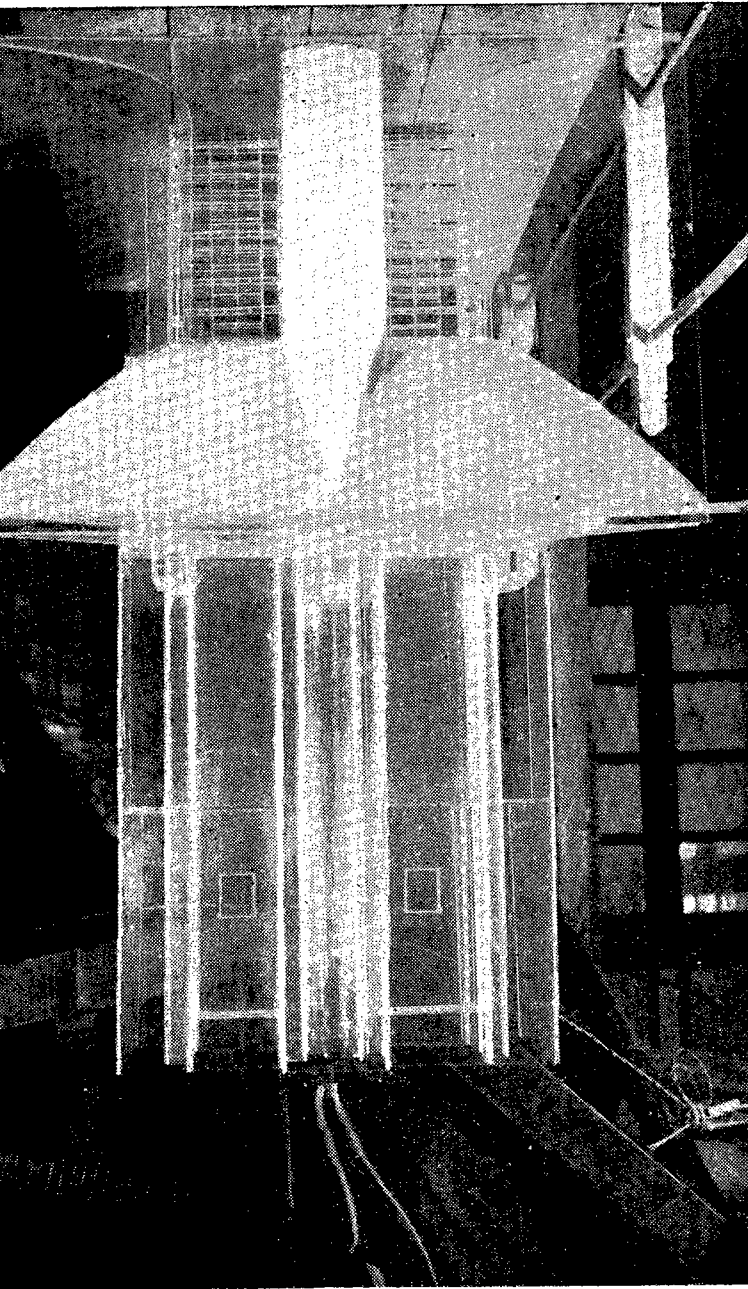
RECENT INDOLOGICAL
STUDIES

Dr. R. N. Dandekar

FISCAL & MONETARY
CONTROLS

Dr. S. K. Ghosh

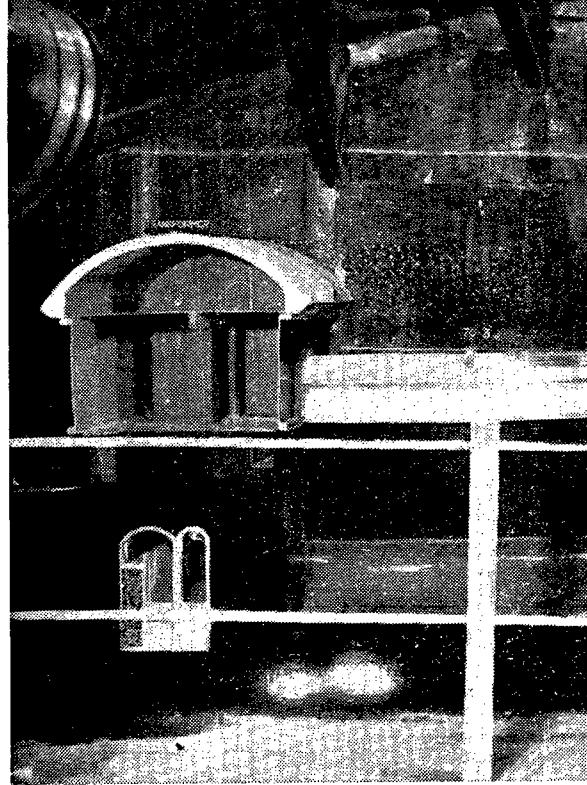
MODELLER



In the last issue of *Yojana* we had an article on the Koyna project. We return to Koyna this fortnight to present some scale models of the intricate installations in the project prepared by Baburao Dynanoba Pawar, a draftsman of Koyna.

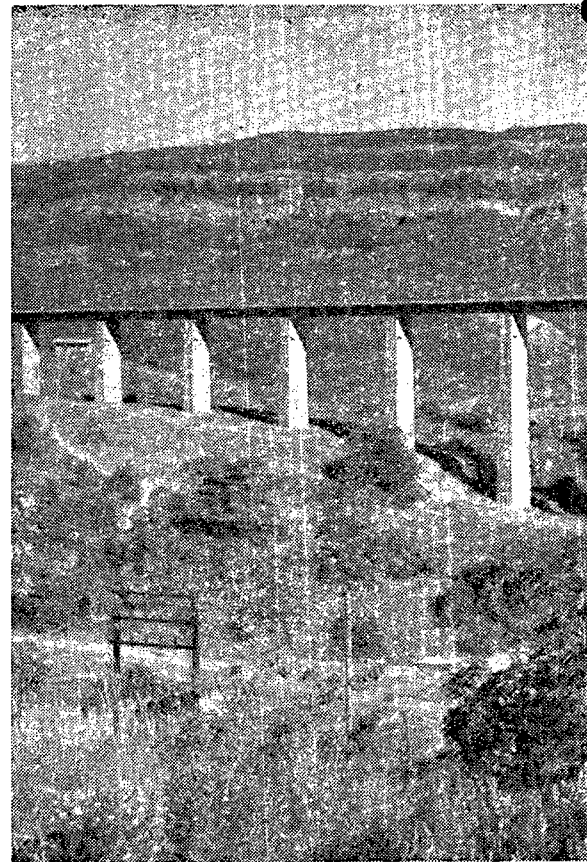
Baburao, 42, has taken to modelling as a pastime, and the engineers at Koyna are impressed by the grasp and accuracy of the working models, especially because Baburao has had no formal technical education. He had to give up studies after going to high school.

Baburao's models, in the words of the Superintending Engineer of Koyna, are appreciated by all visitors and are of educative value to engineers as well.



The three power-house caverns shown

Draftsman's Hobby



Above is a photograph of the 80-foot-high intake tower. At right is Baburao Pawar's model.

AT KOYNA

With Plastic Sheets

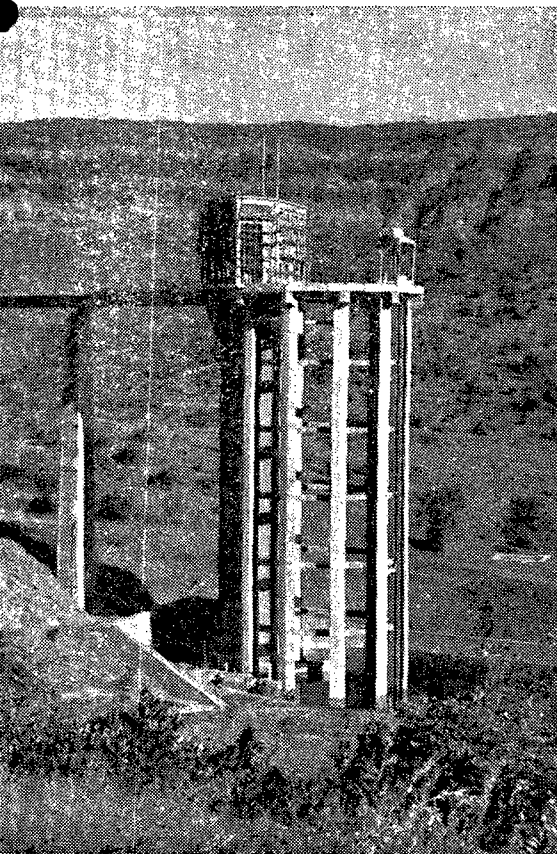
He Shows the

Project's Features

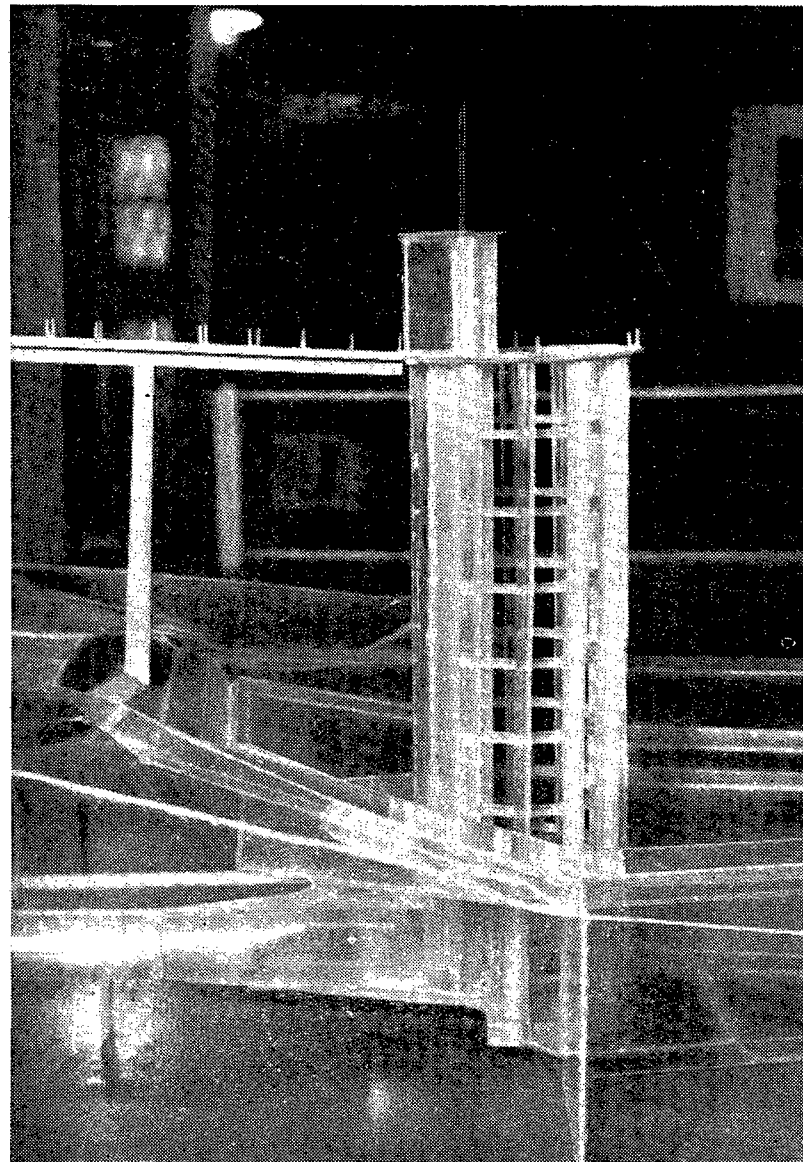


bins and generating equipment.

Delight to Visitors



approach bridge in all their picturesque surroundings,
so shows the underground works.



Life's Carpenters

WHAT is going to be the next epochal achievement of science?

An Indian newspaperman put the question to Prof. Harlow Shapley, the white-maned, lightning-tongued astronomer, and former president of the American Association for Advancement of Science.

"If you are thinking of a discovery on a level with the discovery of fire, of the zero, and of those of Newton and Einstein, I'll tell you what", he replied. "Now that we have almost found out the secret of life and will soon be able to create life scientifically, the next big breakthrough—after mathematics, phy-

sics, chemistry and biology—is going to be in psychology. That is when we can get hold of the key to the impulses that make up thought and emotion and can create thought in the laboratory."

The Science Editor of *The New York Times* has hinted that a "revolution greater than the atom's" is around the corner. This discovery is not the same as the one that Prof. Shapley has in mind, but is related to it. *The Times* article says that U.S. scientists have succeeded partly in cracking the "genetic code" and are on the frontiers of finding out the quintessence of all things living. They have identified two master builders of life, DNA (deoxy-ribonucleic acid) and RNA (ribo-nucleic acid) which between them push around the amino acids to build up genes. It is the genes which decree whether the cell "will develop into a mouse, an elephant or a human being."

These discoveries, when mastered, may enable man to decide that a Nagarjuna or Tansen or Beethoven shall be born; but *The New York Times* article does well also to remind us of Dr Arne Tiselius's warning: "Methods of tampering with life, of creating new diseases, of controlling the minds, of influencing heredity... can result in a still more refined and dangerous way of abusing the results of research than that implied in the instruments of mass destruction."

Taking It Easy

ONE of the dozen or so sectional presidents of the Indian Science Congress, which held its session at Cuttack this year, was talking about old days and new. In his younger days, he said, the sectional sessions were taken seriously, and the front rows were graced by such stalwarts that anyone who addressed the gathering felt his mettle was being tested. But, as the privileged president this year, he found the front-benchers so engrossed in personal chit-chat that he was forced to request them to give a hearing to those who were on the platform.

The nonchalance was in evidence long before the conference. He had written to many worthies in his field,



IGNORAMAN

Wants to Know

If Seats In Schools
Had Not Better
Be Called "Stands"

long before the session, urging them to take part in a symposium, but only three responded and that after two reminders.

Guru Dakshina

WE do not know whether any ability tests have been conducted to prove this, but teachers' children are believed to make the brightest pupils—despite the old adage about *pandita putras*. Often, however, teachers' children are also the most harassed. Very much is expected of them, but they receive less help from the dominie at home who is busy coaching up other people's sons to bring in a few more coins to the till.

Something is being done to improve teachers' pay. There is occasional talk also of improving their social status, and some brainwaves are tried out. A really solid contribution in this direction is the Union Government's scheme to award merit scholarships to teachers' sons and daughters to help them through college. Five hundred such scholarships—each between Rs. 50 and Rs. 100—will be given every year, and the Third Plan has set apart Rs 50 lakh for the purpose. Details of the scheme are given in a pamphlet brought out by the Education Ministry.

PLAN QUIZ

- Can you fill in the figures?
In the coming general elections:
(a) _____ persons have a right to vote.
(b) There will be about _____ booths all over the country, at an average rate of one booth for every _____ voters.
(c) The colour of ballot paper will be _____ for the Lok Sabha and _____ for the State Assembly.
(d) _____ persons cast their votes in the 1956 elections and _____ persons in the 1951 elections.
- (A) The total number of towns and villages electrified by the end of the Second Plan was:
(a) 30,000, (b) 23,000,
(c) 17,000.
(B) The Second Plan allocation for rural electrification was:
(a) Rs. 75 crore, (b) Rs. 105 crore, (c) Rs. 50 crore.
- What are the main features of the Shetrunji project?
- What does the picture below show?



(Answers on Page 20)

Consequently, there will not be any *spectacular* improvement in the *basic* situation. The fundamental problem of increasing the economic effectiveness and efficiency with which cultivation is conducted may still remain. *Development will not become a self-generating process with its own momentum unless the value system of the community and the social structure containing it are first or at least simultaneously altered, and adjusted to be in harmony with the socio-economic objectives of planning.* It cannot be and it has not happened in any country in any period of history.

To my mind, it is an over-simplification to assume that peasants do not accept new techniques and opportunities simply because they lack education and do not have sufficient resources to take the risk. The book is replete with examples of even rich peasants owning large properties refusing to experiment with improved techniques, irrigation or diversified patterns of cropping. The two landlords of Kerala that I write about own 2,000 acres of land each. The peasants in Raichur have 50 to 60 acres each. Similarly, in the KCC area in Kurnool, they are all farmers of substance. But none of them is interested in increasing his productivity and it is clearly not from ignorance, nor lack of resources. In Assam, on the other hand, Omar Ali and Hazrat Ali are landless peasants, but they cultivate *only* cash crops, and earn much more than the local landowners who will not grow anything more than one crop of paddy on which they are practically starving. Nor need lack of education necessarily be an insurmountable barrier to development. The Bariya, despite the example of the Patidar, asks, even in 1959: Where are we to go? Where can we go? But Pritaram, an illiterate and a landless Harijan in the Punjab, goes away to England to improve his economic prospects. The illiterate sons of a village blacksmith in in Gurdaspur district have become successful entrepreneurs—owners of a flourishing bicycle-rim factory. Similarly, Mathurabhai Ramdas of Boriavi in Gujarat is an illiterate peasant who started life on 5 *bighas* of land, but is today as successful, prosperous and progressive a farmer as anyone can hope to be in the Indian context. There are also the illiterate, poor, ignorant, subsistence farmers

REPORTING ON RURAL INDIA

(Continued from page 12)

of Kotgarh who risked their all on apple orchards which take 10 years to mature. There is, on the other hand, the example of Kerala where there is widespread literacy, rich natural resources, and most of the conventional prerequisites of development, and yet development is lacking.

The major question that we face then is this: If it is accepted that in rural India the social factor, taken in its comprehensive sense, is *one* of the primary determinants of economic underdevelopment and development, will it not be necessary to try to induce the relevant social change also in as planned, precise, calculated and integrated manner as economic change—the two will need to be co-ordinated—to a greater extent and much more effectively than is being attempted?

The only alternative would be to believe that a predominantly physical, institutional and financial approach in planning, concerned primarily with the engineering aspect of increasing the stock of real capital and improvement of technology, could be relied upon to evolve a chain of new human relationships and patterns of economic behaviour suited to its purpose.

It is not that at present there is no awareness of the social factor in the minds of our planners. But it does not constitute a part of economic thinking and analysis. It is dealt with separately and, therein too without an analysis or clear understanding of the cause and nature of the belief underlying an attitude that is responsible for a particular phenomenon of backwardness. It is sought to be dealt with by a programme of social legislation, welfare measures and amenities. Here again, one comes across the facile assumption that all one has to do is to master the perfect technique of extension, show the light of reason and demonstrate some economic advantage, and the social darkness will vanish. Well,

as we all know, there are many areas of belief that do not respond to reason or to the carrot of monetary gain, even with highly educated people. It is important therefore to know not merely the existence of an attitude but also the nature of the belief underlying it and its origin—what it is rooted in. Then alone can an effective solution be found for it, depending on whether it be merely a status value, as with the reluctance to carry vegetables to the market, or a religious taboo, as with the refusal to plough or to carry refuse to the compost pits, as in Ghaloli in U.P.

It follows then that in planning for the farming community there cannot be any economics in isolation from sociology and social psychology. There are many intimate causal relationships and connections between purely economic factors and social and cultural conditions that cannot be ignored or excluded from economic analysis and planning.

III

HAVING stated the problem, I plead guilty to the fact that I do not give the answer.

I have not attempted even to suggest the solution, because for, one thing, there can be no single facile solution to such a complex situation. Secondly, to find the answer or answers would, to my mind, require not only further investigation in several areas but policy decisions of a very basic character at political, economic and administrative levels. But before any solution can be attempted, the important thing is to recognise and examine the problem in all its implications, and my attempt in this book is limited only to that—to plead for the recognition of the problem.

Here a question may be raised with regard to the significance of the problem as posed in this book, as also the feasibility of dealing with it: Is it sufficiently important to claim priority and the time and attention of the already overworked planners? And even if it is, can it be dealt with on the practical operational plane? My reply to the first question would be that it depends on our objectives—social, political and economic—what we wish to achieve, in

what manner, and how soon. As for instance, if the objective be only to grow 100 million tons of food grains annually, I could suggest many simpler methods than of Community Development or the Panchayati Raj programme. So, it all depends on what we are aiming at—just an increase in the gross national produce or something more, and secondly, what is the time period in which we wish to realise it. Again, if we are satisfied with less than the optimum performance, well, may be we could ignore the problem for the time being. If not, then we must face it immediately.

As to feasibility, it will obviously require fresh thinking and investigation. But why rule it out as impractical without first examining it? If soil can be tested at every few hundred yards and all the other physical factors considered in detail to determine the nature of the seed and fertiliser that should be used, as also the ideal cropping pattern for each and every region, it should not be impossible broadly to categorise and classify various value systems on community basis and then find out the most suitable and effective approach, technique and strategy of dealing with them, within the framework of democratic planning and practice.

IV

BEFORE I conclude, perhaps I should also point out some of the things that I did *not* attempt in this book. I find a certain amount of confusion on this subject.

1. As for example, this study was never meant to enquire into the *extent or absence* of change in the country in the past ten years. It tries merely to capture and describe a situation as it exists at a particular period of time in a particular sector. And it is not because I conceive of the *present* as "timeless" or static, as a sociologist would say, but I am concerned with the Plan periods. Even perspective planning at present is limited to 15 years. I neither deny that change has taken place in the past—some very revolutionary changes have occurred before, even before 1947, and in recent years, in the life of individuals and communities—nor the possibility of change in the future. But I do not attempt the

role of the historian or of a prophet. The scene is laid strictly in the present and I am aspiring merely to be a faithful reporter.

Nevertheless, nowhere in the course of the whole manuscript do I deny the phenomenon or fact of change. *I merely point out that certain beliefs and attitudes that exist currently on a sufficiently significant scale among the rural communities will require to be changed or adjusted suitably if economic progress of the type that we want within the stated time-period is not to be limited and stagnation is not to recur; and, further, that this change in those specific beliefs and attitudes—not any change, mind you—cannot be taken for granted.* There is no compulsion or inevitability about it, that it *will* and *must* occur, at the crucial points, to the requisite extent, with the necessary speed and in the desired manner. The mere fact of change need not suffice, nor need its direction and nature always be desirable. It may even be irrelevant or adverse in relation to the exigencies of a particular situation, as with the impact of education at present in the rural areas. For, let me repeat, we are *not* concerned in this study with the phenomenon of change *per se*, but only to the extent that it makes a community in the present or the immediate future more proficient in agriculture, and also creates the requisite social conditions and a structure that makes for greater economic mobility, egalitarianism, etc. We may be and are building steel plants and jet planes or atomic power stations, but they lie outside the scope of this book. Similarly, some or many of the peasants may be wearing better clothes. Their children may be going to school, riding bicycles and wearing watches or nylon shirts. I myself give several such examples. But does it make them better and more efficient farmers? That is the main and *only* question we are concerned with. The educated sons of those farmers may become better engineers, clerks, administrators or politicians. But we are not concerned with that here, nor are we concerned with the desirability or otherwise of the switch over.

2. I have been told by some readers that the book presents only one side of the picture, namely the depressing

side, and that, therein also, that is what I was looking for and therefore I found it.

This is an unfair charge because, first, why should I be looking for only the depressing side? Apart from my honest declaration in the Introduction that I did not set out to prove any preconceived theories or notions—I couldn't have looked even for what I wanted unless I knew where to look for it. It was all an uncharted territory that I was traversing and I did not and could not know before I went to a village whether it was an example of progressive attitudes, change or otherwise. The only thing I can admit to was that I did not normally try to avoid, though not always successfully, the so-called "show pieces", because they are by no means representative or normal samples. The grounds on which I chose the districts and the villages in them were purely physical, such as, location, population and whether or not they lay within the frontiers of some development project.

