

YOJANA

Journal Published on Behalf of the Planning Commission

Vol. V. No. 22

NOVEMBER 12, 1961 KARTIKA 21, 1883

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Women's

Role

In

Third Plan

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Atoms For

Agriculture

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Kashmir

Revisited

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YOJANA

YOJANA seeks to carry the message of the Plan to all sections of the people. It tells the story of our progress, points out the shortcomings and stimulates an open debate on problems of economic and social development. It endeavours to increase mutual understanding among our States and regions.

YOJANA is issued every fortnight in two separate editions (English and Hindi) on behalf of the Planning Commission by the Publications Division of the Ministry of Information and Broadcasting, Government of India. Although an official journal, it is in no way restricted to expressing the views of the Government.

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Subscription Rates

	Single Copy	Annual
India	25 nP.	Rs. 5.00
Foreign	6d or 7 cents	10s 6d or \$1.50

Editorial Offices: Yojana Bhavan, Parliament Street, New Delhi-1. (Tel. 33367 and 34380).

Business Offices: The Publications Division, Old Secretariat, Delhi-6. All business inquiries are to be sent to the Business Manager at this address. Direct subscribers are advised to send their subscriptions preferably by postal order.

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<i>Cover: An old Kashmiri craftsman at work.</i>		

Over To You

PLAN AND PROJECTS

YOJANA publishes a number of articles in each issue.

They are well written but generally have no reference to the Plan. Since we are interested in what is actually being done in the Third Plan for the development of the country, we want to know more about the different projects undertaken and the progress made so far. Yojana does not appear to be covering the more important aspects of all the development plans. For instance, it has not published latest reports on the Bhakra-Nangal Dam, the Rajasthan Canal, Sharavati Project, Gujarat State Projects, machine-building industries, etc.

In fact what you should do is to send your representatives on assignments to the project sites for on-the-spot coverage. Of course it will be expensive. But judged from the aims and objectives for which the journal stands, it is considered worthwhile. Or, in case finances do not permit, you can at least collect material direct from the project authorities and get them published in Yojana. In short we are not interested in reading the proceedings of meetings or, for that matter, speeches made by our leaders. We would like to see 'milestones' revived and get latest reports on Plan projects. I am a regular reader of Yojana and I shall be grateful if the suggestions offered are accepted.

Rajkot

GULABCHAND P. MEHTA

CHANGE IN CULTURAL VALUES

NO doubt vast changes are taking place in the socio-economic set-up of our country as a result of the development plans and all other nation-building activities. These changes, in the long run, are likely to affect the cultural life of our society and, philosophically, also the set of values on which the society is based. Shri Bhabani Bhattacharya has hinted at this change of cultural values in his article 'Crisis in Traditional Values?', published in the recent special number of 'Yojana' (October 1, 1961). He suggests that 'the stress on material development implicit in planning redresses a lost balance' in the society which for ages believed in a philosophy of fatalism and otherworldliness. He rightly points out that 'a hungry man has little capacity for things of the spirit'. But, perhaps he ignores that greed breeds greed and satiation of material wants remains only a dream. The horrible atomic race in the western hemisphere has proved this very poignantly.

Perhaps the implications of this change are deeper than those Shri Bhattacharya has suggested in his article. It would be interesting to know how far these changes are likely to disturb or improve on our time-honoured traditional concept of life. Could 'Yojana' undertake such a study?

Bombay

V. B. MANE

IGNORAMAN

HAS no one yet protested against RAMAN in IGNORAMAN?

North insulting South and all that!

Madras

M. S. KALYANASUNDARAM

YOJANA

ROLE OF WOMEN IN THIRD PLAN

Adequate Funds Set Apart For Girls' Education

IT is quite evident that various programmes in the Third Five Year Plan, more especially in the rural areas, cannot be implemented effectively without the fullest co-operation of women workers, both official and non-official. Women constitute 50 per cent of the population in India and without drawing them actively into our programmes it will not be possible for the nation to move forward at a fast pace towards plenty and prosperity.

I am rather sceptical about the utility of sending women workers from the urban areas to the villages. Firstly, the problems of rural women are entirely different from the problems of women who live in the cities, and it is not possible for urban workers to appreciate fully the difficulties of womenfolk in the countryside. Secondly, the city women workers are likely to spread urban fashions into the rural areas and thus promote a drain on the limited resources of rural women. It is, therefore, essential to train

SHRIMAN NARAYAN

up local women workers in the villages for taking up different programmes for the benefit of women and children in the rural areas. Special attention should be given to the training of rural women for home, cottage and village industries with a view to providing fuller employment in the countryside for improving the living standards of the people.