Moreover, it is basically untrue to say that the book presents only a depressing picture. There are sections in every State and full chapters that report tremendous dynamism and change which would do credit to any country in the world. In fact, apart from areas like the Punjab, I specially went to several regions that are atypical, such as Kaira, Mandya, Coimbatore, Kotgarh, just to see why certain communities there have been so successful. And if, in spite of them, the ultimate impression is predominantly one of poverty and backwardness, well, is that not the true picture of rural India today? What do the statistics have to say? Does my picture conflict with them? I have merely translated statistics in human terms—that is all. It simply means that, at our per capita income and under the existing structure of rural society, many children must remain naked and many families have to do with only one meal a day or often no meal at all. These are the inescapable facts of Indian life today and we must face them squarely in all their unsavoury harshness if we are to find the answers to them. And if this is not the true picture, then what is this great battle and effort that we

(Continued on page 20)

R. G. Bhandarkar

His Scholarship Redeemed Our Ancient Treasures

Dr. M. A. KARANDIKAR

DURING its period of renaissance in the latter half of the last century, Maharashtra produced a number of great men who not only rejuvenated and remoulded the social life of Maharashtra but also made a valuable contribution to the cultural and political life of the whole country. While Ranade, Gokhale and Tilak laid the foundation of social reform and political resurgence, Sir Ramakrishna Gopal Bhandarkar paved the way to Indology and antiquarian studies. With foreign Indological scholars like Max Mueller and Wilson, Bhandarkar was one of the pioneers who brought to bear a proper perspective on our ancient cultural heritage. He was perhaps destined to play this role in spite of himself. He never wanted to become a research scholar; but once the course of events dragged him to this track, he fully devoted himself to the cause of learning and research.

BRILLIANT STUDENT

Ramakrishna was born on July 6, 1837, in a Saraswat Brahmin family of Malwan in Ratnagiri district. He was the second son amongst three sons and four daughters of Gopal Ladko Bhandarkar. He started his education in a 'Pathshala' at his native village. '*Na vadet Yavanim Bhasham pranaih Kanthagatairapi*' (You must not speak the language of the Yavanas although your life is at stake) was a firm belief of the orthodox class to which Bhandarkar family belonged. But Gopal Ladko took a courageous step and sent his son Ramakrishna to the English school at Ratnagiri in 1847. In 1853, he was sent to the Elphinstone Institution in Bombay and the next year he passed his school final examination, topping the list. He joined the college wing of the Elphinstone Institution and secured the West scholarship and the Gaikwar scholarship. In 1857 he was selected for a government normal scholarship also.

According to the new rules enforced after the establishment of Bombay University in 1857, Ramakrishna was required to reappear for the matriculation examination. He passed it in 1859. He graduated in 1862 with first class honours and passed his M. A. in 1863. At the Elphinstone College, he was greatly impressed by Principal Harkness and Professors Rawlin-

son, Hughling and Owen. A feature of his brilliant student career was that he had offered Sanskrit for his M.A., although he had not studied the language in his university curriculum before. And this gave a turn to his future career. He was appointed a fellow for a term of five years, which he utilised in studying Sanskrit at the feet of well-known Pandits, such as Govinda Shastri Lele and Anant Shastri Pendharkar. As a fellow, he taught philology, logic and English in the Poona College (later renamed as the Deccan College) for three years. He also took over the teaching of Sanskrit in 1864 when Dr. Martin Hang went on leave.

EDUCATIONIST

But Bhandarkar did not want teaching as his career. His ambition was a career in law, like his friends Mahadev Govind Ranade and Bal Mangesh Wagle. He therefore resigned his fellowship to take up law. However, fate intended otherwise and the Director of Education, Mr. Howard, prevailed upon him to go as Headmaster to Hyderabad (Sind). On another occasion Bhandarkar decided to join the Revenue Department as a Deputy Collector; but again Mr. Howard put him in charge of the Government High School at Ratnagiri, nearer his home, where he served for three years. In 1869, he was brought to Elphinstone College in the place of Prof. Buhler and in 1882 was made a Professor of Sanskrit at the Deccan College (formerly Poona College), where he worked until his retirement in 1893. He spent the rest of his life as a hermit in study and piety till death came to him on August 24, 1925.

Bhandarkar was a great Sanskrit scholar, antiquarian and educationist. His interest in antiquities was roused by a small incident in 1870 when a Parsi gentleman took a copperplate inscription to him for deciphering. From then he started his research in antiquities and wrote several papers for the *Indian Antiquary*.

He spent the best part of his life in teaching. His *Sanskrit Teachers*, published in two volumes, are standard works, still popular in schools. He was appointed Vice-Chancellor of Bombay University in 1893. He was also the first Vice-Chancellor of the Indian Women's University founded by Dr. D. K. Karve. His outstanding contribution as an educationist was in introducing the Honours courses and the compartmental system of passing examinations in Bombay University. In 1884, he gave evidence before the Hunter Education Committee and in 1904, when the University Bill was discussed, he pleaded for more funds for universities. With Justice Ranade, he conducted an enquiry into the early deaths of many young graduates and came to the conclusion that poverty of the students and certain social practices were responsible for this malady.

Bhandarkar was also a social reformer of no mean order. In those days, when to criticise the prevailing social customs was heresy, he denounced early marriages and pleaded for a higher age of consent. He also worked for religious reforms and was a pillar of strength to the Prarthana Samaj, the protestant Hindu movement.

Bhandarkar stands out as a giant in Sanskrit research. His contribution in the field of Indology has immortalised him. He not only laid the solid groundwork in this field but also made marks which are to this day unsurpassed and a guiding light to the subsequent generations. He established the dignity of ancient Sanskrit knowledge and its traditions when they were being attacked on all sides by the impact of western ideas, especially from virulent Christian missionaries. He put Sanskrit works in their proper historical perspective and offered substantial evidence to ascertain their genuineness and chronological placing. He dispelled the view, forwarded by champions of Christianity, that the life of legendary Shri Krishna was a fabrication of the life of Jesus Christ and that the *Bhagavad Gita* owed much to the *Bible*. He established that Sanskrit was a spoken language, contrary to the view expounded by certain European scholars that Sanskrit was a prerogative of the priestly class and only an artificial language.

The theories propounded by Bhandarkar in his scholarly papers on Patanjali and his Mahabhashya, the age of the Mahabharata, the native places of Patanjali and the Varttikakara Katyayana, the recitation of the Vedas and the Nasik inscriptions, still hold the ground. The sweep of his scholarship is evidenced in his papers

on Ashvalayana and Samkhyayana Shakhas (schools), submitted at the Congress of Orientalists in 1892, and 'Sanskrit Manuscripts from Java', read at the Bombay Royal Asiatic Society in 1887. For six years from 1878 to 1884, he travelled all over the country to collect rare Sanskrit manuscripts and brought out his report in six volumes.

Besides profound scholarship, he had a love for literature. He edited the *Malati-Madhava*, a Sanskrit play by Bhavabhuti, supplementing it with an elaborate note on the life of Bhavabhuti and his times, for the first time. His studies in philology brought to light a volume of valuable data on the North Indian languages and their derivation from Sanskrit through Prakrit, in his Wilson Philological Lectures of Bombay University in 1876. These data form the basis of all researches conducted in the country on modern Indo-Aryan languages. He wrote *Early History of the Dekhan* for incorporation in the *Bombay Gazetteer*. During his last days, he was engrossed in devotional literature, and his monograph *Vaishnavism, Saivism and Other Sects*, published in 1913, contains everything that could be said on the subject in those days. The Bhandarkar Research Institute of Poona, which carries on the torch lighted by him, is a worthy monument to the work he did in redeeming our ancient treasures of learning.

REPORTING ON RURAL INDIA

(Continued from page 18)

are all engaged in? What are all these Plans for? What are we fighting—just the minor backwash effects of an affluent society?

I may add here that in the selection of communities also, I do not deal only with the have-nots, the depressed or backward classes, but with all stratas—landowners, tenants and landless labourers.

3. One last possible misunderstanding. I have been told that although I am dealing with the community development programme I do not give a correct idea of what the programme is. This criticism again is totally irrelevant. I am not dealing with the C.D. programme nor even with communities only in the context of the Community Development programme, but every kind of rural development such as irrigation, education, land reform, Panchayats, and so on. I am dealing with rural communities and not with the Community Develop-

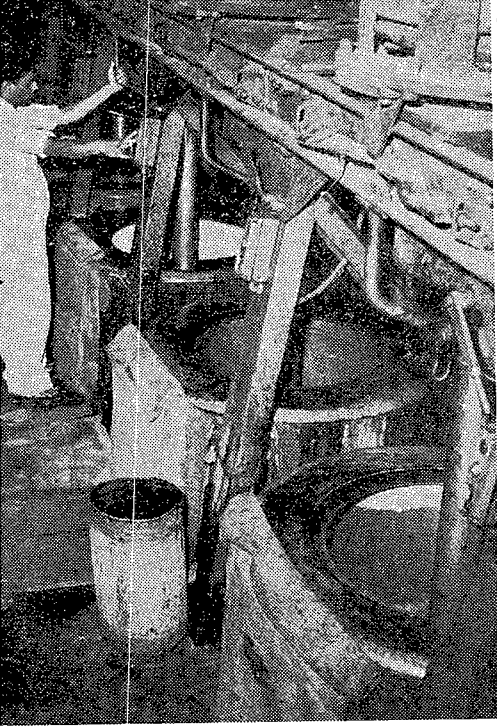
ment programme. Many villages I describe are outside any C.D. Block. In fact, I make it repeatedly clear in the Introduction and in the last Chapter that I am not dealing with any governmental programme, either to describe it or to evaluate its failures and achievements. Neither projects and programmes nor geographical units like the States are the subject of the book. They provide simply the backdrop and locale to the communities that I present. I do not even mention all the areas I visited in each State. I am dealing with human communities and their problems—not with States or programmes.

A CORRECTION

In Dr. R. G. Nayak's article "Role of Private Foreign Investment" (*Yojana* January 26, 1962) the third sentence of the top paragraph in column 3 on page 35, the sentence should have read: "The ratio of foreign capital to Indian capital in a joint venture is determined after evaluating the technical skills offered and after weighing the requirements of foreign exchange for the purchase of equipment from abroad and the desire of Indian collaborators to play an effective part in the company's management." The phrase now shown in italics was omitted by inadvertence,

ANSWERS TO QUIZ

- 210 million persons have the right to vote.
 - 2.5 lakh booths, one each for about 900 voters.
 - White for the Lok Sabha and pink for the Assembly.
 - 88.6 million voters, out of a total of 173 million, exercised their vote in 1956, and 92 million voters, out of 193 million, in 1951.
- (b) 23,000 villages and towns; of them 17,000 received electricity during the Second Plan.
 - (a) Rs. 75 crore. The Third Plan has allocated Rs. 105 crore.
- The Shetrunji Irrigation Project on the Shetrunji river in Gujarat is divided into two parts—the Palitana scheme and the Khodiar scheme. The work was started in the Second Plan. When completed, the project will irrigate 1,05,000 acres of land in the Bhavnagar and Amreli districts and is expected to yield 32,500 tons of additional food grains every year. The total cost of the project is estimated at Rs. 7 crore.
- A view of the filter plant at the Rare Earths Factory, Alwaye.



SUGAR

*Current High Output
Is a Challenge
Calling for
New Thinking*

V. S. MAHAJAN

improved during the last few years. In fact, in terms of per capita consumption, the demand has fallen during the Second Plan. The total consumption—according to C. Muthiah in an article in *Commerce*—has been around 2 million tons during these five years, while the population has been growing. During the First Plan, however, the aggregate consumption had steadily increased from 1 million tons in 1951 to around 2 million tons by 1956.

A downward or even static demand in an expanding industry like sugar is not a healthy sign, and yet one wonders what the millowners have done. Obviously, there has been a high degree of substitution of cheaper brands of sugar (like *khandsari* and *gur*) for mill-made sugar. Only comprehensive market research will reveal the extent of this substitution.

The rural people continue to con-

SUGAR has recently been a subject of public discussion. Some people do not seem to be happy with stockpiling of sugar in factories, when consumers could have bought more quantities if distribution and pricing had been less rigid. Others feel that the Government's export policy in effect subsidises the sugar interests at the cost of the public.

No rough estimates are available of how much sugar India's growing economy will need. There are so many unknown variables in Indian economy that projections might prove fruitless or misleading. The only thing that can be said is that if prices are reduced, the demand will rise.

How far is the existing hue and cry over sugar really justified? Is the economy really suffering from over-production? In the last few years our people have had experience of both under-production and over-production of sugar. In fact, it was to tide over the scarcity of sugar that the Government had to establish the Directorate of Sugar at the Centre. A year of abundance is no guarantee of continuing abundance later. Rather, as experience shows, if the situation is not judiciously handled, the pendulum may swing in the reverse direction.

Stockpiling Desirable

Whether accumulation of stocks amounts to over-production or not is a theoretical as well as practical question. As is well known, our economy suffers from under-consump-



Mysore Sugar Factory. (Left top) Separating mother liquor from crystals is done in these centrifugals. At this stage, the sugar takes its shape before being rushed into large pipes which carry it to the packing department.

The vacuum pan of the factory. The purpose of this is to remove the excess moisture from the juice and concentrate it for easier extraction of sugar.

tion. Stockpiling, with appropriate price and distribution policies, may be a step in the right direction to stimulate consumption. Stockpiling is essential in an economy that is subject to scarcities. After years of unsatisfactory production of sugar, we have been lucky to have a year of modest surplus. This should indeed be cause for satisfaction and not anxiety.

However, it is unfortunate that the millowners should have been sitting over the existing stocks and not displaying zeal in introducing measures to capture the vast internal (rural) market, improving the quality of sugar marketed and conducting market research to study consumer preferences for products which make use of sugar.

The demand for sugar has not

sume unrefined sugar. To suggest that this is due to their fixed tastes would be wrong. The villagers have displayed a remarkable degree of adaptation in taking to new goods like bicycles, sewing machines and improved agricultural tools. If, on the other hand, they have not acquired a taste for the mill-produced sugar, the fault surely lies partly at least with distribution and high price.

Our millowners are lucky to be protected from foreign competition, and this perhaps has prevented them from making the attempts that producers in a competitive economy would have made.

The quality of sugar sold has hardly improved during the last two decades, while the price has risen. Britain is an importer of sugar but

sugar is sold at a lower price in that country although it is of a far superior quality, and is packed in hygienic paper bags (and not in open gunny bags as with us).

It would be bad economics if an Indian consumer is asked to pay an unnecessarily high price for a basic commodity like sugar in order to protect the industry. This is equally harmful from the point of view of India's development, where high prices for essential commodities can upset the whole basis of planning.

This is not to say that we should encourage free import of sugar. What we need to do is to bring down costs. A close study of costs in the major sugar-producing countries would tell us where our sugar industry has gone wrong.

Sugarcane constitutes the most important cost element in the sugar industry. Therefore, much would depend upon the pricing policy of sugarcane and how far this is linked with its sucrose contents. Unfortunately the existing flat rate payment on the basis of weight hardly leaves incentive for improving the quality of sugarcane. Studies should also be undertaken to work out the

economic price for our sugarcane, which would give an adequate incentive to cultivators as well as ensure a reasonable price of sugar. The existing rates paid to the cultivators are out of proportion to their input costs, which leaves with them a wide margin of profit not ordinarily available in other farm products. The present system of payment, besides raising the cost of production of sugar, encourages diversion of acreage from food crops to sugarcane.

Some mills have their own sugarcane estates. Others buy sugarcane in the open market. A study of the relative working of these mills should enlighten us as to the most economic organisation of sugarcane farming, cane crushing and setting up of allied industries to compensate for the seasonal character of the sugar industry.

There are certain industries—like biscuit-making, confectionery, distilleries and breweries, and fruit processing—which make bulk use of sugar and by-products. These industries have a growth potential because of increasing demand and import restrictions. Some sugar mills have already shown keen

interest in such allied industries.

Warehousing

From the point of view of export promotion also, there is need to export the products of such industries rather than sugar itself which is unduly susceptible to the fluctuations of a highly competitive international market. At present the public exchequer meets the loss sustained on export. But for an industry to expect help from public revenues, it must first reorganise itself on sound lines.

Lastly, since the Indian economy is a shortage economy, there should be adequate provision for the storage of sugar. More warehousing facilities would have introduced an element of confidence in consumers. Considering the size of the Indian market and the low consumption level of an average Indian there is every possibility of absorbing still larger stocks of sugar. The criticism of 'overproduction' is hardly justified and only shows that the habit of getting panicky even on trivial is ingrained in our character. There is need for adopting a more dynamic approach towards the sugar problem.

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Total View of Our Natural Resources

(Continued from Page 4)

materials. New avenues of raw materials are to be explored. Large quantities of blast furnace slag are accumulating at the sites of steel plants. Could this slag be put to some use? In U.S.A. and Europe, the slag is being utilised for making cement and other building materials. Other possible uses for the slag are in road-making, wood manufacture and stowing of mines.

Use of water in industries is assuming the proportions of a problem. Demand on water is increasing rapidly. Conservation and re-use of water in industries have become urgent. Data on the quantity of water used by industries have to be collected.

Pollution of water supplies, as a result of industrial and urban disposal effluents, is growing alarmingly. This has to be checked.

Productive and effective use of water, particularly in irrigation of crops, has to be surveyed closely. The minimum amount of water necessary for raising maximum amount of crop in different areas is not yet known. Floods cause a heavy damage every year, but the exact methods of assessing the damage are to be evolved.

These are the main problems before the new research organisation of the Planning Commission. The solution of these problems will help the planning of our economic development for years to come. But the progress of such investigation does not stop with the study of these problems once for all. It has to continue hand in hand with new plans tackling new problems that may confront from time to time and clearing the ground for further advance.

A YOJANA compilation, from a Note prepared by the Resources and Scientific Research Division of the Planning Commission.

NEW NAVAL DOCK

THE Naval Dockyard in Bombay has a new cruiser graving dock. It is a dry dock which can hold the the Navy's cruisers and other large ships when they need repair.

The dock has been built in an area which was recently reclaimed from the sea. This complicated operation took six years.

BRIGHT SPOT

PUNJAB—FIRST TO START CROP INSURANCE

The Punjab has decided to introduce a crop insurance scheme during the year, for the first time in India.

The scheme will be worked on a pilot basis for a period of ten years at 12 centres in six districts, each centre covering about 100 villages preferably in development blocks. Six more districts will be added in the next two years. Initially, protection will be offered to only four crops, namely wheat, gram, cotton and sugarcane, on a compulsory basis, against floods, hail, drought, locusts, pests, or any calamity beyond the control of the cultivator.

The indemnities will be paid only in the event of average yield falling below 75 per cent of the standard per acre yield for the centre. The cultivator will insure all the area sown, paying suitable premiums, and the contract will last for five years. Central assistance will form 50 per cent of the total cost.

MERCHANT MILL OF DURGAPUR

THE merchant mill—the last of the rolling mills of the Durgapur steel plant—went into production on January 19.

The mill has an annual capacity of 2.4 lakh metric tons, and will produce flats, angles, rounds and structurals of different sizes. The plant will employ 14,000 persons when in full production.

The Merchant Mill of the Bhilai Steel Works has fulfilled its annual production target 69 days ahead of schedule. The target for the year ending March 1962 was 10,000 metric tons of rolled steel products.

ROURKELA BONUS

WORKERS of the Rourkela steel plant earned their first bonus in December.

The highest percentage of bonus went to those in the coke ovens—28 per cent of the wage for the production personnel and 25 per cent for the maintenance staff.

Another Rourkela event is that its third blast furnace has begun work.

QUOTATION BOX

The single vote may seem to be an atom, but in a democracy it is a mighty atom whose power will make itself felt.

—Mr K.V.K. Sundaram, Chief Election Commissioner.

Perhaps the most signal service that educational authorities could render to the nation in the field of primary education would be to muster sufficient courage to discard basic education even as a label and to start devoting attention to the problems of primary education with greater originality and awareness of the development of education in its earlier stages in the modern world.

—Mr C.D. Deshmukh writing in "Capital"

Some years ago a senior statesman, on being pressed to accept the chief ministership of a State, enjoined upon the members of his party the need for the "separation of the legislative from the executive" as being more important than the need for the "separation of judiciary from the executive."

—Mr B. G. Rao writing in "Commerce"

A dog's dual faithfulness to two masters prevented a magistrate from reaching a decision over its ownership.

When the dispute between two claimants came up before him, the Magistrate directed the dog to be set free to indicate its faithfulness to the legitimate owner.

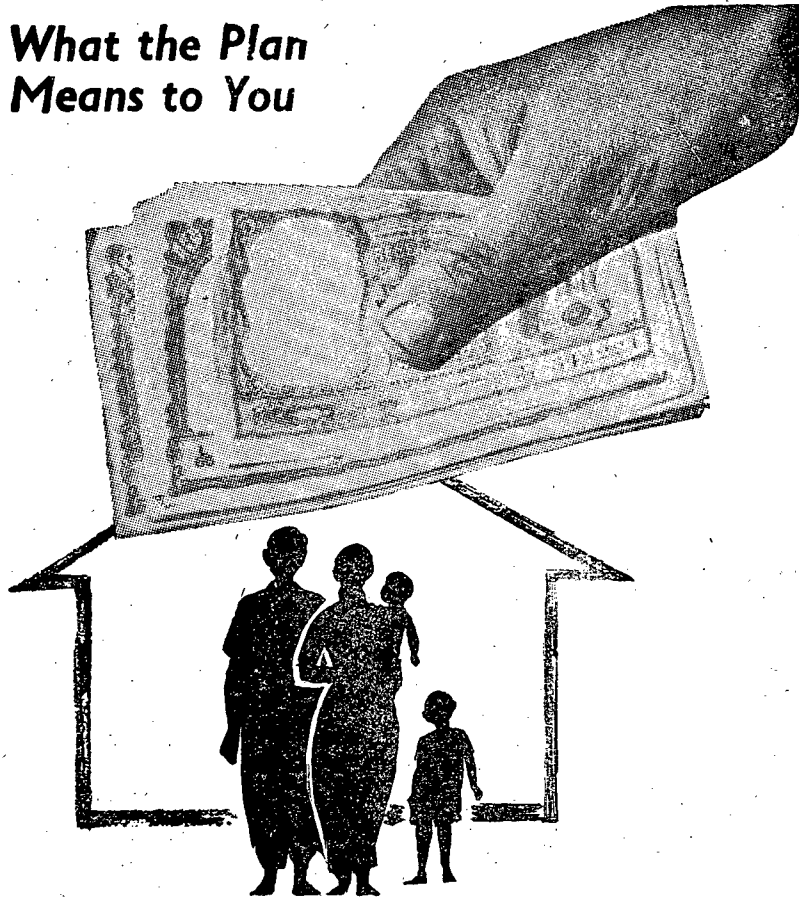
On the dog's showing affection to both claimants the Magistrate directed the two parties to produce evidence regarding the ownership of the animal.

—A Report from "The Hindu"

Many Indian students come to this country with wild expectations of meeting girls too easily. Their friends at home and here keep on asking them about their sexual achievements. It is not surprising that some of them make fools of themselves by their sex-obsessed attitudes to all Western girls.

—An Indian student in U.K. quoted in a Ph. D. thesis by Mr. A. K. Singh

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AS THE PLAN MOVES

Wages Up

ONE way of looking at the industrial development that has taken place in the country is to think of percentage increases in the production—the eagle's-eye view. Another way of looking at it is the ant's-eye view: to judge the progress in terms of the welfare of the workers in industry.

From this standpoint also the last ten years have been spectacular. In every major industry the workers today earn more—even after making allowances for price fluctuations—than ten years ago.

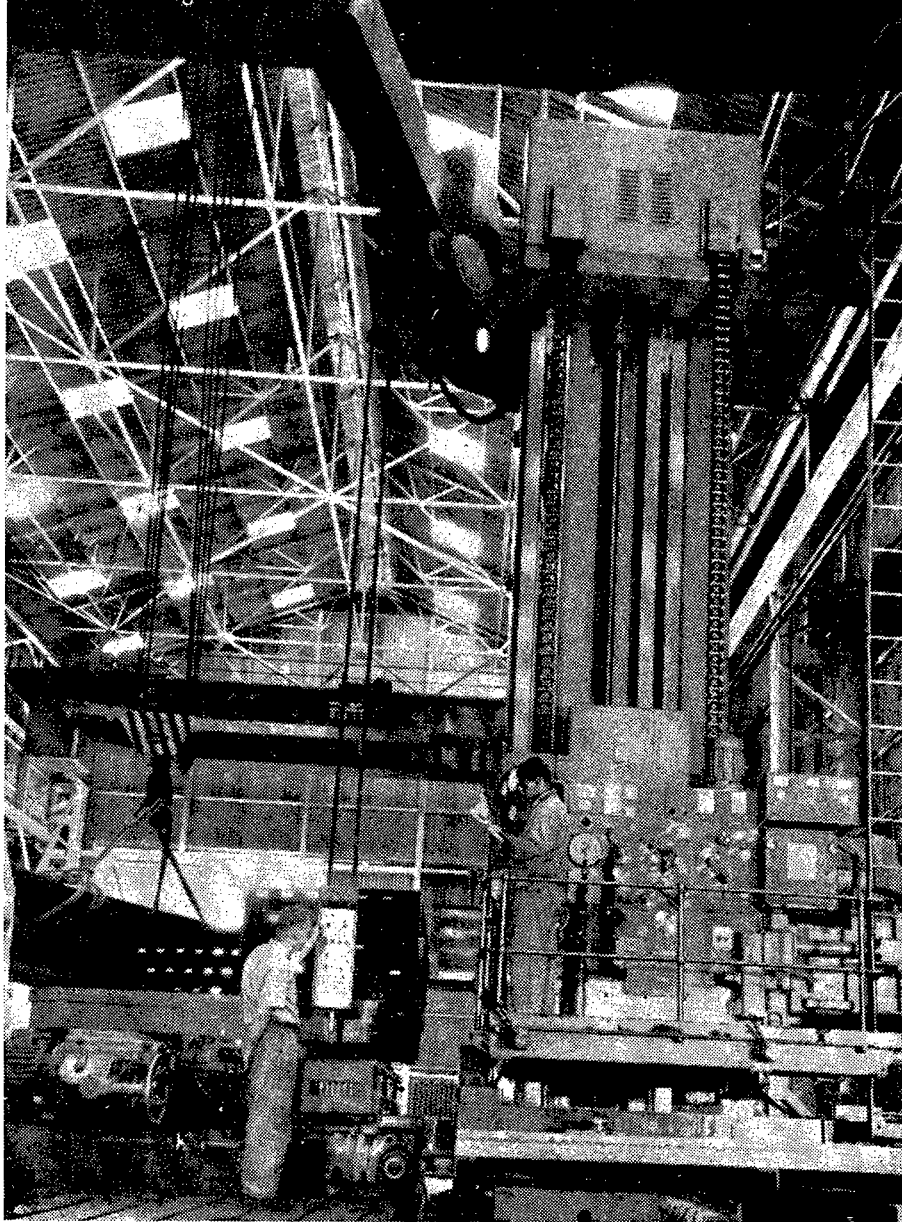
This is especially true of five of our leading industries; cotton textiles, cement, sugar, jute and plantations, which account for 17 lakh workers. For example, the emoluments of a textile worker in Bombay went up by 34 per cent between 1951 and 1959.

This improvement is the result of many forces at work. There have been labour awards in the organised industries. Even in the so-called 'unorganised sector', minimum wage legislation has been enforced. The bargaining power of workers has been strengthened. Boards consisting of workers' as well owners' representatives have been set up in large numbers which has helped the resolution of differences.

THE BEST OF THE REST . . .

RICH coal deposits have been found at Umrer near Nagpur in Maharashtra. The deposits, estimated at 370 million tons, contain high grade coal in some parts...A Development Council for Glass and Ceramic Industries has been formed for promoting exports. The aim is to double the present figure. Annual production of glass and ceramic goods increased from Rs. 8 crore in 1951 to Rs. 50 crore in 1960...A Thermal Power Station, with an installed capacity of 10,000 kW, is to be established at the Kaladote coal-field in Jammu...The State-owned Ashoka Hotel in New Delhi has earned a

profit of Rs. 21.75 lakh during the first eight months of 1961-62. With this, as well as the profit made in the previous two years, the Hotel has wiped out all the losses, totalling Rs. 55.76 lakh, incurred up to March 1959...The Bhilai Steel Works has begun using radioactive isotopes for controlling various production processes. A well-equipped laboratory of radioactive isotopes has been set up at the plant....A new fruit, known as Barbados or West Indian cherry, is being grown in India. The fruit has a rich content of vitamins C and A besides iron, calcium and phosphorus.



Horizontal milling and boring machine installed at the AVB heavy machine shop at Durgapur.

AVB WORKSHOP

A HEAVY engineering workshop, set up at Durgapur by ACC-Vickers-Babcock, a British engineering consortium, is to be commissioned on February 6. It will manufacture steam-raising equipment in the high pressure range for the first time in India.

The construction of the plant was completed within two years on a plot of 700 acres.

AVB has already received orders for supplying electric machinery worth Rs. 25 crore for the Khaparkheda thermal power station in Maharashtra and the Korba powerhouse in Madhya Pradesh.

Would You Colour Water To Prevent The Adulteration Of Milk?

IF milk is adulterated with water, you would find fault with the milk-supplier— not the authority that provides the water! Nor would you suggest that colour be added to water to check the malpractice!

Yet, in a parallel case, where ghee is adulterated with vanaspati, some people agitate for the colouration of vanaspati.

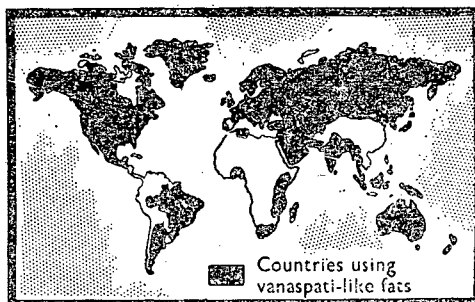
Ghee is adulterated by unscrupulous persons with a wide variety of substances...not with vanaspati alone! Even if the misuse of vanaspati could be checked, by colouration or other device, mineral oils and animal carcass fats would still be available to the adulterator. And these are impure, obnoxious and often injurious to human health!

Two Ways to Check Adulteration

It is therefore meaningless to colour vanaspati, especially when there are two highly practical ways of checking ghee adulteration:

1. By packing ghee in sealed containers—the practice followed for vanaspati and other foods, like milk in some cities.

By enforcing the pure food laws adequately, more rigorously. There can be no half-measures with the nation's health at stake!



VANASPATI-LIKE FATS ARE USED THROUGHOUT THE WORLD

Albania Algeria Argentina Australasia Austria
Belgium Brazil British East Africa Bulgaria
Burma Canada Central African Federation
Czechoslovakia Denmark Ethiopia Finland
France E. & W. Germany Greece Hungary
India Iran Iraq Ireland Israel Italy Japan
Libya Malaya Mexico Morocco Netherlands
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A 760-page, moderately-priced handbook, written by top experts, it is a boon to everyone interested in improving our agriculture.

COMPLETE GUIDE TO INDIAN FARMING

Handbook of Agriculture—published by Indian Council of Agricultural Research, New Delhi; Pp. 760; price Rs. 6.25 nP.

Agricultural production has increased considerably since the start of the First Plan. The production of cereals and pulses has risen, for example, from 57.6 million tons to nearly 80 million tons. Increases have also been recorded in sugarcane, oilseeds, cotton and jute.

These increases, large as they are, are not sufficient to give the country self-sufficiency; that is why the outlay on agricultural production has been almost doubled in the Third Plan as compared to the Second Plan (Rs. 1,280 crore as against Rs. 667 crore). This outlay includes provision for large and small irrigation schemes, soil conservation, co-operation and community development (agricultural) programmes.

Mere outlays cannot ensure results; the rural community has to be mobilised for intensive agricultural development.

Besides the effort in organisation that is required, a sound knowledge of the physical, chemical and biological properties of soil is necessary for successful farming. Soil management includes the correct appreciation of the relationship between soil and the crops to be grown on it. Good soil management must be based on four guiding principles; selection of the right crops for a given soil or the right soil for given crops; maintenance of the soil; improvement of its productive capacity; and recourse to economically profitable husbandry methods.

This is one of the major aspects of agriculture dealt with in the *Handbook of Agriculture* published by the Indian Council of Agricultural Research, New Delhi (760 pages, Rs.6.25). Apart from weather and

soils which are treated exhaustively (76 pages), the volume also deals with a number of other important matters of interest and importance to the agriculturist.

The chapter on Manures and Fertilisers is one such. Indian soils are usually very poor in organic matter as well as nitrogen. Phosphate deficiency is comparatively less widespread, and potash deficiency is generally localised in compact areas. The Handbook contains detailed information on various types of manures, their use and the mode of applying them.

Food crops account for 80 per cent of the annual sown area, oilseeds 9.6 per cent and fibre crops

BOOK REVIEW

6.5 per cent. The remaining 3.9 per cent is shared by sugarcane and "miscellaneous crops". Among the items hidden away in "miscellaneous crops" are such foreign-exchange-earners as black pepper, chillies and tea. The Handbook gives detailed guidance on the various aspects of cultivation of these different types of crops, such as climatic and soil requirements, preparation of the soil, sowing, crop rotation, harvesting, threshing and storage, grading and marketing and varieties. The four major cereals, nine varieties of millets, eight kinds of pulses, sugar and tapioca, fourteen types of oilseeds, and four fibre crops including cotton and jute, six items under the head 'condiments, spices and narcotics', and five plantation crops including coffee, tea and rubber are dealt with in great detail.

Another chapter gives a clear idea of the types of fodder crops that can be cultivated for the live stock

population and the methods of cultivation. There are also useful tips on conservation of fodder.

In the next section, 32 kinds of fruits are dealt with. There are notes on propagation and planting, manuring, after-care, harvesting and marketing of each of these. Since development of horticulture would not be economical without simultaneous development of the fruit and vegetable preservation industry, the Handbook contains useful hints on making of fruit juices (squash, syrup, sherbet), jams, jellies, marmalades, crystallised fruits, pickles, 'chutneys' and ketchups. Detailed notes on vegetable growing, which is more remunerative to the farmer than almost any other type of farming are also given.

We come next to the big hazards of all agricultural operations the world over—crop diseases and insect pests. Control of plant diseases usually lies in preventing infection in view of the extreme difficulty of killing the micro-organisms after they get a secure footing in the plant. Through research, many disease-resistant varieties of all the important crops have been evolved and are available to farmers. Still, fungicides have a very important role to play. More than 80 pages of the Handbook are devoted to a table listing the diseases that affect the different food and commercial crops, the organisms which cause the diseases, the symptoms, and the control measures. A 44-page table gives a comprehensive list of the insect pests endangering various types of crops and the control measures to be adopted. There is also a list of the different insecticides and the methods of their application.

Modern techniques and implements form the subject of another section. Useful information is also provided on irrigation (sources, quality of water, application to soil and crops), soil conservation (reasons for soil erosion and measures of conservation including dry farming, grass cultivation, afforestation), major weeds and methods of controlling them. The progress of the co-operative movement in Indian agriculture since Independence and the provision of short and long-term credits, steps for improving agricultural

marketing, the various laws that have been enacted in relation to agricultural development in the country and the role of community development projects form the subjects of the succeeding chapters. The Handbook concludes with practical instructions to the farmer on maintaining accounts. An appendix giving the English and botanical names of various plants and their equivalents in twelve Indian languages is of interest and value.

The volume represents the fruits of four years' labour and 33 top experts have contributed to it. It is intended to be translated into the various languages of the country by the State Governments and made available to the agriculturists. The earlier this is done the better; success of the Plan demands that

this collected knowledge be made available now.

C.N.C.

Cotton Textiles

The Indian Cotton Textile Industry : 1959-60 Annual, edited by M.P. Gandhi; Published by M.P. Gandhi & Co., Nanabhai Mansion, Sir Pherozshah Mehta Road, Fort, Bombay 1; 182 pages; Rs. 6

Although the Indian cotton textile industry is the oldest organised industry in the country, neither the Government nor the business leaders have been able to place it on a stable footing as they would have it. One of the main reasons for the lack of stable prices, for example, in the industry is the continuing dependence on the vagaries of the weather for the crop. And 1959-60 was a particularly bad year for the Indian

cotton crop and the textile industry had to rely largely on imports of raw cotton, much of it coming from the United States under P. L. 480.

The scope of Prof. Gandhi's annual review of the industry is well known to call for detailed examination. In digested form one can find almost all the details one wants of an industry which contributes more than five billion rupees to the gross national output, and is only next to jute and tea as foreign exchange earner.

Prof. Gandhi pleads that the planners should "unhesitatingly permit the mill sector to expand the spinning and weaving capacities" and he suggests a minimum expansion of 25 per cent in mill capacity during the Third Plan period.

K.K.M.

YOU ASK US

SERVICE CO-OPS

QUESTION from Mr. S.O. Sheth, Extension Officer, Sukhsar, Gujarat

What are the scope and functions of a service co-operative society in India ?

ANSWER : The Nagpur Session of the Congress adopted a resolution favouring the adoption of joint co-operative farming in our country. It also stated that 'as a first step prior to the institution of joint farming, service co-operatives should be organised throughout the country'. It recommended a period of three years to cover the entire country with service co-operatives.

These co-operatives are expected to provide such services as are generally required by all members. Within this scope, they can function in the following ways :

(1) Supply of good seeds and fertilisers and the production of manures in the village itself ; (2) Irrigation ; (3) Credit ; (4) Marketing of products ; and (5) Joint use of implements and modern mechanical aids.

Since, in India, the holdings are often uneconomically small and the resources of an individual farmer

very meagre, the service co-operatives help a group of farmers to pool their labour and stock of goods. They also increase the farmers' credit-worthiness.

India being mainly an agricultural country, the service co-operatives are primarily needed for the agricultural community. But these co-operatives can further extend their scope to cover the various crafts, mostly ancillary to agriculture, in the rural areas. The condition of the artisan class is not better, if not poorer, than the cultivators ; and its needs are equally pressing. The blacksmith, the carpenter and such other traditional artisans, most notably weavers, therefore, come under the fold of the service co-operatives which have an important function in transforming our rural society.

FOREIGN AID

QUESTIONS from Mr. S. K. Raina, Shikohabad, Mainpuri District.

1. What are the amounts of foreign aid received by India from different countries during the First and Second Plan periods ?

2. In view of the experience gained so far of foreign aid, can it be said that India is following a wise policy in looking for more external aid ?

ANSWER : As for the amounts of foreign aid received by India, we

are publishing a full-length article in our next issue. On the question of wisdom of accepting foreign aid there need not be any misgiving.

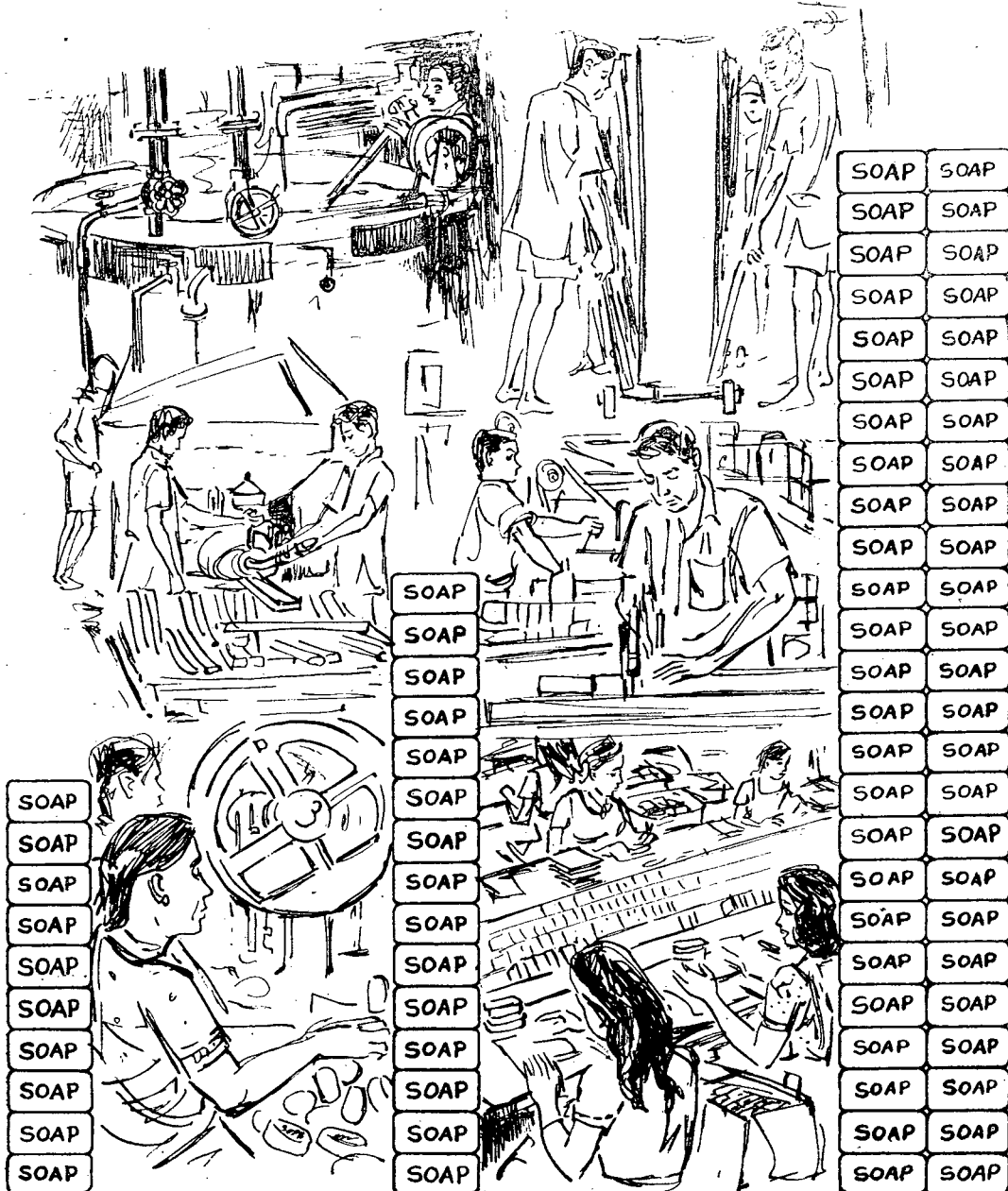
Despite her wealth of natural and human resources, India is an 'under-developed' country. It is only through adequate capital, technical equipment and managerial talent that resources can be utilised and our economy improved. Being poor, we cannot create adequate capital or technical equipment without taking help from those who can afford. It is more under compulsion of domestic circumstances than from any love of external assistance that India has to ask for aid from other countries.

Secondly, India uses the external assistance for building up the basic structure of its economy, to establish basic industries which, in turn, will generate a number of industries taking the country a long way to prosperity. The assistance is not being spent on consumption goods. Our entire approach to assistance is that it should be so used that a self-supporting economy is ushered in at the earliest, and we might overcome our need for external aid. This is in every respect a wise policy, and it is to be remembered that we allow no strings to be attached to the loans we seek or get.

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PRODUCTION OF SOAP

The Mahatma used to say that his idea of a decent life for villagers consisted of enough food and clothing for all and a cake of soap for everyone to keep clean. The soap industry, primarily in the private sector, has increased its production almost by half in the last ten years, but in the next five years, the output is expected to be more than trebled.



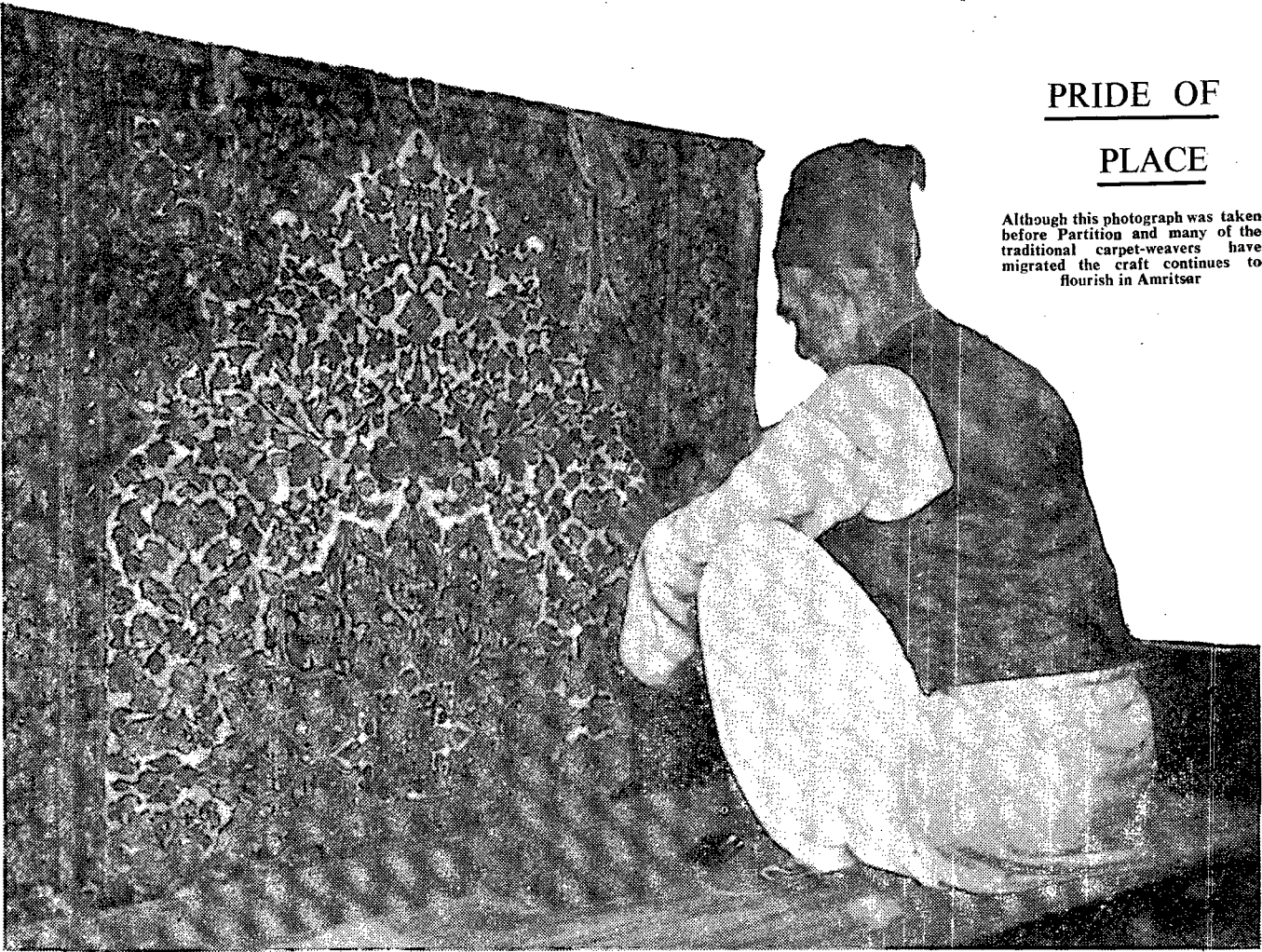
1950-51
106,000 TONS

1960-61
150,000 TONS

1965-66
500,000 TONS

PRIDE OF PLACE

Although this photograph was taken before Partition and many of the traditional carpet-weavers have migrated the craft continues to flourish in Amritsar



CARPETS OF AMRITSAR

SOME places in our country have assumed a twofold importance. Banaras is one. A holy city situated on the Ganga with its typical ghats, it is also known for its silk. Amritsar is another. It is the city of the Golden Temple. Yet it is also well known for its woollens and carpets.

Carpets were made in our country in one form or another long before the Persian rugs made their appearance. Akbar brought some weavers from Persia. Some of these weavers settled in Amritsar and other places and their descendants follow the hereditary craft.

Carpets are made in different parts of the country. What gives the Amritsar carpets a distinctive appearance is the fine texture. Different grades of fine wool, both imported and indigenous, are blended and as many as 360 stitches are

made to a square inch, giving the stuff a soft feel.