During the Third Five Year Plan there will be need for a large number of women workers in various spheres of activity. For example, in order to make adequate provision for free and compulsory education, we shall require about 5.5 lakh teachers, a good number of whom should be women. In order to increase the number of primary health centres and also to start larger number of hospitals about 20,000 nurses will be necessary, in addition to many trained midwives, *dais* etc., in both the rural and urban areas. During the Third Plan period about 6,500 new family planning centres will be opened in different parts of the country and a large number of women doctors, medical assistants and voluntary women workers will be needed for implementing this important programme. The whole country will be covered by the Community Development Blocks by the end of 1963. In order to provide the requisite staff in all these blocks, we will require thousands of Gramsevikas and their assistants. About Rs. 35 crore have been provided for special programmes of children in the form of *bal-vadis*, creches, children's homes, etc. It is quite obvious that different programmes in the Third

Plan will open a wide field for the participation of women workers, both honorary as well as salaried. It is, therefore, essential to enlist the full co-operation of women's organisations in different States in order to select and train the required women workers for implementing several important schemes which have been given a high priority during the next five years.

EDUCATION FOR GIRLS

It has been stated in some quarters that adequate funds have not been provided for the education of girls during the Third Plan. This impression is not correct. By the end of the Second Plan, as against 80 per cent of the boys in the age group 6-11 in schools, the percentage of the girls of the same age group was about 40. At the end of the Third Plan period this percentage of girls will rise to 61.5. Of the additional 204 lakh children to be enrolled in the primary and secondary school classes, about 105 lakh are expected to be girls, with the result that the existing disparity between the number of boys and girls in our schools would be considerably reduced.

Out of the total allocations for primary and secondary education in the Third Plan, Rs. 175 crore will be exclusively devoted to the education of girls. If necessary, the Planning Commission will try its best to find additional resources for fulfilling the targets in regard to the expansion of education among the girls. A special provision of Rs. 10 crore has been made in the Plan for strengthening this programme by giving stipends and scholarships for girls, constructing quarters for women teachers in the rural areas and also setting up girls' hostels in order to enable a large number of girl students to take advantage of increased educational facilities. In addition, there is a provision of Rs. 37 crore for various educational programmes under the Community Development Blocks. Rs. 42 crore will be spent for giving special education facilities to the children of the Scheduled Castes and Scheduled Tribes, a sizable portion of which is bound to be utilised for the education of girls belonging to these backward classes. The Union and State governments will also be assisting a good number of voluntary organisations for women in the sphere of social welfare work. The University Grants Commission will also provide liberal assistance for women's colleges and women's hostels during the Third Plan period. It is also proposed to set up an Institute for training women in organisation, administration and management so that women in the country may be able to play a more vital role in the execution of various programmes during the Third and subsequent Five Year Plans.

Most of the State Governments have now enacted the requisite legislation in regard to the introduction of Panchayati Raj in the rural areas. It is quite evident that the experiment of Panchayati Raj will be able to achieve the desired results only if our womenfolk are fully drawn into this important national movement in various capacities. Although some provision has been made in the State legislations for the co-option of women as members of the Panchayats, Panchayat Samitis and Zila Parishads, it is hoped that a substantial number of women workers will be elected to these village bodies in the normal course

Needless to mention that about 50 per cent of the population of India consists of women. The future progress of this country could be accelerated at a fast pace only if special attention is paid to the duties as well as obligations of women both in cities as well as villages.

Under the inspiring leadership of Mahatma Gandhi the women of India played a notable role in our struggle for political freedom. We do expect that they would play an equally vital role in the achievement of the socialist pattern of society which we have set before us as the national goal.

INDIA AND THE WEST

—Barbara Ward

AND

INDIA'S FOREIGN POLICY

—Jawaharlal Nehru

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RADIATION GENETICS LEADS TO LARGER CROP YIELD

*Pusa Institute Evolves New Wheat Variety,
Work in Progress on Jute*

AMONG the various applications of science in the field of crop improvement, plant breeding is the least expensive and most profitable, since once an improved variety has been evolved it represents a long-term investment, paying dividend year after year in the form of increased yield and income for the farmer and better nutritive quality for the consumer.