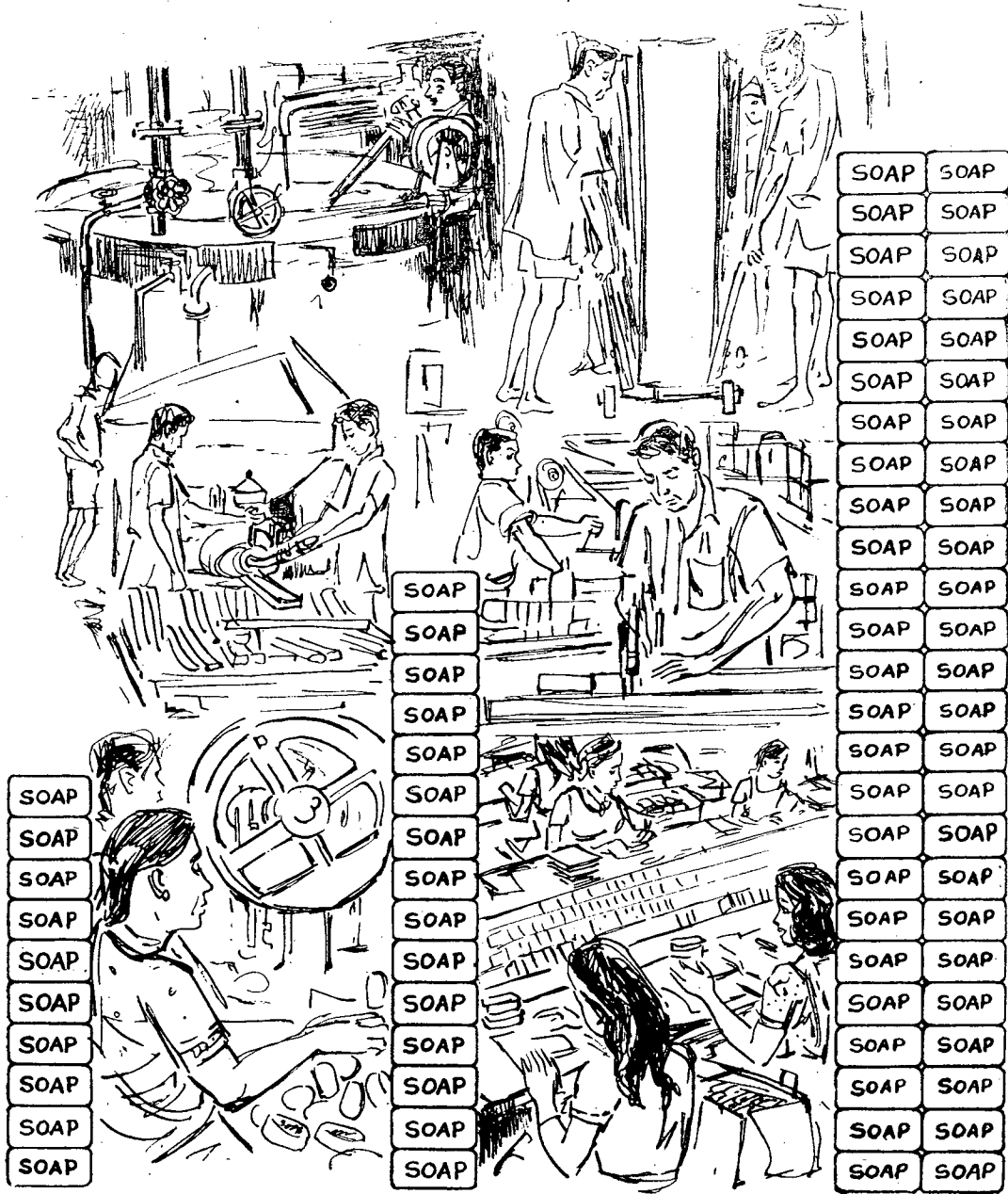
Tufts of dyed wool being dried

Carpet-weaving requires skill and patience and it takes several months for a weaver to make a carpet. The loom consists of a frame of four beams, the horizontal being wedged between the upright ones. A foundation thread is stretched over the top cross-beam, passed under the lower horizontal beam and taken again over the top till the required number of warp threads have been stretched continuously over the top and lower beams. The weaver takes the wool from balls of different colours according to the colour and design of a pattern kept before him. The wool is cropped after a number of rows are made. Finally, the carpet is brushed and made ready for sale.

The price of carpets depends on their quality and Amritsar carpets command anything between Rs. 40 and Rs. 350 per square yard.

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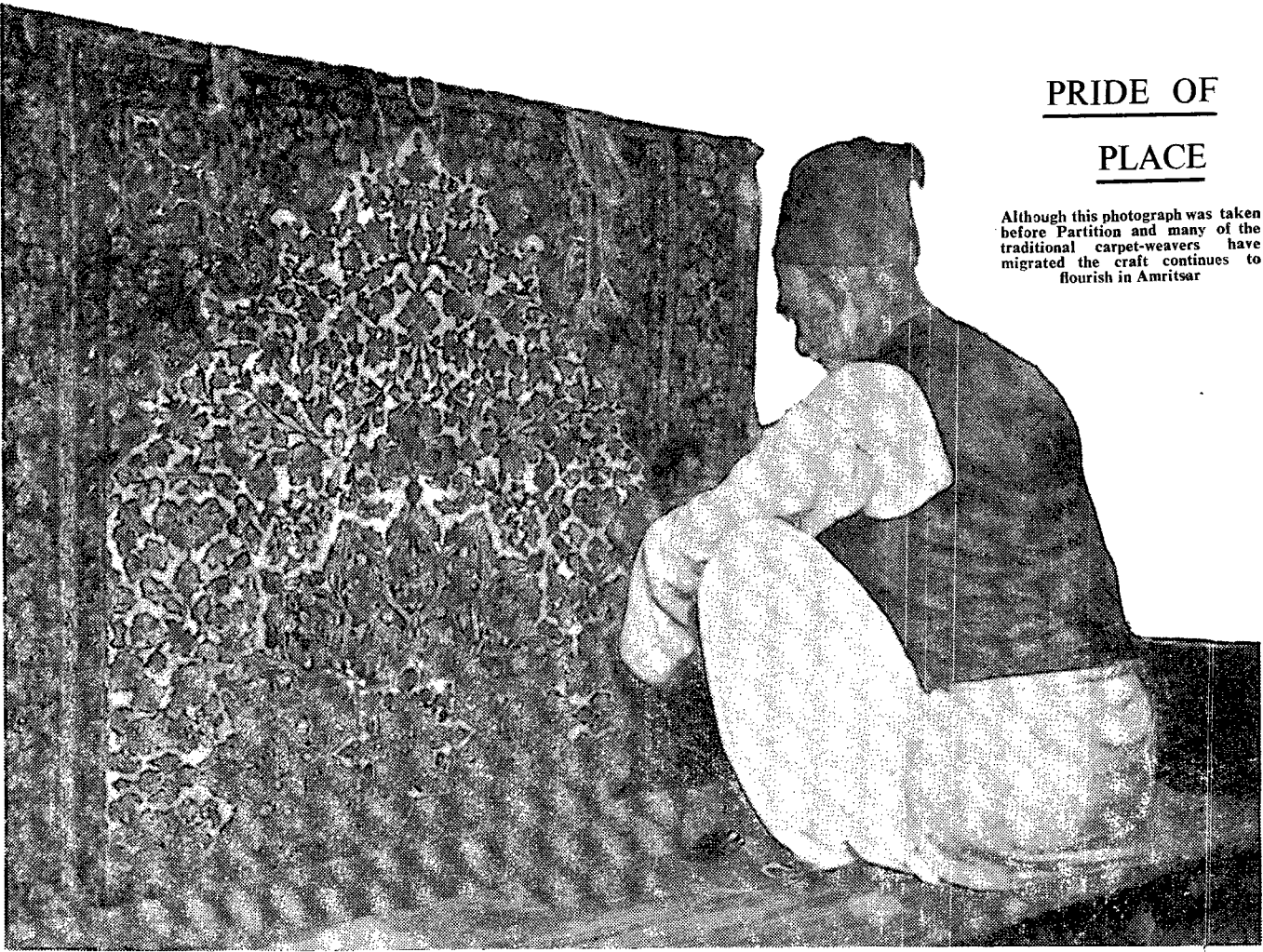
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YOJANA

JOURNAL PUBLISHED ON BEHALF OF THE PLANNING COMMISSION



ARE YOU LOOKING FOR A JOB?

A TROUBLED LOOK OF



THE FACE



Four men in the same boat; but with different chances of jumping off

REASON :

A Job, A Better Job, Any Job

AN ESSAY ON THE PROBLEMS OF Job-Seekers, Job-Finders, Job-Givers

The Importance of Training for Employment

In the last ten years 145 lakh new jobs have been created. In the next five, nearly 165 lakh people will find jobs—jobs of all types and levels. Even so there will be a few million others still requiring work. The aim of the Plans is to provide employment for all in the shortest possible time.

Here is Anis Ahmed of Amroha village in Uttar Pradesh who has come to the big city looking for a job. His special qualifications : nil

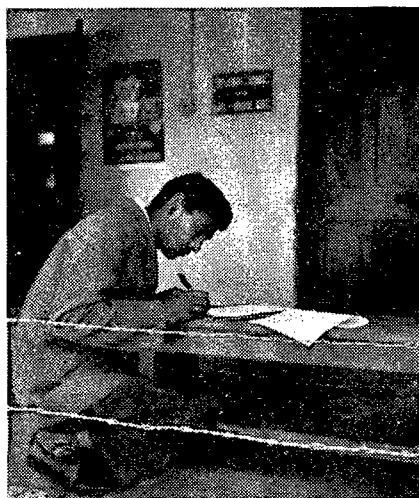
PHOTOGRAPHS : T. S. NAGARAJAN

See Overleaf



IN Delhi an unseasonal drizzle, bitter cold, elsewhere sunshine. Rain or shine, the lines form as usual in front of the employment exchanges early in the morning. Long lines. Short lines. Straight lines. Not so straight lines. It all depends on whether they are registering for the job of unskilled labourer, unskilled office worker, clerk or technician.

The procedure of registration is simple and standardised in every one of the 325 employment exchanges and eight university employment bureaux conducted by the National Employment Service throughout the country. You state your qualifications and



experience and the kind of job you want to be considered for and you are given a registration number and trade index number. Everything is

Left: Dharam Vir Singh filling in an application for a radiographer's post in a hospital. He is a B.Sc. student. "Why don't you complete your studies?" "How am I sure what I'll get after graduation?"

Top: The window opens, and the employment officer reels off a list of the places which need hands. Pencil poised in hand, he asks: "Any takers?" For many of those collecting outside, the jobs may not be good enough.

written down on to your personal index card and from now you are on the Live Register. If you are among the lucky ones who get a job right away, your card goes off the register; if not, you must renew your registration within two months or else you go on to the Dead Register.

This is a rather simplified statement of the work done by the Employment Service. It does not bring into focus the hopes, the fears and ambitions that are centred on each single index card. Nor does it highlight the understanding and expertise requir-

Jobs by Choice, Not Chance

ed of the officials to help the 18 lakh job seekers registered today with employment exchanges.

But how do the job seekers, the job finders and the job givers fit into the scheme of things?

India has an employment problem, an old, large and complex problem with subtle shades of unemployment and under-employment. The accepted employment strategy is to relieve the pressure on the land by providing as many new jobs as possible in non-agricultural occupations; in new and expanding industries, in construction, in railways and transport, in posts and telegraphs, in mining, in Government service and in other lines. The most effective incentive is to offer regular, wage-paid employment as an alternative to taking a share in the agricultural produce of the family land. Families grow larger. Even if agricultural production shows some increase, each person's share steadily grows smaller. As the economists would put it, we have started the Third Plan with a back-log of 9 million unemployed and can expect another 17 million persons to enter the labour force during the Plan period. Continuing the earlier strategy, if we are to hold the employment line, we must provide jobs for at least the *equivalent* of the number of new entrants. In the Second Plan, we provided about 8 million jobs against the original target of 10 million. The task during the Third

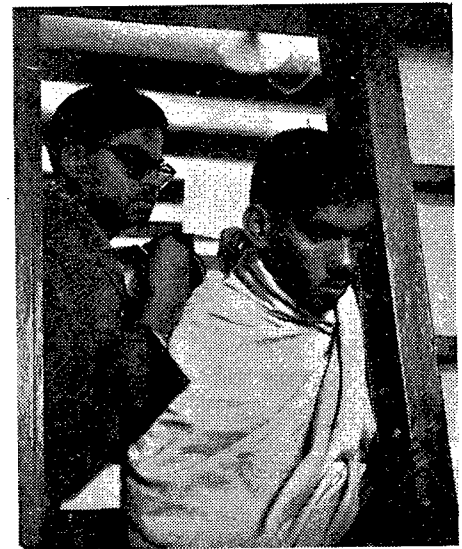
Sriram has a degree in commerce. His ambition is to become a business executive. He talks over his chances with an employment officer.



At left is Sukhvir Singh. He has held jobs before, and is now ready for any job. At centre is Gurudev Singh. His problem is that he has to produce a certificate of work experience from his employers.

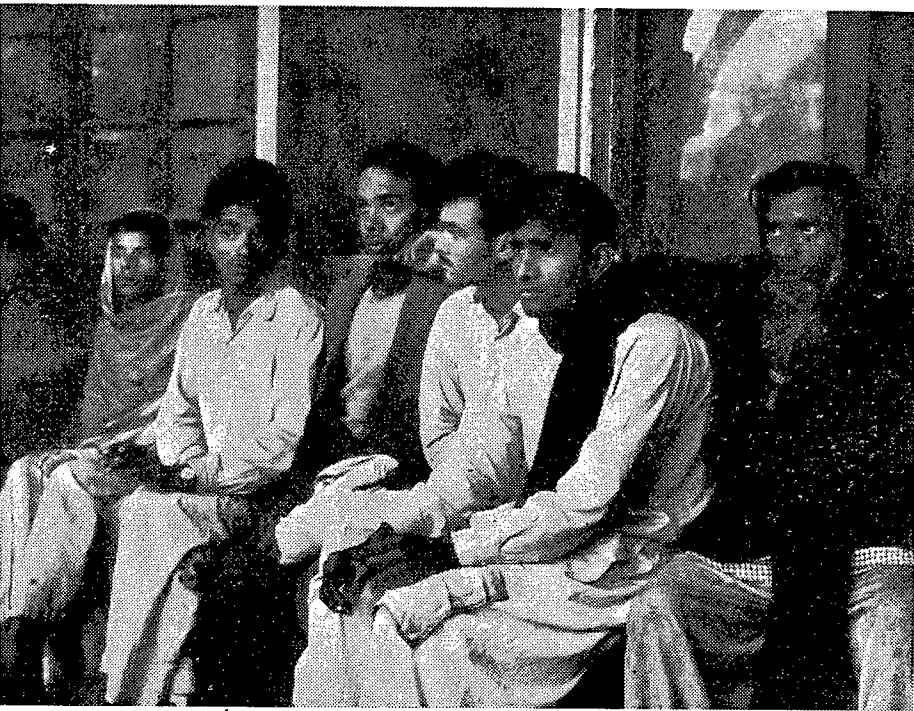
Plan is much larger and we have to find 10.5 million jobs in non-agricultural occupations, another 3.5 million in agriculture and 2.5 million jobs through the rural works programme during the slack season.

The key word "equivalent" has been given in italics in the preceding paragraph because the employment service deals with both new entrants and the back-log. The basic task of the employment officer is to match men against the available jobs. The Live Register shows surpluses and shortages side by side. It must be very frustrating for the employment officer to cancel a number of vacancies because he cannot put up a suitable candidate from among the job seekers queuing up before him. New and growing industries demand men with specialised training and experience; the few technicians that are waiting between jobs are snapped



Two who want to be on the Live Register—which means re-registering every two months.



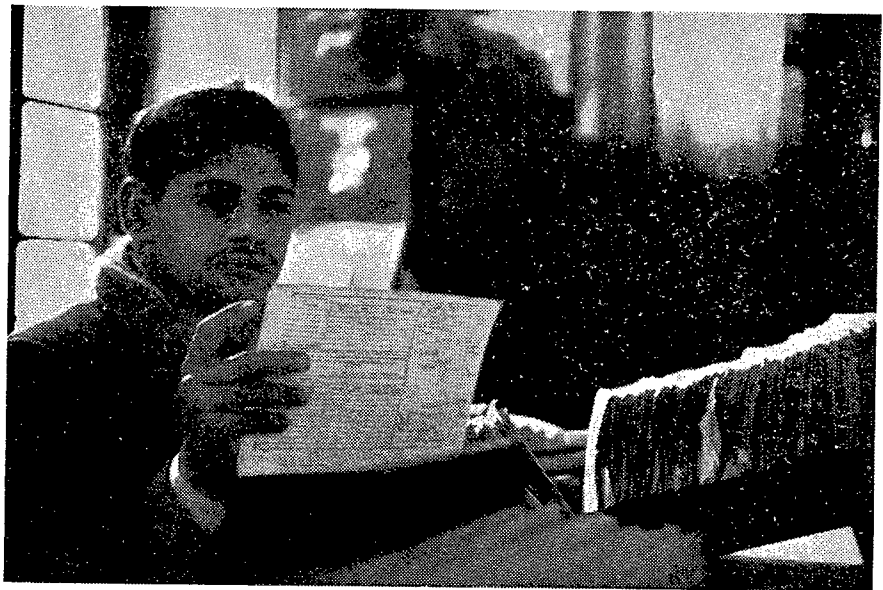


In the hall of an employment office. A vacancy has been notified. Each of these people will be called and told the conditions. If they are willing, they have to say so in writing.

up quickly by the employer. It is the fresher with no experience and training and the man with a type of experience that is no longer wanted that make up the bulk of the slow moving groups. Of the 18 lakh on the live Register, 13 lakh are freshers.

The slogan of the National Employment Service that is prominently displayed in every exchange is "A Free and Impartial Service". A service, to be free and impartial, must have standardised policy and procedures in dealing with the lakhs that register with the exchanges. There are two books that are the standard equipment on the table of every employment officer, the *N.E.S. Manual of Instructions* and the *National Classification of Occupations*. In the preface of the Manual there are two vital sentences: "Rules are made for men and not men for rules. The Manual is intended to serve the changing needs of the people."

The organisation was started as far back as 1945 to help in the resettlement of ex-servicemen and today it serves the entire community. It is this emphasis on flexibility which enables the Service to react quickly and assist, for example, in the reabsorbing of skilled and experienced workers as one construction project tapers off and another project



A stack of cards and the story of a hundred lives. A clerk is checking details to find out how many can meet the employer's specifications.

gathers momentum. Or to set up exchanges to cope with employment problems arising out of retrenchment in the textile industry or with the distinct problems of surplus tea garden labour, coal miners, and the physically handicapped.

The Manual is comprehensive. It tells one how to register employ-

ment seekers, how to submit them against vacancies notified by employers and how to assign priority to special classes of applicants including women, displaced persons, retrenched government servants, scheduled castes or tribes applicants, Anglo-Indians, ex-service personnel and others. In addition to the procedures of registration and submission, the employment officer is required to keep in touch with employers and with changes in the local employment market.

The recent Compulsory Notification of Vacancies Act enables him to secure a complete idea of vacancies as they arise in the public sector along with a fair idea of private sector vacancies; steps are being taken to improve this coverage. The related programme is handled by the Employment Market Information Units that are steadily being built up in most exchanges; quarterly employment market reports are now being received regularly and are expected to help fill in the changing details

of the general employment picture.

The companion volume of the Manual is the National Classification of Occupations, on the basis of which every job seeker is fitted into an index card. The card is actually an envelope which contains all the relevant details about the individual, such as, age, qualifications, experience

and job preference on the outer covers and the related correspondence is slipped into the envelope. There is a comprehensive five-digit code. Its index starts with 'A' for Abdar (code No.920.30) and ends with 'Z' for Zoologist, general (code No.020.60). But all these cards and codes do not distract attention from the fact that the employment problem is in essence the problem of individuals who require work and need help in getting it.

Take a typical entry from the list filled up by the clerk at the re-registration window:

Syed Aziz Husain
24.3.61
S0/1811/61
X00.10/6
29.1.62

This tells you that Husain is a matriculate, without any job experience, has not passed a typing test and wants to be a clerk.

Prem Singh
7.8.61
Sup/1660/61
X00.10/8
1.2.62

Prem Singh has precisely the same qualification as Husain but is prepared to accept a job as a peon. The former has been on the Live Register from March, 1961, the latter from August. Perhaps Prem Singh has no one to support him, during the waiting period or perhaps he has a number of dependants or perhaps he has made a more realistic assessment of his talents and training.

The employment officer has a feel of the local employment situation. He can give realistic advice to the applicants on the chances of recruitment. Take the job of a typist clerk. Every matriculate who applies for a clerical vacancy claims he has just started learning typing. Yet in November, 1961, a number of such vacancies were cancelled, because there were no people with the required qualification. Trade testing is a developing feature of the Employment Service. It is easy to check whether a typist or a stenographer or

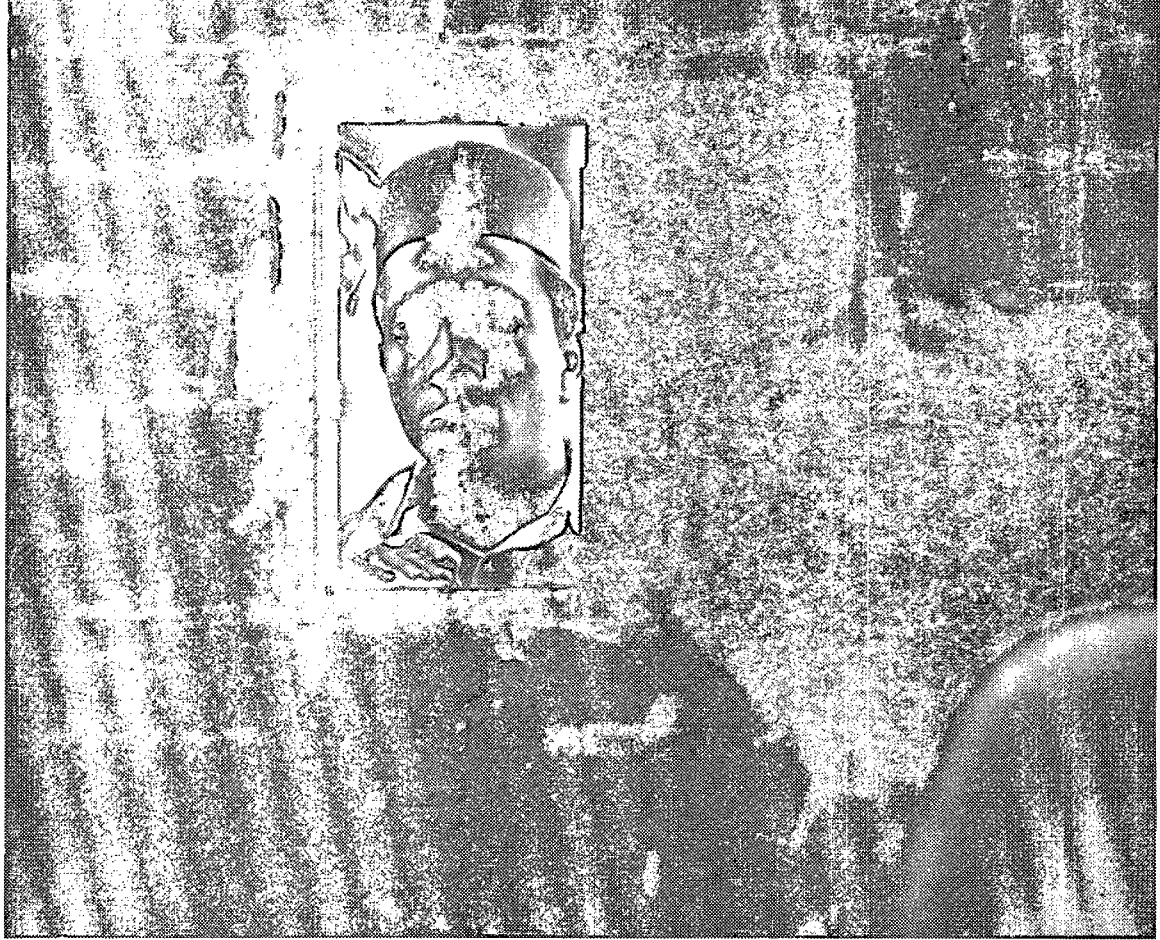
a telephone operator has acquired the necessary speed and proficiency by putting him through a simple test. It is a little more difficult when it comes to testing blacksmiths, carpenters, or spray-painters. It is necessary to make sure that the applicant is exactly what he claims to be.

Take the case of Sukhvir Singh. He is no fresher and has worked for about five years as an accounts clerk in a co-operative department. He is not so young either—a married man with a wife who has a teaching job. He says he gave up his last job in order to take his B. Com. degree but

failed to get admission. He hopes to try again next year but till then he wants a job, any job. He is prepared to join what he calls a 'work camp', no salary, just food, clothing and shelter. But is he prepared to move out of Delhi? The answer is a firm 'No'. Gurudev Singh is lean, wears glasses and looks something of a scholar. He says he has worked for three years as a time keeper in a large construction firm. That should be enough to get him a good job quickly, except for the fact that he cannot produce a certificate of work experience.



Chaina Ram opens the gate of the Subzimandi exchange in Delhi to greet the early birds who hope to be sent off as day-wage workers. Contractors of many kinds tell the exchanges of their requirements of casual labour.



Nothing has turned up in the past few weeks, but today may be another day, the window to a new life.

Shawls, caps, mufflers, umbrellas, sneezes and coughs—they are all there. Some are never too old to work.

The technical categories present a similar problem. Here you find index card after index card, qualified with the phrase "For Government Service Only". This clearly indicates that the job seeker is already in private service but is seeking a rise and the security of a permanent job. The list includes compositors, fitters, mechanics, turners and others. This is the sort of applicant that clutters up the register with those who are already employed and cannot be submitted against vacancies notified by private employers.

The other factor which serves to confuse Live Register statistics is the relative immobility of certain groups of job seekers. Educated women are an example. Few of them are prepared to leave the family roof. Parents might agree to send their daughters to a teachers' training college in another city for a period for study, especially if she can't get admission in a local college. But a job away from home is a long-term proposition that they cannot accept. Further, with the standardisation of

salary scales, there is little incentive offered that will encourage people to move to out-of-the-way places where jobs are more readily available. Clerical and supervisory workers prove to be the most immobile.

It is here that the employment exchange official can serve as a guide and adviser. Vocational guidance and employment counselling now form part of the work of the exchanges. But, with the present staff and work-loads, these are not being done in an effective way. The officials have barely time to size up the applicants' aptitudes. Even when he attempts it, the applicants themselves are indifferent. They want a job, not advice. It is in the eight university employment bureaux that the situation approaches the ideal. These bureaux cater for a smaller number and a select clientele of graduates and post-graduates. Their aspirations are much higher and more specialised and the employment officer has to search much farther afield for suitable employers and

(Continued on page 21)





Punjab Fights Against Waterlogging

SAVING 30 LAKH ACRES OF LAND FROM THE TRICKY FLOOD THAT CREEPS UP FROM BELOW

NARINDAR SINGH

OF all the problems faced by agriculture in the Punjab, the waterlogging of extensive areas is perhaps the most acute.

Canal irrigation, lack of corresponding drainage facilities, a cycle of unusually heavy rains in recent years and various obstructions to natural surface run-off, have all combined to raise the subsoil water table to a dangerous level. Vast areas in the districts of Amritsar, Gurdaspur, Ferozepur, Jullundur,

Kapurthala and Rohtak have been rendered unfit for farming and for habitation. Not uncommonly one comes across water which has collected on the surface. A ten-square-mile area near Bhindwasa village in Rohtak district, to give a random example, has become a lake since 1960, surrounding ten villages with stagnant waters. It is a natural depression into which the notorious Drain No. 8 empties surplus waters from the Rohtak, Ambala and Karnal districts.

A total of 3.1 million acres, or one-seventh of the entire cultivable area in Punjab, is heavily waterlogged in the sense that there is either surface accumulation of water or the water table is less than five feet

(Continued on page 9)

I am grateful to Mr. M.L. Talwar, Executive Engineer, Rajasthan Feeder Project, on whose extensive experience of anti-waterlogging work I was able to draw so much in the writing of this article. I must add, however, that any faults in the article are to be attributed to me and not to him.—Author.

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

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

Although published on behalf of the Planning Commission, *Yojana* is in no way restricted to expressing the official point of view.

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NEXT ISSUE

AGRICULTURE IN UNITED STATES

M. S. Sivaraman

RURAL WORKS PROJECTS

OF WORK AND GROWTH

IN the preceding pages you have seen faces of people looking for jobs, and marked the look of hope and despair, anticipation and anguish on them. Not all these people, it must be noted, are actually without work; some are only trying to find better jobs. But we must also remember that for every person who goes to an employment exchange there are many who lack the push and energy even to do so.

To see a jobless man is only less disturbing than to be jobless oneself. On seeing the photographs some must have felt: "There, but for the grace of God, go I."

Talk of unemployment always raises questions, some angry, about what we as a nation are doing about it. The answer is simple: the whole Plan. The Plan as a whole, and some parts of it specially, are designed to increase employment opportunities. Deliberately rejecting the possibility of increase in production at the expense of creation of more employment, our Plan has opted for programmes which simultaneously increase production and employment. Agricultural expansion and industrial expansion thus mean more goods and products *and* more jobs. The social service programmes mean more amenities for the people *and* more jobs.

In the last ten years about 145 lakh new jobs have been created. It is true that the number of the unemployed has also grown. This is due partly to the high rate at which our population is increasing, and partly to the fact that more and more people are giving up the protection of the joint family and moving out in search of full-time jobs. The conversion of hidden under-employment into open unemployment is evidence of a more general desire for self-improvement and is thus a sign that development is taking place.

There are backward countries with total employment; there are advanced countries with unemployment. The high level of unemployment in our country is the result of a large population, limited land, inadequate industries, lack of funds and growing expectations. The challenge of the Plan is to see that industries grow faster than the population and people's demands.

It takes money to create a job. And jobs have to fit in with individuals' differing abilities and wishes and national needs. There is no job that can suit all, even as there is no boot which can fit all feet. To create jobs of different kinds in sufficient numbers is a long and hard process.

An essential part of this process is training. As *Yojana* has said earlier, it is not enough to have a job for every man; it is equally important to have the right man for the job. The purpose of the Plan will not be served by merely providing jobs to people; the Plan must manage to get more out of people who have jobs. In forthcoming issues of *Yojana* we hope to present photographic essays—like the present essay on employment seekers—on how people are being trained to be better workers.

The entire picture of opportunities is going to change in the next fifteen years. In the last ten years we were busy building the basic industries—which are precisely those where investment is high and direct employment is low. But the basic industries give birth to other industries which offer large employment opportunities. In the next five years alone 165 lakh jobs will newly come into being. The worker with some skill need fear no unemployment. As for the unskilled rural labour, the Plan has taken up the rural works programme specially to absorb them. By a combination of these forces and programmes, we shall be able to burn up the back-log of unemployment in the next ten to fifteen years and also be able to have jobs ready for those who come of age and ask for them.

Waterlogging in the Punjab

(Continued from page 7)

below the surface. The following figures showing the position before and after the monsoons indicate a steadily worsening situation. The area with a higher subsoil water table has been increasing and that with a deeper one has been shrinking:

involved can be had from the hypothesis that the absorption losses in the Rajasthan Main Canal, if it were left unlined, would be 3,400 cft. per second on the assumption of normal (and not the actual sandy) soil conditions. After lining, the

	June Measurement				Area in thousand acres (Rounded)			
	a	b	c	d	October Measurement			
	a	b	c	d	a	b	c	d
1953	—	38	1454	3024	5	747	2396	2362
1955	—	112	1742	2924	79	2391	2314	1269
1957	—	521	3022	2492	47	2029	2991	1677
1959	2	522	3576	2647	78	3046	3041	1311

- (a) Area with surface accumulation of water up to 5 feet.
- (b) Area with subsoil level up to 5 feet.
- (c) Area with subsoil level between 5 and 10 feet.
- (d) Area with subsoil level between 10 and 15 feet.

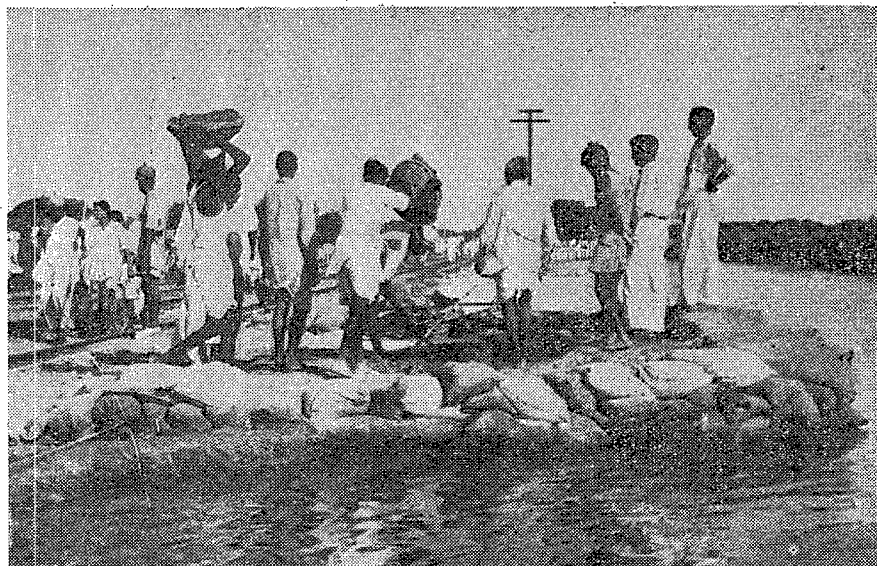
Source : The Third Five-Year Plan (Punjab State)

Causes

PERCOLATION of water through unlined water channels is the most obvious though not the only cause. Under normal soil conditions absorption losses in an earthen channel amount to 8 cft. per second per million square feet of wetted perimeter. An idea of the loss

loss would be reduced to 500 cft. per second. Perfectly impervious canals are not economically feasible. Though waters thus saved can irrigate additional area, lining in Punjab is suggested not so much to conserve water as to reduce waterlogging.

But some seepage seems inevitable



Villagers placing sandbags to protect the rail track near Rohtak

if canal irrigation is undertaken at all. For even if all the channels from the main canals to the water courses serving individual fields were made 100 per cent impervious, considerable absorption below the root zone would still take place in the fields irrigated. It is estimated that "out of the total quantity of water that enters canal at the head, 17 per cent is lost by way of absorption and evaporation in the main canal and branches, 8 per cent in the distributaries and 'minors' and 20 per cent in the water courses. Of the water that ultimately reaches the field, as much as 30 per cent is lost by way of absorption in the regions below the root zone of the crops", (Dr. K.N. Raj: *Some Economic Aspects of the Bhakra Nangal Project*, p. 92).

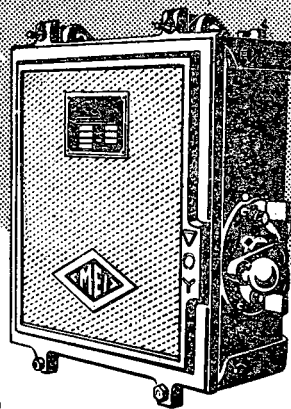
In the case of the Sidhwan Bet in Ludhiana District, however, the subsoil water table kept rising even after some distributaries of the Sidhwan Branch of the Sirhind Canal were shut down in the mid-fifties. The subsoil water came to within three feet of the surface over an area of 45 square miles. It came closer still over a smaller area. Cultivation practically disappeared, sharply indicating the prospects for the rest of Punjab, if nothing was done soon enough. What happened in this case was that the Sidhwan Branch (started in 1952) and its distributaries had cut across the natural surface run off from the Belt into the Sutlej River. Drainage siphons were not provided for and rainwater lost an outlet. Deep infiltration and evaporation being too slow to remove the impounded water, heavy rains made it worse still.

Rains in the Punjab have been heavy in recent years, as a comparison of post-1947 averages and maxima over various tracts with the respective pre-1947 averages will indicate (see page 11).

Given such a wet cycle and blocking up of natural surface drainage by canals, railway tracks, roads and even village paths, it would have been surprising indeed if vast areas had escaped waterlogging. For while the input of water into the soil increased, adequate outlets for it were not only not created, but the old ones were blocked out also.

(Continued on page 11)

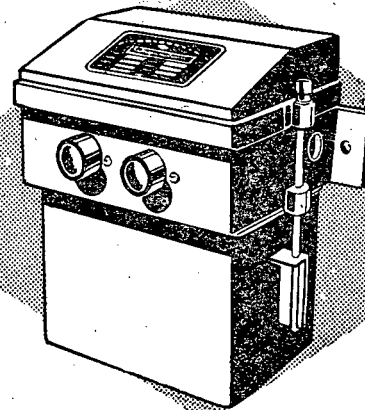
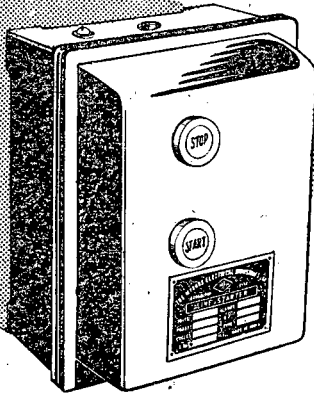
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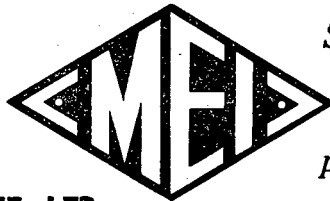
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Rainfall in inches

	Average rainfall during the monsoon period before 1947	Average rainfall during the monsoon period after 1947	The worst rainfall during the monsoon period after 1947
Upper Bari Doab Canal Tract	23	34	54
Sirhind-Ferozepur Tract	21	22	40
Ghaggar Tract	15	22	39
Western Jamuna Canal Tract	23	31	56

Effects

WATERLOGGING does considerable damage to agriculture. In some cases land may have to be abandoned altogether. It is not possible properly to prepare the waterlogged soil for sowing. Further, since wet soil is both cold and compact, healthy germination of the seeds and proper spreading out of the roots are hindered. Air content in saturated soils being low, crop roots get suffocated for lack of sufficient oxygen. Organic matter decomposes and putrefies, producing carbon dioxide and hydrogen sulphide and thus resulting in toxicity. Finally, the additions to the subsoil storage dilute the soluble nitrates present in the soil, so that plant roots do not get enough vital nitrogen. Only stunted, yellowish crops can grow, if at all. As the subsoil level rises, the nitrates also come up, thus making the afflicted land 'thur'-infested.*

Water is thus a problem in both scarcity and abundance. Whether the area becomes 'thur'-infested or is reduced to a malarial swamp depending upon its chemical properties, people must abandon it sooner or later, as they had done in Sidhwan Bet till the last year's reclamation drive. People are migrating from parts of Amritsar and Gurdaspur to safer areas in the Punjab, Rajasthan and U.P. Mass migration of a demoralised peasantry creates a social problem.

*The electric disturbances in the atmosphere convert the nitrogen in the air into nitric acid. Rains wash the acid down into the soil, where it reacts with the calcium and barium present there (mainly calcium) and converts them into their soluble nitrates. It is these nitrates that supply nitrogen to plant roots, or cause 'thur', as the case may be.

FIGHT AGAINST WATERLOGGING

(Continued from page 9)

A TWO-TIER programme to check further additions to, and the draining away of, existing accumulation below and above the surface is indicated. The Punjab Government has drawn up two master plans to control floods and remove waterlogging which will cost Rs. 28.44 crore and Rs. 61 crore respectively. In the latter plan, Rs. 5.74 crore have been earmarked for reclaiming 'thur'-infested lands. It is not intended here to go into the administrative and other details of the two plans separately. The programme has been viewed as a whole. Measures to control floods automatically help to control waterlogging and *vice versa*; the latter, because flood water is spread over a wider area if it is already waterlogged. A drier area can withstand floods better since it can absorb more water in an emergency. Likewise, when waters of the Sutlej, for example, get impounded above the Bhakra Dam, the dried up river below Rupar will begin to serve as a natural seepage drain for the surrounding area.

It is in this context that the two master plans need be appreciated. The first phase of the flood control programme has been completed with the construction of 265-mile long embankments along the river banks and the excavation of drains of a total length of 2,200 miles. The Third Plan makes an allocation of Rs. 12 crore for this purpose. This includes expenditure on the canalising of 'choes'—flashy and unpredictable hill torrents emanating from the lower Shiwalik hills—and the excavation of more drains and construction and reconditioning of anti-flood works.

Measures to reduce waterlogging include lining of 1,260 miles of canals and distributaries, installation of 5,000 shallow tube wells, excavation of 5,500 miles of seepage drains, and construction of drainage siphons at suitable places under the canals, and bridges under roads and railway

tracks. But since even lined canals must let some water seep through them, it is advisable to excavate small ditches one on each side, running parallel to the major canals and branches. This involves additional outlays, no doubt. Land alone constitutes about a fifth of the cost of anti-waterlogging works, and half of it will be met by farmers themselves out of the common pool set aside during the consolidation of holdings operations. In addition, a good deal of slush work involved can be done only by specialised machinery. To procure the unskilled labour required, the Compulsory Service Act, 1960, has been enacted. The original directive of the Government banning the hiring of labour to excavate drains has been withdrawn and the reclamation work in the Sidhwan Bet area was done by paid workers. But farmers are seen to be reluctant to let any drain pass through their respective lands.

Pilot Schemes

Six pilot anti-waterlogging schemes covering the worst affected areas in Hansi, Sangrur, Sunam, Zira, Fazilka and Amritsar are scheduled to be completed before the monsoon of 1962. Of these the Fazilka scheme will cover 53,000 acres and will cost Rs. 21 lakh, and the Zira scheme will cover 277,000 acres and cost Rs. 53 lakh. These pilot regions comprise compact blocs of ten to 20 square miles each.

It is not possible to explain the techniques of drainage works within the compass of a brief article. One may broadly state, however, that as a drain goes deeper it sucks in water from the surrounding area. Real success lies in making drainage a permanent feature of agriculture. Canal irrigation is useful only if maximum *effective* intake of water is combined with speedy removal of excess water. Water thus drained is *not* water wasted. For it never *was* available for plant nourishment. Air replaces the water drained, improving the oxygen content in, and the texture of, the soil. Internal natural drainage is not always good enough. Large investments on water supplies to the farm will thus have been wasted if not supplemented by simultaneous outlays incurred to drain excess water away from the farm.

Eating & Floating

THE old rules of drama in our country tabooed eating on the stage. It was considered vulgar. In our less inhibited days the act of eating is not only the focus of public policies but the mainstay of much of our advertising trade. Those who felt that the Madras State float in the Republic Day parade—which showed schoolchildren at their midday meals, a movement of which Madras is proud—ought to remember that the way to the heart is through the stomach. Few fond parents would disapprove of the spectacle. As for rule-bound bachelors and wry spinsters, let them fend for themselves.

'The Times' Survey

COINCIDING with our Republic Day, *The Times* of London has published a "Survey of India". It takes up 24 of its sumptuous pages. Supplements are seldom read right through but this one attracts attention, because the topics, pictures and authors are well chosen. Remembering who are the people who read *The Times*, we should be grateful that such a thing has been published. Some of the articles at least should leave behind a sediment of new understanding, and raise doubts even in shut minds.

The world asks two questions about India: Will it hold together? And will it succeed in pulling itself up to the level of a modern nation? Selig Harrison popularised the belief that India might save itself from falling apart only at the cost of exchanging its present democratic set-up for some form of authoritarianism. In regard to the development plans and pace also there have been degrees of scepticism. The editorial note in the *Survey* starts with a reference to the commonly presumed competition between Communist China and democratic India and wisely goes on to add that the very fact that India is open to study earns for its experiments less attention in detail. But India has an advantage which China lacks—its own objective critics and analysts of a society in flux. It is

these objective critics that have been invited to write for the *Survey*.

Among the topics examined in these thirty articles are Centre-State relations, the adult-franchise parliamentary system, caste, the growth of entrepreneurship and managerial skills, the two sectors, the stir in rural India, food and numbers. The Prime Minister starts off the discussion with a short, vigorous and confident message. He finds the Indian scene a promising one, and he hopes that the people of England will soon appreciate, despite the conflict over the Congo and Goa, what India stands for.

Conflict between India and the West, inherent in a situation in which India is resolved to walk an unaligned road, erupted into new prominence over Goa. Mr. B. G. Verghese makes a forceful rebuttal of the charge of aggression against India. He sees the evolution of foreign policy in the last fifteen years as progress from innocence to maturity, 'China's perfidy' having been India's 'tree of knowledge'. The internal political forces are assessed in two articles. Mr. Pran Chopra refers to the complex shifts in the balance between the States and the Centre. It is his view that there is growing assertiveness on the part of the States, balanced only by the economic levers that the Centre holds. Mr. Chopra expects a new national coherence emerging even with the decline in the centralising power of the Congress. Less optimistic is the article "Languages Hinder National Unity" which points out the intermingling of caste and power motives in the linguistic urge. The shadow that caste throws on elections and administration and the new tensions in the countryside are themes chosen by Professor M. N. Srinivas and Dr. B. N. Ganguli.

Mr. H. Venkatasubbiah traces the influence of the British Left on Indian socialism and draws attention to the fact of the national consensus in favour of a mixed economy. He, Mr. Maurice Zinkin and Mr. P. N. Dhar also refer to the growth of a new entrepreneurial class. There is,



IGNORAMAN

Wants to Know

If the Ashta Grahas
Have Affected
Plan Resources

however, no article giving a conspectus of our industrial progress (or an evaluation of planning as such) comparable to Dr. Raj's assessment of the food problem. Dr. Raj demands that the achievements be recognised. There is a continuing pressure on food supply, no doubt, but this is due to the increase in incomes resulting from development and not merely to the rate of growth of population. This pressure may continue for some years, for 'it is a symptom of a developing economy and not a mark of distress of a people haunted by the Malthusian spectre'.

In thirty articles or fewer than 50,000 words it is wrong to expect our problems and achievements to be listed. Education and employment, for example, are among the misses. But let us be grateful for what there is.

Tamil Pioneer

MR C.R. SRINIVASAN, editor and industrialist who died recently, had the pioneer's enthusiasm for many things. He was interested in reforming the Tamil script, and his 'Swadesamitran' was the first Tamil newspaper to use the linotype. Another field in which he made a mark was in writing about economics in the mother-tongue. Those who know say that he had only one equal in this—R.K. Shanmukham Chetty.

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VOL. I. NO. —

NEW DELHI, FEBRUARY 6, 1962

PRICE —

EDITORIAL

WE BELIEVE

It is all right for the few self-styled leaders of opinion and for the atheistic press, which, more than any other human institution, is responsible for the decline and fall of our ancient faith, to say that events—or, rather, non-events—have belied the forebodings of disaster. By implication they question the sanctified wisdom of the seers who see far into time and space. In these days of little wisdom, even urchins who have mastered a little mathematics mumble about time and space. What is astrology but the study of Time and Space? Nay, the fact that no catastrophe took place during the last fortnight does not in the least shake us in our beliefs; rather they redound to the credit and spiritual merit of the true believers, whose exertions warded off the certain visitations of celestial ire.

Having said this, we also demand from the press, especially the foreign press, due apologies for the wilful vilification of the exalted profession of astrology in our country. No astrologer of India ever predicted the end of the world. It is nothing but irresponsible calumny to say that such a thing was foretold. It may be true that there was no agreement among the astrologers of our country as to what would actually happen. But this should be counted a virtue rather than a failure: for does it not demonstrate that the science of astrology is truly democratic?

FORECASTS PROVED CORRECT!

World-wide Conspiracy
To Suppress News

BELIEVERS' SPOKESMAN FLAYS LEADERS

Addressing a crowded press conference, Shri Agyan Das, Secretary-General of the All-India Moodha Bhakti Samaj, today roundly accused Governments, newspapers, broadcasting organisations and other agencies throughout the world of suppressing news of the dire events which did take place during the conjunction of the 'Ashta Grahas' during the dates corresponding to February 3 and February 5, 1962.

He also declared that it was the combined prayers of the believers that had toned down the calamities.

Asked by a cantankerous correspondent whether these statements were not contradictory, Shri Agyan Das declared, amidst applause from the members of the Samaj, that he saw no contradiction.

Pressed to name the 'dire events' that had taken place, Shri Agyan Das said that it was for the enemies of astrology to come out with the news they had suppressed. He would however, say that an earthquake had taken place between 0 and 360 degrees longitude.

A Correspondent : But you people had forecast the deaths of some important people.

Shri Agyan Das : It is a fact that Sarvashri— and— have been called to their heavenly abode.

Another Correspondent : But they addressed election meetings yesterday. How do you explain it?

Shri Agyan Das : I am not called upon to explain anything. According to our estimates they are dead, although it is possible that the actual stoppage of their physical activities might take place later.

Question : This is all baffling.
Shri Agyan Das : It is not in the least baffling to those who are scientifically trained. Have you not heard of post-dated cheques?

Question : You referred to science. But isn't it true that astrologers deny science?

Worse Coming!

A conjunction of grahas much more perilous than the one which occurred will take place on September 30, 2020. In addition to all the nine 'grahas' being in the House of Cancer, the day will be unique in that it will have a total eclipse of the sun in the day and that of the moon at night.

(Details and prognostications of leading *gyotishis* inside)

Shri Agyan Das : On the contrary we maintain that it is we who are scientific. Science means the study of the occult, it means refusing

(Continued on page —)

Be Kind to Astrologers

The national executive of the Society for Prevention of Cruelty to Astrologers met in an extraordinary session at Banaras and passed the following resolution:

This extraordinary meeting of the national executive of the Society for Prevention of Cruelty to Astrologers is outraged by the dastardly attacks perpetrated on astrologers in Agra. It declares with all the emphasis at its command that it bodes ill for the future of our democracy if astrologers whose only thought is for the safety and well-being of our world and thereby of our country and thereby of our Republican Constitution are

manhandling for the supposed crime of carrying on their profession, a right guaranteed to them under Section 19(b) of the aforementioned Constitution. Having always believed that of the two cardinal principles taught by the Father of the Nation, namely truth and non-violence, the second is even more important than the first, the executive of the S.P.C.A. appeals to the people to abjure recourse to direct action. It is not enough that mutual tolerance and coexistence that India preaches are subjected to harassment and adopted only in international relations; they are to be practised even more in the domestic sphere.

Unadulterated Lie !

Shri Adhamachar, Executive Vice-President of the National Ghee Mixers' Association, characterised as an unadulterated lie the allegation that the "ashtagraha yoga" was an advertisement stunt on be-

half of ghee merchants. He said: "When, owing to the increase in purchasing power, demand for ghee has long ago outrun supply, it is inconceivable that the ghee trade should have recourse to so-called stunts."



AND HOW IT IS HELPING OUR DEVELOPMENT PLANS

Dr. J. KRISHNASWAMY

F

INDIA has been receiving assistance from foreign countries and the development Plans in many forms and technical aid, supply of agricultural and local currency assistance on imported commodities. In the initial stages of assistance was rather small and was limited to a few selected countries, apart from the Bank of Reconstruction and Development (popularly called the World Bank). However, it has considerably increased in the number of friendly countries rendering aid and assistance.

In broad terms, foreign aid utilized during the First Plan period was 6 per cent of the total investment. The proportion was about 13 per cent in the Second Plan excluding Public Law 480 from the United States of America. In the Third Plan, foreign aid will constitute about a fourth of the total investment foreseen in the Plan period.

During The First Plan

Total external assistance authorized during the First Plan period together with the undrawn I.B.R.D. loans sanctioned prior to the commencement of the Plan, amounted to Rs. 378 crore. Of this about Rs. 200 crore was put to use of over the Plan period leaving a balance of about Rs. 181 crore as carry-over. (For details see Statement I at the end of the Report.)

Foreign assistance helped India build her steel plants at Bhilai, Rourkela and Durgapur, which together now produce 6 million tons of steel. At left are seen technicians at Bhilai, symbol of Soviet help.



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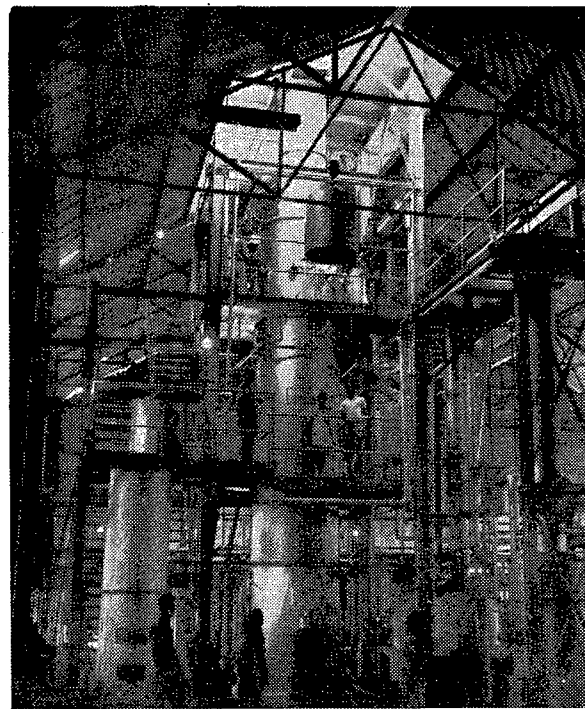
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The assistance made available by friendly countries and the World Bank during the Second Plan was much larger. In the middle of the Second Five Year Plan period, when India was confronted by serious difficulties on account of a shortage of foreign exchange, the World Bank convened a meeting of countries with whom India had placed most of the orders for equipment to the Second Plan projects to consider financial assistance to complete the Second Plan. Since then, this consortium of countries—popularly known as the 'Aid India' Club—has been meeting from time to time and discussing the kind of aid which each country can provide to ensure that India's development is not impeded for lack of external assistance.

The Second Plan Total

The total authorisations during the Second Plan, excluding assistance in the form of P.L. 480 commodities and also loans and credits specifically earmarked for Third Plan projects, amounted to Rs. 1,078 crore. Including the carry-over of Rs. 181 crore from the First Plan, the total availability of external assistance for the Second Plan amounted to Rs. 1,260 crore. The utilisation of aid up to the end of the Second Plan amounted to Rs. 890 crore, leaving an unspent balance of about Rs. 370 crore as carry-over to the Third Plan. The details of the assistance (according to source) available during the Second Plan and the actual utilisation are shown in Statement II at the end of the article.



In the search for new fuel materials, lignite is found a competent substitute for coal. An Integrated Project, based on lignite, is being constructed at Neyveli in Madras.

Night and day, work goes on at the river valley projects to irrigate our thirsty lands and illuminate our villages and cities. The picture below left shows penstocks being laid for the Ribhand power house in U.P. Both Neyveli and Ribhand projects have received U.S. help.

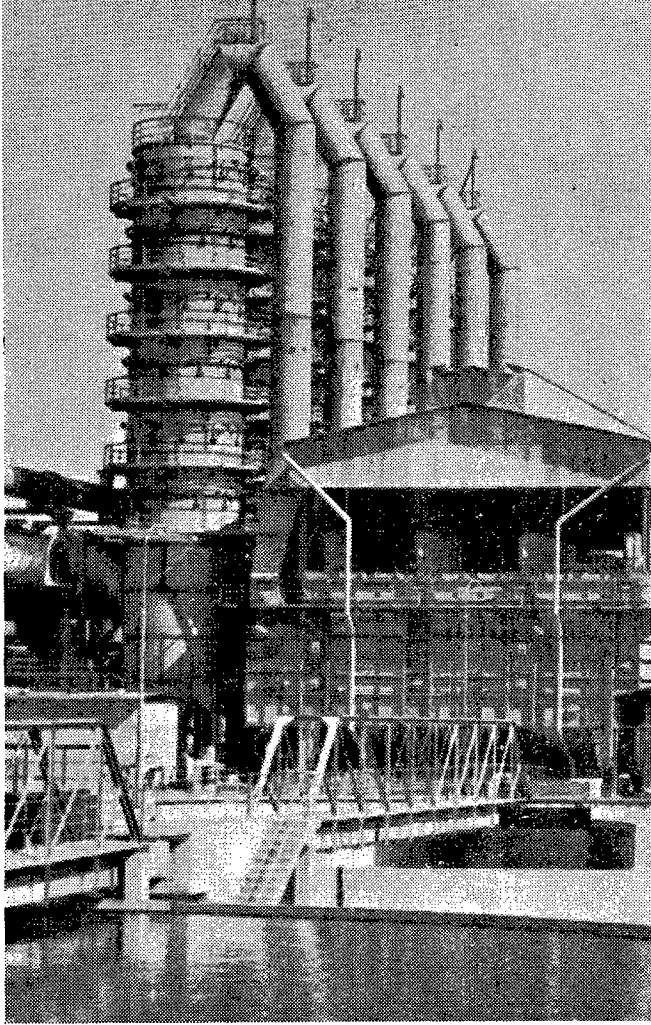
World Bank Loans

Loans from the I.B.R.D. are granted only to finance foreign exchange requirements of specific projects of reconstruction or development after a thorough study of their merits and relative efficiency. The assistance is generally confined to railways, river valley projects, generation of electricity, production of steel, development of ports, etc. The rate of interest charged by I.B.R.D. varies from $3\frac{1}{2}$ to $6\frac{1}{4}$ per cent and the maturity period of loans usually varies from 10 to over 25 years. A grace period of three to five years is allowed so that the completed project may come into full operation before repayment of the principal amount starts.

Other Dollar Credits

Development Loan Fund (D.L.F.) loans have a wider coverage which includes rail and road transport, equipment for a number of industries such as textile, sugar, paper and paperboard, steel for both public and private sectors, power projects, etc.

The World Bank and D.L.F. are the only agencies from which loans received are not tied to country-of-origin purchase and can be utilised in the purchase of machinery, equipment and other goods from any part of the globe. But in October, 1959, D.L.F. had decided that U.S. dollar aid has to be used for purchases of goods and services of U.S. origin. To avoid undue hardship, D.L.F. has exempted those projects or programmes which have reached an advanced point of consideration under its previous policies. The loans received from D.L.F. can be repaid in rupees and period of repayment extends from 15 to 20 years. The interest charged generally varies from $3\frac{1}{2}$ to $5\frac{3}{4}$ per cent.



A section of the Rourkela works, West German help.

depending upon whether the loans are for utility or non-utility purpose.

The credit extended by the Export-Import Bank of U.S.A. is generally available for procurement in U.S.A. of capital equipment. It carries the interest of $5\frac{1}{2}$ per cent and is for a term of about sixteen years. The loan has to be repaid in dollars.

Soviet Assistance

Assistance from U.S.S.R. has been directed towards basic and heavy industries and development projects such as the Bhilai Plant, the Heavy Machine Building Plant, the Coal Mining Machinery Plant, the Neyveli Lignite and other fuel projects, the drugs projects, manufacture of heavy electrical equipment and exploration and refining of oil. The credits are both project-tied and restricted to country-of-origin purchase. The aid includes technical assistance for the first stages of development of the projects and also training facilities in U.S.S.R. The loans are generally repayable over a period of 12 years and carry an interest rate of $2\frac{1}{2}$ per cent. U.S.S.R. is also willing to repayment in rupees which are used for purchase of Indian goods.

Aid From Germany and U.K.

West Germany and the United Kingdom have extended credits for the purchase of capital goods and

equipment. Part of the aid received from the U.K. is project-tied, for example, the Durgapur Steel Plant. British credits are for periods varying from three to 15 years and interest on them is due at the interest rate applied by the U.K. Treasury at the time of drawal plus one quarter of one per cent per annum. In the case of Germany (as with the Rourkela credit) the rate of interest is 6 per cent in addition to an administrative charge of 0.3 per cent. Part of the aid received from U.K. and West Germany is not tied to specific projects and has provided a measure of contingent support to India's balance of payments during the Second Plan.

Yen Credit From Japan

The first yen credit from Japan (amounting to Rs. 23.8 crore) has been allocated for import of equipment in both public and private sectors. Public sector programmes benefiting from the yen credit include power projects, the National Coal Development Corporation, the Rajasthan Canal Project, small-scale industries and road projects. Japanese credit is on the standard rate of interest chargeable by the World Bank on global basis ($5\frac{3}{4}$ % to 6 %) and the period of repayment extends to 13 years. The second yen credit amounting to about Rs. 3.81 crore is earmarked for the Orissa iron ore project.

P.L. 480 and Other Aid

Besides all these loans and credits, India has also received aid under the Technical Co-operation Agreement signed between India and the U.S.A. on January 5, 1952. Various commodities and equipment have been received under this programme. Moreover, a number of philanthropic organisations like the Ford Foundation and the Rockefeller Foundation of U.S.A. and the Nuffield Foundation of U.K. have extended considerable assistance to India.

In addition to the assistance mentioned above substantial aid in the form of agricultural commodities such as wheat, rice, cotton, tobacco and dairy products have also been received from the United States Government under Public Law 480. Under this Act passed by the U.S. Congress in 1954, the U.S. Government enters into agreements with foreign countries for the sale of certain surplus agricultural products and accepts payment in local currencies. The Act also enables the use of the proceeds for development projects in the recipient countries to help them to execute their development programmes.

While India receives essential imports like food grains and cotton under the P.L. 480 programme from U.S.A. against payments in rupees in India, the generated rupees are, to a large extent, made available to Government of India to meet the rupee expenditure of development projects.

'Aid India' Club's Offer

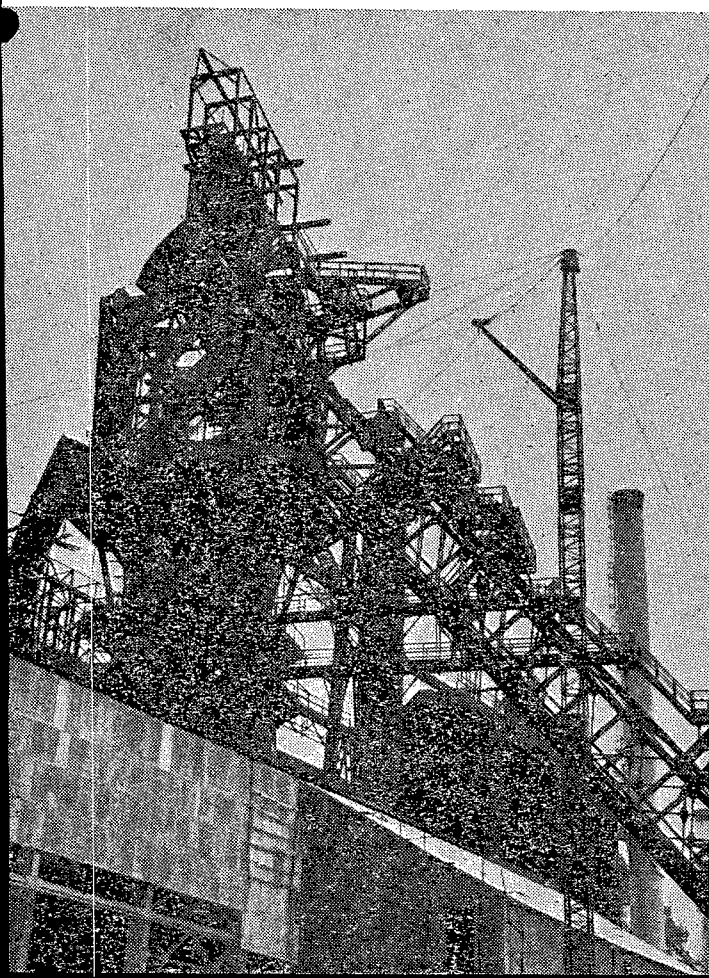
At the start of the Third Plan, India had a carry-forward of Rs. 370 crore of aid for Second Plan projects which are to be completed during the Third Plan period. In addition, India had concluded agreements for credits totalling Rs. 350 crore. The country-by-country break-up of these credits is as follows : U.S.S.R.—Rs. 238 crore; Czechoslovakia—Rs. 23 crore; Yugoslavia—Rs. 19 crore; Poland—Rs. 14 crore; Switzerland—Rs. 11 crore; USA (Exim Bank)—Rs. 24 crore; and Italy (ENI credit)—Rs. 21 crore.

At the meeting of the 'Aid India' Club held in May-June 1961, France and the newly-formed Inter-

national Development Association which is an affiliate of the World Bank also joined the Consortium and there were observers from Austria, Denmark, Norway, Sweden and the International Monetary Fund. The total sum of aid promised by the Consortium amounts to Rs. 1,089 crore (\$2,286 million). This amount is intended, in the words of the communique issued after the meeting, "to enable India to launch a Third Five-Year Plan of economic development with confidence in the ultimate development of its objectives". Loan agreements have so far been signed for Rs. 319 crore against the promised assistance for 1961-62 of Rs. 617 crore. This comprises Rs. 59.52 crore (West Germany); Rs. 38.09 crore (Japan); Rs. 60.00 crore (U.K.); Rs. 51.99 crore (U.S.A.); Rs. 50.48 crore (World Bank); Rs. 42.14 crore (I.D.A.) and Rs. 17.14 (Canada).

The 'Aid India' Consortium again met in Washington on January 29-30, 1962 to review the progress made with regard to allocation of funds out of the commitments indicated by the members of the Club in the earlier meeting. The meeting also took a note of the encouraging expansion of India's economy during the past year and progress made with the placing of new orders for programmes and projects in the Plan. The Consortium recognised that further external assistance will be required for implementation of India's development Plans beyond that already committed by the members. The next meeting of the Club is fixed for May and there are promising indications that the balance of the amount needed in 1962-63 will be found.

No 3 Blast Furnace of Durgapur, British help.



The Third Five-Year Plan report has placed the external assistance requirements (excluding PL-480 assistance) at Rs 2,600 crore. As against this total, Rs. 1,809 crore are either already available or are in sight. It is hoped that in view of the more sympathetic attitude in the advanced countries towards the economic problems of the developing countries, the entire requirement of external aid set out in the Third Plan will be forthcoming.

STATEMENT I EXTERNAL ASSISTANCE AUTHORISED AND UTILISED UP TO THE END OF THE FIRST PLAN (Rs. crore)

Source of Loan/Credit	Authorisation up to the end of the First Plan	Utilisation up to the end of the First Plan	Carryover from First to the Second Plan
A. Loans			
1. I.B.R.D.	57.70	33.82	23.88
2. U.S.A.	117.31	92.60	24.71
3. U.S.S.R.	64.71	—	64.71
Total — A (Loans)	239.72	126.42	113.30
B. Grants			
1. U.S.A.	86.16	42.00	44.16
2. Ford Foundation	5.61	2.26	3.35
3. Norway	0.66	0.66	—
4. Colombo Plan	45.53	25.26	20.27
Total—B (Grants)	137.96	70.18	67.78
Total A+B (Loans & Grants)	377.68	196.60	181.08

Note: The statement excludes P.L. 665 Rupee assistance.

STATEMENT II AUTHORISATION AND UTILISATION OF EXTERNAL ASSISTANCE DURING THE SECOND PLAN (Rs. crore)

Source of Loan/Credit	Carryover of external assistance from First to Second Plan	Authorisation during Second Plan	Total available for Second Plan	Utilisation during Second Plan	Balance available for Third Plan
1	2	3	4	5	6
A. Loans					
1. I.B.R.D.	23.88	265.30	289.18	222.79	66.39
2. U.S.A.	24.71	303.86	328.57	152.98	175.59
3. U.S.S.R.	64.71	80.96	145.67	73.22	72.45
4. U.K.	—	122.66	122.66	121.84	0.82
5. West Germany	—	140.06	140.06	126.93	13.13
6. Canada	—	15.71	15.71	15.71	—
7. Japan	—	27.62	27.62	16.01	11.61
Total -A (Loans)	113.30	956.17	1069.47	729.48	339.99
B. Grants					
1. U.S.A.	44.16	44.11	88.27	76.17	12.10
2. Ford Foundation	3.35	10.46	13.81	9.32	4.49
3. Norway	—	1.87	1.87	1.87	—
4. U.S.S.R.	—	1.15	1.15	1.15	—
5. West Germany	—	2.09	2.09	0.61	1.48
6. Colombo Plan	20.27	62.64	82.91	71.07	11.84
Total—B (Grants)	67.78	122.32	190.10	160.19	29.91
Total A+B (Loans and Grants)	181.08	1078.49	1259.57	889.67	369.90

Note: This statement excludes credits from U.S.S.R., Czechoslovakia, Yugoslavia, Poland, Switzerland, and U.S.A. totalling about Rs. 329 crore which are earmarked mainly for Third Plan Projects. It also excludes PL-665 Rupee assistance from U.S.A.

Dr. R. N. DANDEKAR

The recent progress in Indological studies is summed up for Yojana by Dr. Ramachandra Narayan Dandekar, head of the Department of Sanskrit and Prakrit Languages, University of Poona, who has just been awarded the Padma Bhushan for his distinguished work in this line.

THE history of Indology is more than a century and a half old. A great volume of our ancient cultural heritage, in the form of its arts and literature, has been brought to light during these one hundred and fifty years by veteran scholars from India and abroad. Studies in Indology have received a great impetus since Independence. It is difficult to survey the vast field of Indological researches in a few pages. However, a review of outstanding researches during the past six years (from 1954 to 1960) is attempted in the following pages. The review, which by no means claims to be exhaustive, is restricted to Vedic, Buddhistic and Jain studies.

In the field of Vedic researches, recently there has been a trend to doubt the original character of the available texts. For instance, it has been averred by Esteller that the present Samhita text of the Rigveda does not represent the original composition of the *Rishi-Kavi* authors, but that it is a version modified by Sakalya. It is suggested that a metrical-rhythmical reconstitution of the Rigveda may lead to its original form. Vishva Bandhu Sastri maintains that the phenomenon of phonetic change has mutilated the Vedic texts, and that the various Vedic recensions have therefore to be treated as only time-worn manuscripts first to be deciphered and then to be studied text-critically.

As for the Atharvaveda, a palm-leaf manuscript of the Paippalada Samhita of that Veda has recently been discovered by Durga Mohan Bhattacharya at Vasudebpur in Orissa. It is written in Oriya script and, though incomplete, is generally correct and in fairly good condition. This discovery has belied the earlier belief, based on the birch-bark manuscript of the Paippalada Samhita from Kashmir, that the followers of the Paippalada school mainly belonged to Kashmir. It can now be shown that the influence of the Paippalada school extended to various parts of India including Gujarat, Utkal and the territories under the rule of the Pala and Sena kings of Bengal.

A thorough-going comparison of the texts of the two Paippalada Samhitas now needs to be undertaken by scholars. One significant fact has, however, come to light even at this stage, namely that the initial *mantra* in the Paippalada Samhita is 'sam no devir' and not 'ye trisaptah', as in the Saunaka Samhita.

AMONG Vedic commentaries, the fourth volume of the *Rigarthadipika* by Madhava, son of Venkataraya, was published a few years back. This volume comprises commentary on books fifth to eighth of the Rigveda. Several minor commentaries on selected portions of Vedic texts have also come to light, some of them dating before Sayana's major work. More important among these minor works are the *Chhandogya-mantra-bhashya* by Gunavishnu, who flourished before the twelfth century A. D., and the *Brahmana-sarvasva* by Halayudha of the twelfth century A. D. The former work explains such Vedic *mantras* as are commonly used in the *grihya* rites of the Samavedins. The latter is a commentary on the Vedic *mantras* of the *grihya* rites for the followers of the *Kanva-Sukla-Yajurveda*. It may be noted that the *Mantrarthatdipika* of Satrugghna of the sixteenth century is mostly based on Halayudha's *Brahmana-sarvasva*. The *Rigarthasara* of Dinakara Bhatta, a commentary on 207 *mantras* from the Rigveda, is another recent discovery.

Two modern critical studies have also recently been written—one by Bhavé on the Soma hymns and the other by Velankar on the Indra hymns, both from the Rigveda. Certain scholars have come forward with a view that the Rigveda consists of various *vidyas* whose object is to explain the cosmic process of creation and dissolution as seen through the triple form of life, mind and matter, or *prana, manas* and *vak*, or Agni, Vayu and Aditya.

Another feature of the modern Vedic studies is the growing awareness among Indian scholars of the validity of Panini's grammar for Vedic interpretation. Contrary to the earlier views of Whitney and Sylvain Lévi, it is now claimed that Panini's treatment of Vedic grammar is quite systematic and is based on an intimate knowledge of the Vedic Samhitas.

Sutra Literature

IN the field of Sutra literature, the *Akshepanavidhi* by Somaditya, a commentary on the *Vaitana-sutra* of the Atharvaveda, was recently brought to light by Durga Mohan Bhattacharya. It indicates that Kausika was the author not only of the *Grihya-sutra* but also of the *Vait-*

ana-sutra which constitutes the *Srauta-sutra* of the Atharvaveda. According to Somaditya, only the six *adhya-yas*, known as *Yajnaprayaschitta-sutra* or *Atharvaveda-prayaschittani*, formed the original text of the *Vaitana-sutra*, of which the main source was the *Gopatha-Brahmana*.

An encyclopaedia of Vedic rituals, under the name *Srautakosa*, is under compilation for the past few years. It will comprise two complementary sections, one in Sanskrit and the other in English. The first volume of the Sanskrit section, which was published two years ago, deals with the seven *havis* sacrifices, together with the relevant optional and expiatory rites. Of the corresponding English section, only the first part has so far been published which relates to the formal enkindling of the sacred fires (*Agniyadhana*), the morning and the evening offerings (*Agnihotra*), the new-moon and full-moon sacrifices (*Darsa-Purnamasau*), and the sacrifice of new harvest (*Agrayana*).

The fourth volume of the *Mimamsa-kosa*, compiled by Swami Kevalananda of Wai, was brought out in 1956. The fourth part of the *Upanishatkanda* of the *Dharma-sutra* (from Wai) and a new edition of the 18 Upanishads (from Poona) have also been recently published. The latter two works give indices of words and concepts in the principal Upanishads.

Vedic music has been the subject of research for three scholars. One of them points out that the later modal system (*ragas*) was already present in the music of the Samaveda. Another writer characterises the *archikagana* as monotonic, the *gathikagana* as bitonic, the *Samikagana* as tritonic and the *Svarantara* as quadra-tonic. The third scholar suggests that, in the pre-Vedic period, the enclitic *svarita* must have denoted a middle tone and that its identification with independent circum-flex must have occurred in the historical Vedic period.

Buddhist Studies

RECENT years have witnessed a striking revival of interest in the history and teachings of Buddhism, particularly on account of the 2500th Buddha-Jayanti which was celebrated on an extensive scale in 1956. A special department for Pali and Buddhist studies was established in Delhi University and revised courses in the subject started in Banaras University. The Government of India, in collaboration with the Bihar Government, sponsored the publication of critical editions of Buddhist scriptures both in Pali and Sanskrit. The editing of the Pali scriptures in about 40 volumes has been entrusted to the Nava-Nalanda Pali Institute. The Sanskrit scriptures are being published in about 25 volumes under the auspices of the Mithila Sanskrit Institute of Darbhanga (Bihar).

The K. P. Jayaswal Institute of Patna, established by the Bihar Government, has been critically studying the treasures of Buddhist Sanskrit manuscripts which have been brought from Tibet. The Institute has undertaken the publication of a series of Tibetan Sanskrit texts on Buddhist logic and philosophy. It consists of works like the *Pramanavarttika* of Dharmakirti, the *Pramanavarttikabhāṣya* of Prajñakārgupta, the *Dharmottarapradīpa* of Durveka, the *Abhidharmako-sabhāṣya* of Vasubandhu, the *Abhidharmapradīpa* of

Sanghabhadra, and the Buddhist Tracts of Ratnakirti and Jnanasri.

Among the Tibetan manuscripts in the Jayaswal Institute are also important works like the *Sramanertika*, the *Bhikshuprakirṇaka* and the *Bhikshuniprakirṇaka*, which throw light on the life of Buddhist monks and nuns. Accounts of contemporary India written by Tibetan pilgrims are also a valuable source of information. The English translation of one such account, namely that by Dharmasvamin who visited India between 1234 and 1236 A. D., has been published by the Institute.

Calcutta University has undertaken the edition of the *Yogacharabhumisastra*, and its first part has been published. The Asiatic Society of Bengal has taken up the *Saddharmapundarika* and the *Nagananda* for publication with their Tibetan versions. The Gilgit manuscripts have been published in three volumes of seven parts. Another notable work recently brought out is the *Bauddhagamarthasamgraha*, a source-book for the life and teaching of the Buddha, by P. L. Vaidya. Several other research works have been recently published on the history and philosophy of Buddhism. Among them V. V. Gokhale's paper 'The Vedanta Philosophy Described by Bhavya in Madhyamika-hridaya' claims that Bhavya attempted the first history of Indian philosophy in his *Madhyamika-hridaya*.

Research in Jainism

THERE are valuable collections of ancient and rare manuscripts on Jainism and Prakrit studies at Jaisalmer in Rajasthan and Pattan in Gujarat. These collections also include some rare works on Buddhist Nyaya and the six Darśanas. These manuscripts are now becoming available for academic study, and the Bharatiya Sanskrit Vidya Mandira of Ahmedabad and the State of Rajasthan have been making photostat copies of important manuscripts among them for research. Two new commentaries on the *Samkhya-sutras*, quite independent of the *Mathara-vritti*, have been discovered at Jaisalmer.

The discovery in recent years of the three works, the *Dhavalā*, the *Jayadhavalā* and the *Mahabandha*, has led to a close study of the doctrine of Karma, which constitutes a basic tenet of Jainism. These three works were found at Moodbidri in the South. They represent elaborate commentaries on the ancient Sutras of *Satkhandagama* and *Kasaya-prabhrita*, which embody the Jain doctrine of Karma. Although these commentaries belong to the ninth or tenth century A. D., they also incorporate several earlier commentaries in Prakrit and Sanskrit. During the past five years, the *Dhavalā* has been published (with text and Hindi translation) in 16 volumes of 500 pages each; the *Mahabandha* has also been completely published by the Bharatiya Jnanapitha of Banaras; while in the case of the *Jayadhavalā*, only seven volumes have been published. Lately, another work, called *Panchasamgraha*, which contains a number of treatises on the Karma doctrine, has been published with Prakrit and Sanskrit commentaries. Mohanlal Mehta's thesis, the *Jaina Psychology*, attempts a psychological analysis of the doctrine of Karma.

(Continued on next page)

PRIZE-WINNING CATTLE

I RECENTLY read with interest about the best milk yielding cows and a Murrah buffalo of Rohtak. The owners are to get prizes for their solid contribution in the field of animal husbandry. In this connection, may I request you to publish in your esteemed journal photographs of the milkers and their owners? A short note on the animals and the selection of the breed and the care the owners took in bringing up the animals may also be given.

Simbhaoli (U. P.)

SAJJAN SINGH

STEEL PLANTS' EARNINGS

THE headline 'Three Steel Plants Earn Rs. 44 Crore' (*Yojana*, December 24, 1961) is misleading. From the text, it appears that the total gross sales of three projects amounted to Rs. 44.22 crore. I am sure that you would agree with me that total gross sales can by no means be taken equivalent of earning. From the text it also appears that there was a loss in operations if all the steel plants are taken together. Your headline thus definitely gives a wrong picture of the text. I sincerely hope that you would avoid using such misleading headlines in future.

Lucknow University

R. L. VARSHNEY

RECENT WORK IN INDOLOGY

(Continued from page 19)

Pandit Mahendrakumar has lately added two more works, namely the *Nyaya-vinischaya* by Vadiraja and the *Siddhivinischaya-tika*, to his series of Jaina texts on Nyaya (logic). The *Nisitha-sutra-bhashya*, a work in Prakrit published from Agra in four volumes, has brought to light the secrets of Jaina monastic life. The *Jambudiva-pannatti-samgaho*, a Prakrit text on Jaina cosmography, has been edited by A. N. Upadhye and H. L. Jain.

The publication of a Prakrit Text Series has recently been undertaken by Muni Sri Punyavijayaji. The *Amgavijaya*, edited by him, has appeared as the first volume. This treatise on the science of divination also supplies information on the age of Kushanas and the Guptas. Muni Sri Jinavijayaji has recently edited and published two interesting works in the Singhi Jaina Series. One of them, the *Jambu-chariyam* of Gunapala of the twelfth century A. D., narrates a tale with a style, and the other, the *Jayapayada-nimitta-sastra* is an ancient work on omens and portents.

The *Kuvalayamala* of Uddyotana (779 A. D.), edited by A. N. Upadhye, is a *champu* which offers a good study in linguistics and history of literature. The didactic tale contains many specimens of contemporary colloquial speech in mixed Sanskrit and Prakrit, with a sprinkling of Apabhramsa. There are passages in Paisachi also. The work also refers to many earlier authors.

CALCUTTA PORT IMPROVEMENT

IN the article on Calcutta Port (*Yojana*, December 24, 1961) you have only mentioned the Third Plan allocation for the development of the Port. What were the allocations in the earlier two Plans?

Midnapore

A. N. DATTA

The allocation in the First Plan was Rs. 12.09 crore of which the actual expenditure was Rs. 3.44 crore. The figures for the Second Plan were Rs. 28.75 crore and Rs. 15.62 crore respectively.—Ed.

HOUSING & MIDDLE CLASSES

FROM your leading article (*Yojana*, January 7, 1962) it appears that though the Government realises the importance of housing problem it is not in a position to satisfactorily solve the same immediately. Housing requires larger funds, which can be set apart, as you have observed, "provided we starve other key sectors of our economy and thus delay our march towards a self-generating stage". Quite reasonable. But are we not neglecting an important section of our community by giving priority to the other key sectors? I am referring to the middle-class families living in big cities and urban areas. For instance, in Calcutta, most middle-class families consisting of seven or eight members each have to huddle in one room. Because of their small incomes heads of these families are not in a position to engage a house or even two-room flat. The result is that the children do not breathe the proper atmosphere required for their mental and physical growth. As Mr. C.N. Chittaranjan has observed in his article published elsewhere in the same issue, "The lack of privacy that overcrowding implies leads to psychological tensions and to the breaking up of families. Children not getting the attention they need are apt to tread the path of delinquency". It is therefore clear that, unless we are able to provide suitable housing facilities for the middle-class families, we cannot expect our younger generation to grow into responsible citizens. In other words, the poor and unhealthy conditions as prevail today will only help in creating a section of the community which, instead of being an asset, may ultimately prove a liability.

There is no doubt that housing is a big problem and that it cannot be solved, to quote your words again, "in one grand smash". But certainly all other available resources can also be tapped. For instance, a house-building fund can be raised for each middle-class employee whether government or private, out of the contribution made from his salary every month. With the lump sum amount he gets at the time of his retirement he can build his own house on the land provided by the government at cheap or controlled rates. This is one of the measures that can be taken to solve the housing problem of the middle-class families.

Calcutta.

N. K. BOSE

(Also see page 22)

A JOB TO DO

(Continued from page 6)

placements. The bureaux can give much more of individual attention in guiding and directing individual talent and energy through personal discussions, talks, seminars and arranging interviews with prospective employers.

This brings us on to the subject of what the employer expects of the exchange. The employer, even when sympathetic, is a realist. He wants a reasonable number of screened and tested candidates to choose from. But the system breaks down when he demands a ready-made candidate who can step directly onto the production line. There are some men of that type waiting between jobs. But the more reasonable thing to do would be to choose a candidate with some potential and build him up through a programme of training on the job. That implies a waiting period and quite a number of employers find this both expensive and time-consuming.

The alternative is to induce a skilled workman to leave his present employer, not realising that such men do not prove stable employees and are likely to leave you badly in the lurch. 'Workman stealing' does not pay. The Employment Service is

strictly neutral as between the worker and the employer. Each exchange has an advisory committee to ensure fairness in submissions.

Let us look a little more closely at the problems of an employment officer. He is the man who has to stand between the job-seeker and the prospective employer. He is usually overworked and understaffed. The building where he works is invariably crowded, often dingy and sometimes even dilapidated. (In Delhi an employment exchange is housed in an ancient Manzil where the mirrors on the wall have been replaced by career posters and job notifications). The waiting halls are dreary, depressing to the morale of both the staff and the job seekers. If we can find neater and more spacious places for the employment offices, work will become more efficient, and the inevitable queues can be controlled better.

The average employment officer can do a lot more if parents and teachers would help in guiding their children and students in the early formative years so that education is consciously directed towards the choice of a future career. There will always be exceptions, but in most

PLAN QUIZ

1. What is the number of co-operative farming societies in the country?
2. The total investment of American capital in India amounts to (a) Rs. 82 crore, (b) Rs 212 crore, (c) Rs 150 crore.
3. Can you fill in the figures?
 - (a) A comprehensive National Programme for Flood Control was launched in—
 - (b) Since the inception of the programme, —miles of embankments have been completed, affording protection to —acres of land.
 - (c) —towns and —villages have been protected from floods and erosion.
4. What are the main features of the Central Institute for Foundry and Forge Technology proposed in the Third Plan?

(Answers on page 23)

cases such guidance can prevent waste of money, time, energy and heart-break.

Employers, on their part, should not set impossible standards in recruitment and should be prepared to build up young persons through in-plant training. Finally, the employment seeker must use the waiting period to improve his own employability.

Q U O T A T I O N B O X

The Prime Minister has said that he does not understand how the great planets are interested in human affairs. One might as well ask how the sun is interested in human affairs to cause droughts, floods, tides and sunstrokes.....In discussing natural phenomena one does not talk of interests and motives.

—Mr Sampurnanand

The disparity between highest and lowest incomes, which was one to 110 in 1947, has increased to one to 320—nearly threefold—in the last 14 years.

—Mr Asoka Mehta speaking at an election meeting in Banaras

The Mudaliar Committee report on family planning (suggesting the appointment of a full-time minister for family planning) would lead to

the expansion of the growing family of ministers.

—Mr C. D. Deshmukh

Leadership in the States is disastrously stunted, and politics in the States is reduced to subservience to the Centre. India is too big for any detailed planning from the Centre... The States are the proper units to do the actual work of planning, while the Centre should only lay down broad outlines and co-ordinate the State plans.

—Mr V. P. Menon in "Swarajya"

It might seem that the time was ripe for an enterprising newspaper magnate to organise a sudden breakthrough into the mass circulation field... Yet nobody connected with the newspaper industry expects to see any sensational advance in the next decade. At least two more Five-Year

Plans are needed before a path is cleared for an Indian Northcliffe.

—Mr Evan Charlton in the India Survey of "The Times"

Why do so many members of Parliament remain absent so often? Eleven to five, five—or even six days a week for a few weeks at a stretch—is hardly much of a strain. Perhaps we are ourselves to blame: we disliked the regimen of the House of Commons sessions from early afternoon to late into the night, but copied, and wrote into our Constitution, a low quorum of one-tenth of the total membership. After all the trouble taken...over elections, why should we want our parliamentary business to be disposed of by only some 50 members?

—Mr P. C. Chaudhuri writing on "Ethics and Electoral Democracy" in "Seminar"

TRAINING VILLAGE LEADERS

THE introduction of Panchayati Raj in some States has given new powers to the villagers. But I have doubts if they are in a position to shoulder the responsibility. I came in contact with the Pradhans and Sarpanches of Mainpuri district, U.P., who recently met in a conference. I feel that if democratic decentralisation is to be made a success, some academic qualification has to be fixed for the Pradhans and Sarpanchas and those who hold responsible positions. Power in the hands of the illiterate is like fire-arms in the possession of those who do not know how to use them. Education gives a sense of responsibility and it is the educated who can make proper use of the powers invested in them.

Since literacy has made great headway there is no reason why educated people should not play a more important part in the new set-up. The higher the post in a Panchayati Raj the higher should be the required standard of education. If, for instance, only graduates are elected as Adhyakshas they are likely to instil a new sense of duty among the rural masses. Similarly those who have passed the high school examination should become Pradhans and Sarpanchas while others with junior school qualification may serve as members. Because of their being educated they will work in a responsible manner in the common interest of the nation as a whole. To make Panchayati Raj a success, powers should be given in the hands of educated and capable men only.

Mainpuri.

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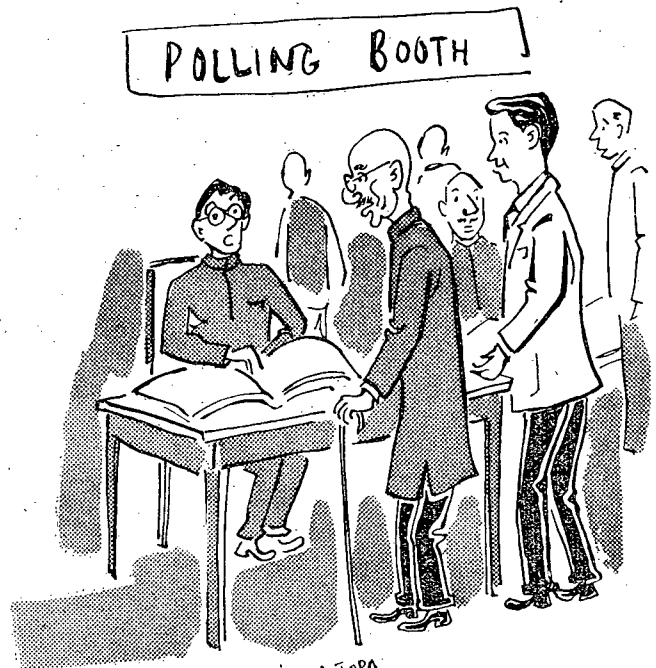


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SHAMBU



If this man who is thirty has one vote, I should have two votes. I am sixty.

GOA'S SHARE IN OUR FOREIGN TRADE

QUESTIONS from Mr. Ramesh K. Chahal, Moga (Punjab).

1. What will be the effect of Goa's integration with India on the structure of our foreign trade?

2. Give the names of the seaports which will be improved or renovated in the Third Plan.

ANSWERS: 1. Goa is rich in natural resources, particularly iron ore and manganese, but so far the region has remained underdeveloped. With the development of Goa, the foreign trade of India is bound to increase. The extent of this increase has not yet been adequately assessed. The Government of India has appointed a committee to do so.

Besides, Goa has good natural ports like Marmagao. If these ports are developed, they will serve the trade of the mid-southern parts of the country like southern Maharashtra and Mysore.

2. On the development of ports, the Third Plan states: "The pro-

gramme in the Third Plan provides mainly for the completion of the projects which are already under way and, except for Bombay Port where provision is made for the modernisation and expansion of the docks, no major scheme has been included which may be expected to make any large scale addition to the capacity of existing ports". Two important new schemes are: (1) the construction of an ancillary port at Haldia and (2) the construction of a barrage on the Ganga at Farakka, both aimed at the proper maintenance and preservation of Calcutta Port. Two minor ports,

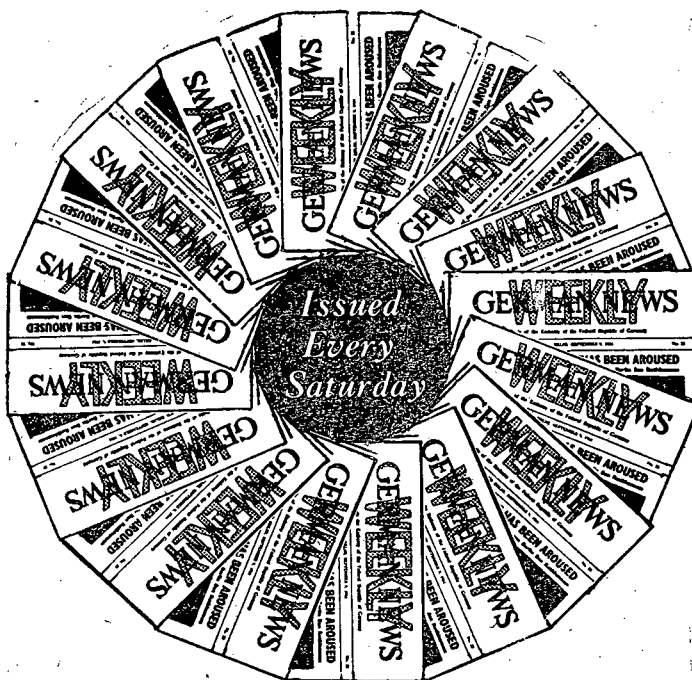
YOU ASK US

Tuticorin and Mangalore, are being upgraded. Rs. 115 crore have been earmarked for these schemes.

Besides, there is a programme for the development of minor ports at a cost of Rs. 15 crore. It includes development works at Paradip, Neendakara, Karwar, Kakinada, Masulipatam, Cuddalore, Ratnagiri, Redi, Bhavnagar, Porbandar and Okha.

ANSWERS TO QUIZ

- Up to the end of 1961, 118 co-operative farming societies had been organised under the scheme for pilot projects during the Third Plan. Besides, 269 societies had been organised outside the pilot project areas.
- (a) Rs. 82 crore; this yielded an annual profit of Rs. 2.5 crore which was remitted to the United States during the last four years.
- (a) September 1954.
(b) 3,300 miles; 66 lakh acres.
(c) 52 towns and 4,316 villages.
- The Central Institute for Foundry and Forge Technology will be established at Ranchi in Bihar at a cost of Rs 85 lakh and a recurring annual expenditure of Rs 10.5 lakh. The Institute will offer two courses—a post-graduate diploma course for engineers and a certificate course for supervisory technicians, each of 18 months' duration. The Institute will admit 35 graduate engineers and 100 diploma holders every year; later the capacity will be increased to 50 and 150 respectively.



GERMAN NEWS WEEKLY

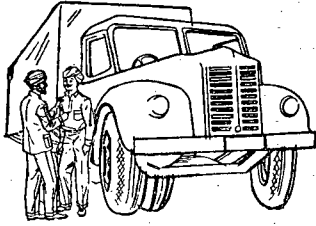
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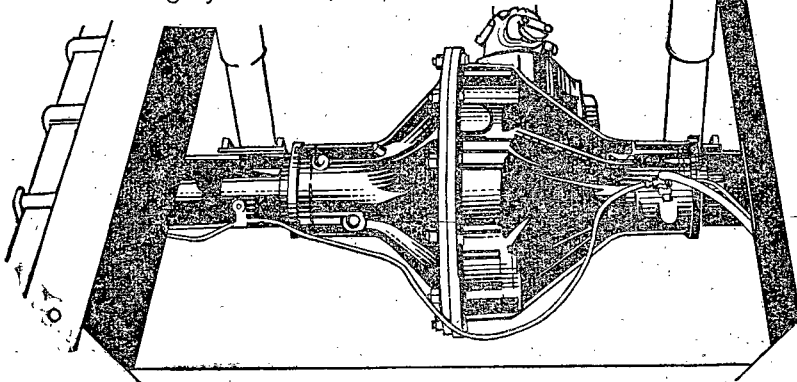
JWT-G.N.W.



My choice of a truck? **FARGO** of course

Bhaiya, I have been a truck operator long enough to know that there can be no two opinions about the superiority of Fargo trucks. For instance take Axles. A Fargo vehicle is fitted with *Timken* axles now known as *Rockwell Standard* which have a world-wide reputation. These axles have great load carrying capacity and are absolutely dependable—which means a great deal to us truck operators.

There are several other superior features, besides. Taken together they lead to only one conclusion, namely, that the Fargo is a great truck. It is great in hauling power, great in endurance, great in earning capacity. You'll make Fargo your truck, too, I am sure.



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CONTACT YOUR NEAREST DEALERS

FOUR NEW RAIL LINES

RAILWAYS and roads are the life-lines of a country's economy. In the absence of adequate communications, even rich resources of a region cannot be properly exploited for development. Konkan, the narrow strip below the Sahya mountains on our west coast, craved long for transport facilities and now it will get them. Work has started on the Bombay-Konkan railway line, which opens the gates to prosperity for Konkan.

The broad-gauge line will connect Diva (near Bombay) with Panvel, Uran and Apta, a distance of 70 kilometres. This is expected to be the first stage of a railway line for the entire coastal strip of Konkan.

The work will cost about Rs. 4 crore and will be completed in three years. A notable feature of the construction will be the use of pre-stressed concrete girders in place of steelgirders.

AS THE PLAN MOVES

Konkan is rich in rice, fodder, vegetables, fruit and fish. There are vast salt pans near Uran. The area has also great potentialities in manganese, iron ore and other minerals. The hills are a source of hydro-electric power.

The Government of India proposes to set up an Organic Chemicals and Intermediates Plant near Apta and develop the Uran area in near future.

SALEM—BANGALORE

WORK has also started on the 140-mile metre gauge railway line linking Salem with Bangalore. This fulfils another long-felt need for the industrial advance of the southern region. The rail-link will connect the industrial areas around Bangalore with Cuddalore port through Salem. This will facilitate the movement of lignite from Neyveli to Mysore State and iron ore from Mysore to Salem, where a steel plant is to be set up. It will also

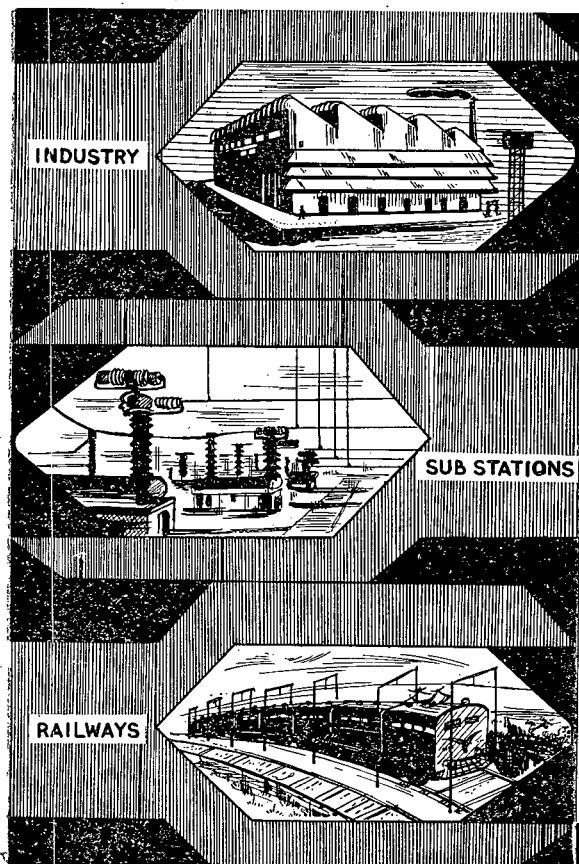
ease the heavy passenger traffic in the area. Estimated to cost Rs. 8 crore, the line is expected to be ready for use by 1965.

VIRUDHUNAGAR—MANAMADURAI

Work has also started on a 45 mile rail link between Virudhunagar and Manamadurai in Madras State. Expected to be completed in 18 months at a cost of Rs. 2.5 crore, the new line will serve the interior areas of Ramnathpuram district, south of Tiruchirapalli and the hinterland of Tuticorin port.

LAKHERI—BAYANA

A 117-mile duplicate broad-gauge railway line is to be built between Lakheri and Bayana on the Nagda-Mathura section of the Western Railway. Estimated to cost Rs 10 crore, the new line will serve the cement factories at Sawai Madhopur and Lakheri and the heavy traffic from areas north of Delhi as well as the anticipated traffic of petroleum products from the proposed refineries.



HEAVY ELECTRICALS

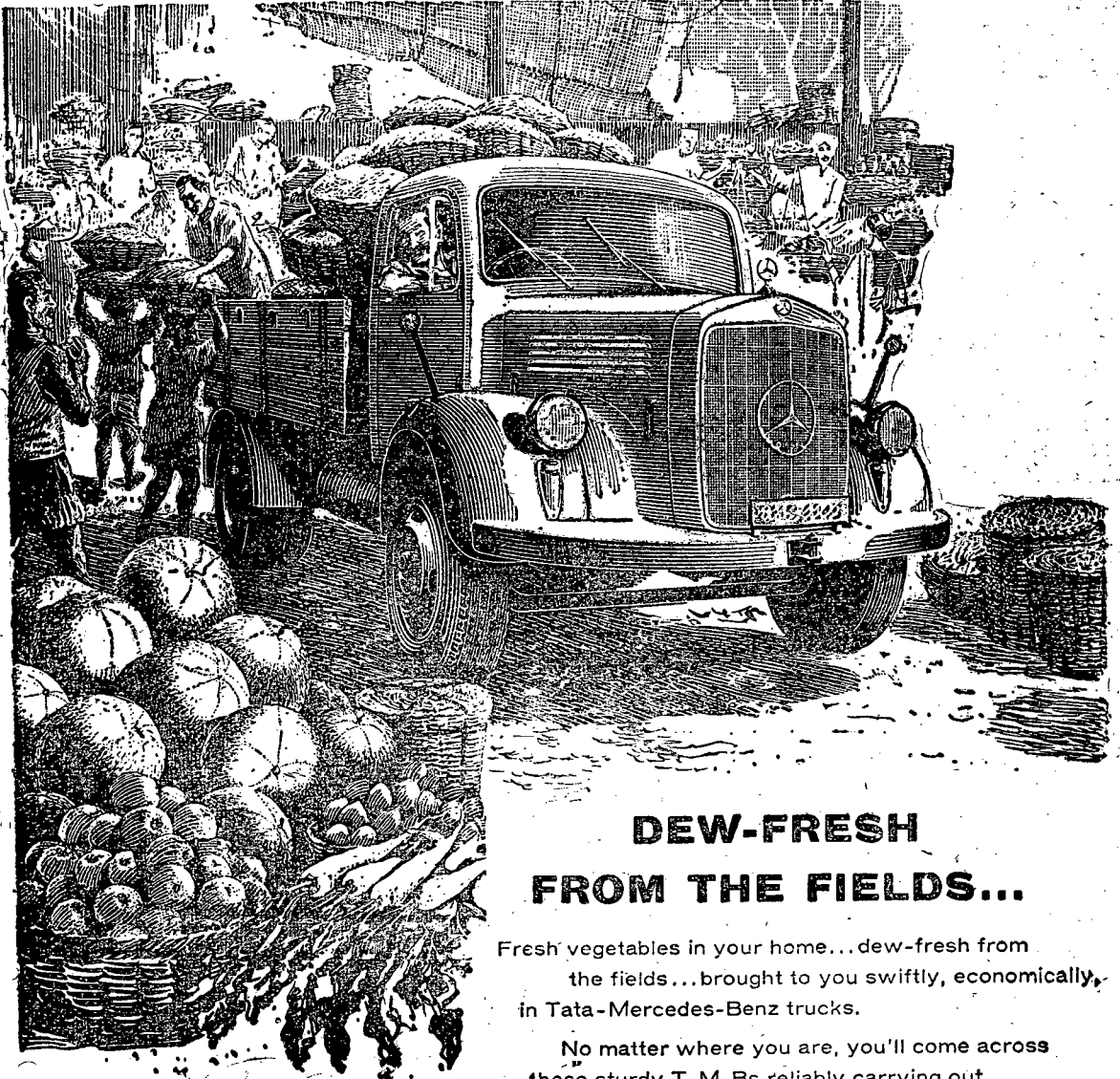
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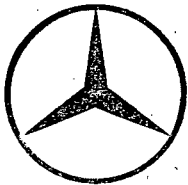


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Saving

ARECANUT & COCONUT

from Pests

THE month of February is normally dry. For arecanut, irrigation work has to be intensified for both the nursery beds and the garden. Seednuts sown in the nursery beds should be watered daily. To control weed growth and retain moisture, nursery beds may be remulched with dry leaves, wherever necessary. Additional shade may also be provided for protecting seedlings against sun scratch. To control mites wettable sulphur (one Kilo in 150 litres) may be frequently sprayed. Harvesting of stray, ripe arecanut bunches available in the gardens will be completed during the month. These can be sun-dried or kept for home consumption.

Summer drought practically sets in during this month. Efforts should be made to conserve the moisture present in the soil and make it available to the coconut palms.

The incidence of black-headed caterpillar pest, common to coconut, generally assumes alarming proportions during the months of February and March. The caterpillars eat the green under-surface of the coconut leaflets, causing a severe set-back to the growth and yield of the palms. The affected as well as the adjoining



A coconut tree being sprayed with D.D.T. The picture on the left shows some diseased palms.

palms may be sprayed with 0.2 per cent D.D.T. twice after every fortnight.

Certain parasites are found to attack the pupae of this pest and destroy them. Liberation of these parasites in the affected gardens will also control the pest. They can be had from the Parasite Breeding Stations at Kasargode in Cannanore district and Razole in East Godavari district. To ensure a steady growth, the channels in the garden should also be cleaned and moist soil placed around the coconut trees.

This is also the time to take care of the harvest of flue-cured tobacco. Orobanché should be

I. C. A. R. AGRICULTURAL
INFORMATION SERVICE

weeded out and the diseased and mosaic-affected plants removed. The virus-affected plants can be burnt or buried. The bulk of Lanka tobacco becomes ready for topping during this period. For controlling aphids the affected plants can be sprayed with tobacco decoction.

NEW JUTE STRAINS FOR W. BENGAL & ASSAM

IT is in March that the white variety of jute is sown. A new strain of the Tossa (*C. olitorius*) variety has been successfully evolved by the Jute Agricultural Research Institute. It can be sown as early as March, simultaneously with the White (*C. capsularis*) variety. Since the jute-growers have to sow the existing cultivated varieties of Tossa between mid-May and June, the new strain will help in solving their problem. One aim of the improvement sought by the Institute in its Tossa breeding work has been to evolve a type that can be sown early without the risk of premature flowering so that after the harvest of jute, the land can be released in time for the cultivation of a paddy crop.

The aim has been fulfilled by crossing an improved Tossa variety with another of the exotic type. While the hybrid retains all the known characteristics of Tossa it adds one more—that of growing about the same time of the season as white jute. This new variety now awaits release for large-scale trials under cultivators' conditions.

The Institute has also developed a new branching type of white jute which has the capacity of resisting the anthracnose and stem-rot diseases. In other respects, too, the new strain has established its superiority over the standard D154.

To suit Assam's growing conditions, the Institute has evolved yet another hybrid from a cross between two standard white types. This may succeed in due course in replacing the variety in use now. By pure line selection the Institute has developed a new White type, expected to offer resistance to the common stem-rot disease of jute.



3 reasons why Vanaspatti Should Not Be Coloured

The colouration of vanaspatti is being demanded in the name of ghee consumers—on the assumption that it will effectively check the adulteration of ghee. But it is a mistaken belief...an impractical suggestion!

1. The colour chosen should be ir-removable; otherwise it will serve no useful purpose. The truly fast colours, however, are known to be toxic or cancer-producing. Introduced in vanaspatti, they will be consumed by millions of our people with their every meal!

2. Ghee made in various parts of India comes in different colours. Some of these shades are strong enough to hide even deeply coloured vanaspatti...thus defeating the very purpose for which colouration of vanaspatti is being suggested.

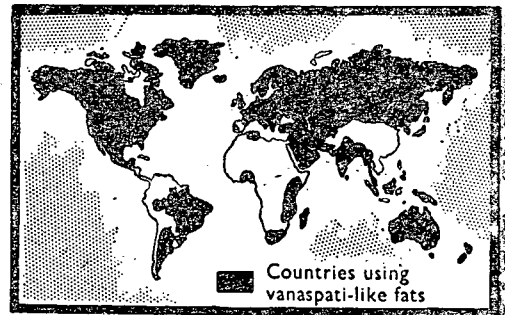
3. Vanaspatti is NOT the only substance misused in ghee, but it is by far the safest...a pure food in itself. The other adulterants, like *charbi*, are impure and, therefore, objectionable. And they will be increasingly used if vanaspatti becomes unavailable to the unscrupulous adulterator.

Vanaspatti is a safe, wholesome, nourishing food. And adding a colour to vanaspatti is the same as adulterating one pure food—to save another from adulteration!

VANASPATTI DOES CONTAIN A SAFE LATENT COLOUR

The sesame oil in vanaspatti is a safe latent colour which shows up *unfailingly* in a simple

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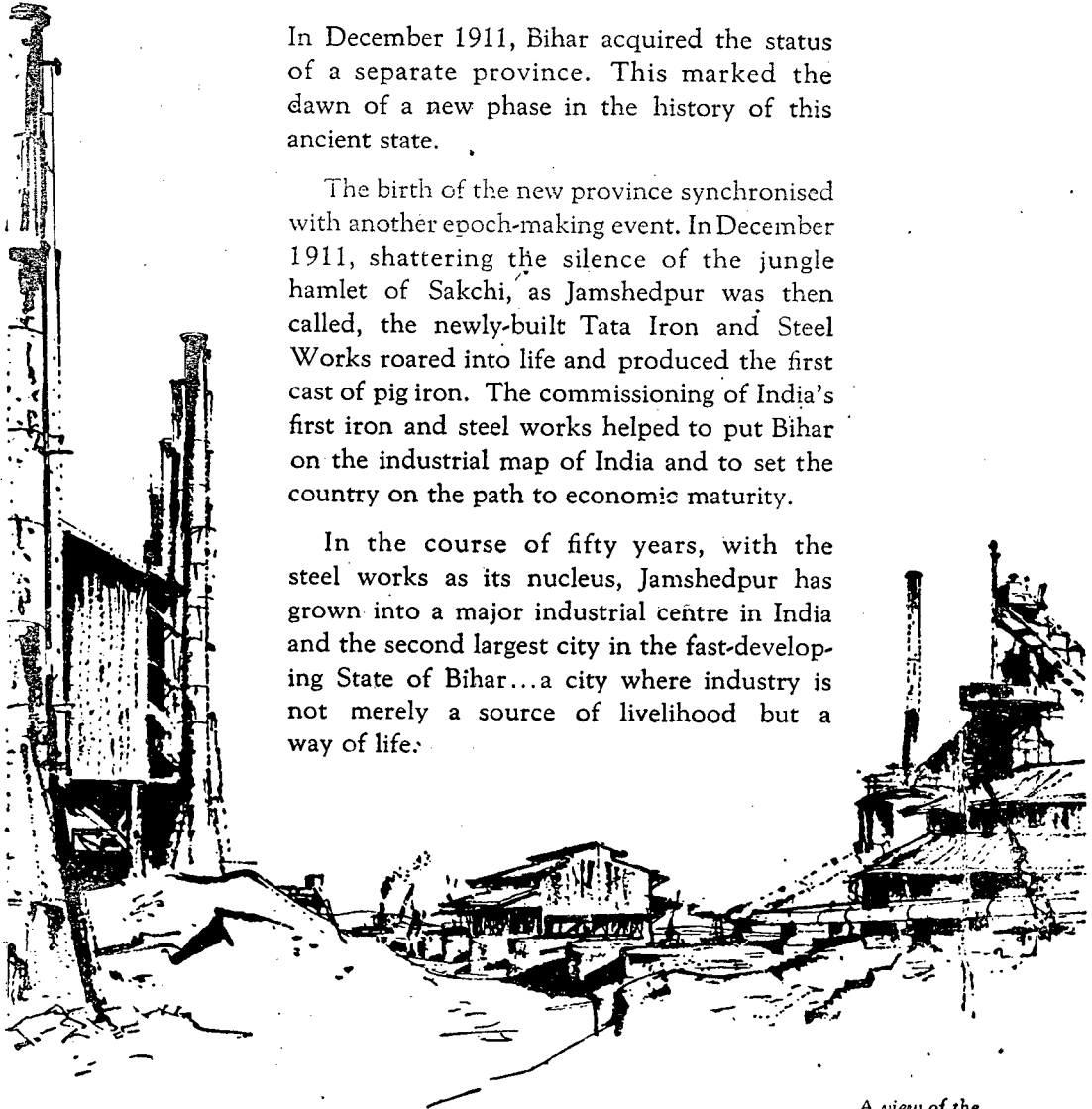
The Vanaspatti Manufacturers' Association of India
India House, Fort Street, Bombay.

important beginnings

In December 1911, Bihar acquired the status of a separate province. This marked the dawn of a new phase in the history of this ancient state.

The birth of the new province synchronised with another epoch-making event. In December 1911, shattering the silence of the jungle hamlet of Sakchi, as Jamshedpur was then called, the newly-built Tata Iron and Steel Works roared into life and produced the first cast of pig iron. The commissioning of India's first iron and steel works helped to put Bihar on the industrial map of India and to set the country on the path to economic maturity.

In the course of fifty years, with the steel works as its nucleus, Jamshedpur has grown into a major industrial centre in India and the second largest city in the fast-developing State of Bihar... a city where industry is not merely a source of livelihood but a way of life.

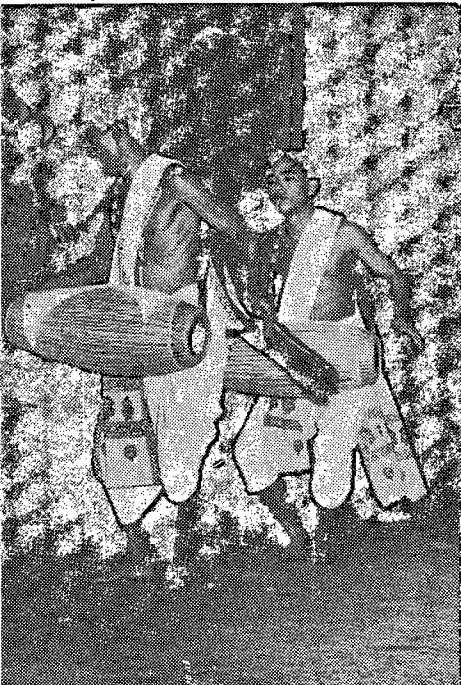


*A view of the
Tata Steel Works
in 1911*

JAMSHEDPUR THE STEEL CITY

THE most impressive feature of a Manipuri dance is not the foot-work or even the colourful costume. It is the music produced on the drum that creates the proper atmosphere. Take away the drum, the dance loses half of its exotic charm.

It is played on all festive occasions. Though it resembles the Mridanga used in other parts of the country, the Manipuri drum is made of wood

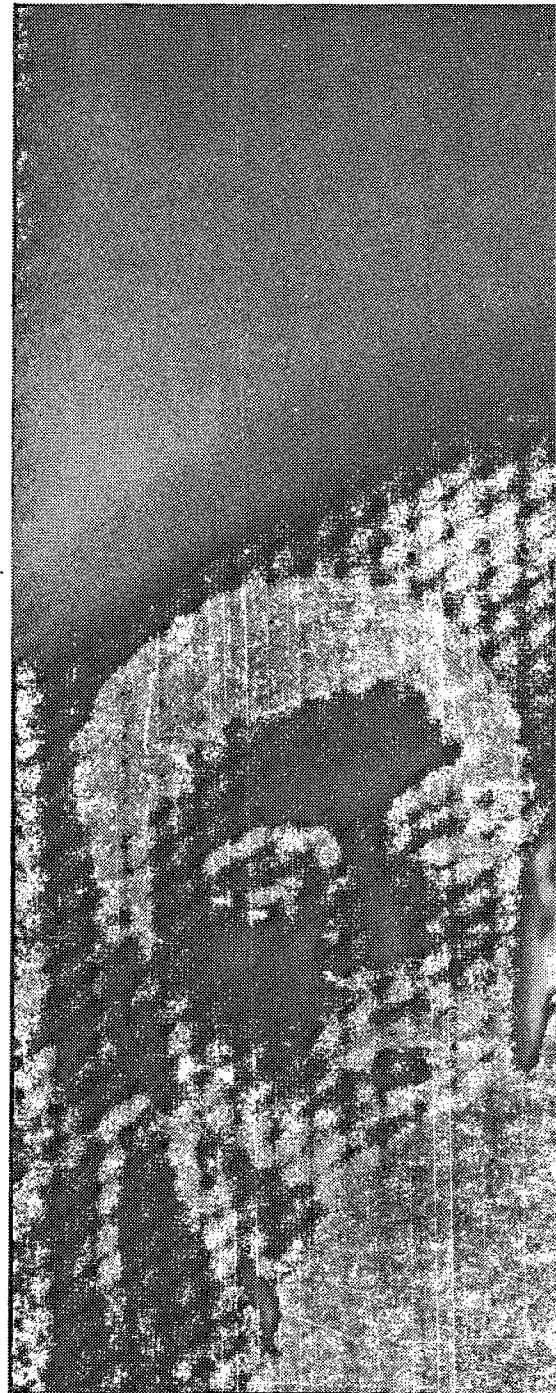


PRIDE
OF PLACE

Drums
of
Manipur

and is smaller in size. Both the leather-discs are fully covered by a layer of paste made of iron dust and rice. When struck by hands it produces a deeper and more vibrating sound than other Mridangas.

The Manipuri drum is not only an accompaniment but the source of Manipuri dance, particularly Ras Leela and Laipou Chonga. To give expression to his feeling of joy the drummer dances to the rhythmic 'bols' produced by his deft fingers, combining a rare grace of movement and gay abandon. A good durable drum made of jackfruit wood costs Rs. 100 to Rs. 150.



YOJANA



MARCH 4, 1962
PHALGUNA 13, 1883
VOL. VI No. 4

TRAINING OF CRAFTSMEN

JOURNAL PUBLISHED ON BEHALF OF THE PLANNING COMMISSION

SPECIAL
FEATURE

25 pP.

TAKIN

Through Craft Training, an Assured Job in a Growing Nation

A shrewd observer of the Indian scene once remarked that what our economy needs is people of the sergeant-class. We—in industry as well as in agriculture—have generals and colonels and captains on the one hand, and sepoy on the other. But we require more sergeants who will drill the men, keep the equipment in shining order and add to efficiency.

Engineers stand in the same relation to craftsmen as captains to sergeants. Engineers and technologists are being trained in increasing numbers by the polytechnics, the engineering colleges and the institutes of higher technology.

To produce the sergeants for industry is the main aim of the various training programmes that the Government and the different industries have.

Now, with the aid of the Apprentices Act (see page 8) the different training programmes are to be coordinated into a national scheme.

This scheme is required for three main reasons:

- (1) Because our industries are growing at a rapid pace and going to be diversified still further (indeed the Third Plan requires 13 lakh craftsmen);
- (2) Because productivity—that is, output per man, per machine and per unit of capital—must increase; and
- (3) Because we have a whale of an unemployment problem which must be solved.

Please read on.

Why Apprenticeship Programme Is Vital

Photographs by
T. S. NAGARAJAN



Sardar Dalip Singh, instructor at the Arab-ki-Sarai I.T.I., New Delhi, gives first lessons in carpentry to Gurbachan Singh, son of a Gurudwara 'granthi'.

Massive Drive to Improve Skills

In the last issue of *Yojana*, speaking of the National Employment Service, we explained how the key to employment lay in increasing one's employability. While secondary education in itself is good and desirable, to be trained for a specific trade is even better.

Apart from the lakhs of unskilled labourers who look out for jobs, we have the special problem of the educated unemployed. These people must wake up to the fact that there is a great and growing demand for craftsmen. The pay of craftsmen, and chances of promotion, are much better than those of the mere matriculates. And a craftsman who has had a good general education has still better chances than one who is almost illiterate.

The main feature in this issue is therefore devoted to training, which is the true complement of employment.



Cover shows Mahesh Chand Sharma, who is training to be a welder. He is a 'matric failed,' but so what? He has a bright future.