Until the beginning of this century, plant breeding was largely an art dependent on the ability of individual breeders to spot superior plants in a mixed population. The advent of the science of genetics in the early years of this century altered this situation and it became known that the expression of characters in all living organisms—be they viruses, plants or man—is conditioned by discrete units called genes located on chromosomes (rod-like bodies occurring in the nucleus of cells) and that the genes are transmitted from parents to progeny in a predictable fashion. Genetics conferred upon the breeder of plants and animals a detailed knowledge of the various processes initiating and regulating the evolution of variation in biological populations and of the means of reproducing these processes. Thus began the modern era of scientific plant breeding, in which breeders could build "gene banks" and utilise the genetic stocks collected for shuffling the genes into numerous new combinations according to well-defined plans.

EFFORTS IN OUR COUNTRY

Agricultural research institutions in India were not slow in recognising the applied aspects

of genetics and using genetical know-how. Improved varieties of important crops like wheat, rice, sugarcane, cotton, jute and

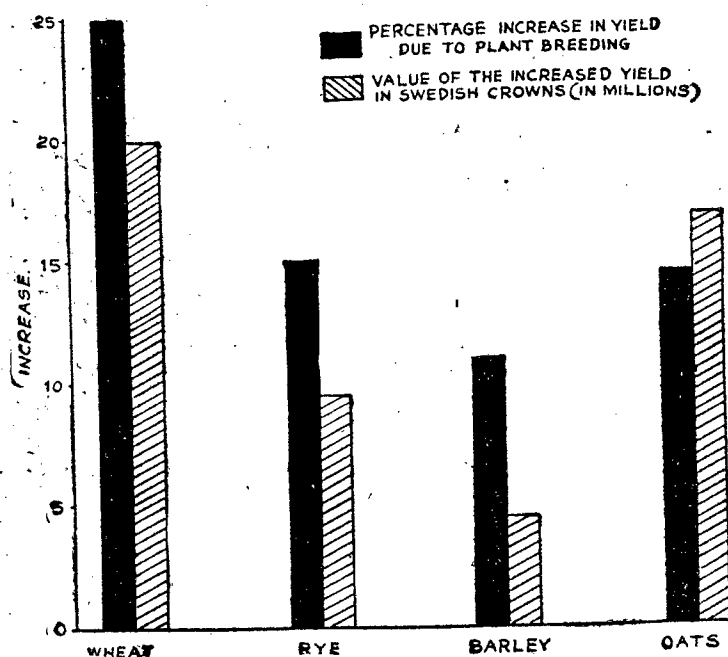
DR. M. S. SWAMINATHAN
Indian Agricultural Research
Institute, New Delhi

jowar, were developed at the different Central and State plant breeding stations. While precise data on the increase in yield brought about solely by the introduction of better varieties are not available for our crops, it is clear from the results obtained in countries like Sweden (See chart), that an increase of 15 to 25 per cent in yield can readily result from plant breeding activities alone. One crop

in which the breeding of superior strains has had a very striking impact in India is sugarcane. The many excellent varieties of sugarcane bred at Coimbatore paved the way for transforming our country from a sugar importing into a sugar exporting nation.

X-RAYS COME INTO PICTURE

The plant breeder is always concerned with securing the heritable variation he needs in his families and varieties, for it is the raw material without which his work cannot be effective. His ability to shuffle the genes will depend, so to say, on the number of distinct cards he has in his pack. He cannot add a card to his pack if it is not already there. But nature produces



Histogram showing the effect of plant breeding on the yield of the major cereal crops of Sweden (data average of five years—1946-50).



The author showing ears of the wheat mutant having stiff straw and round grains to Prof. Sir Frank Engledow of Cambridge. On the right are plants of the parent variety showing the tall habit and long and loosely arranged ears.

such new cards for him now and then through sudden heritable changes called mutations. The frequency of occurrence of mutations in nature, however, is extremely low—perhaps once in every million individuals. Not only is the frequency of naturally occurring mutations low but only very small proportion of these mutations are useful to the breeder. Thus, for purposes of plant improvement, little could be done apart from utilising the natural variation already existing in a crop and taking advantage of any favourable mutation that occasionally arose.

This was the situation until 1927 when two American geneticists showed that by treating animals and plants with X-rays, genes could be made to mutate artificially. This was the beginning of the science of radiation genetics, a science which enabled man to simulate one of the most important mechanisms controlling the origin of new variation in nature. Though a way was found to induce mutations at will over 30 years ago, it is only during the last ten years that intensive research in this field has become feasible. During this period, potent radiation sources have become available to the breeder, as a result of developments in the field of atomic energy.

NEW WHEAT EVOLVED

During the Second Plan period, two research schemes relating to the use of radiation genetics in plant breeding were initiated at the Indian Agricultural Research Institute, New Delhi. Under one of these schemes, intensive research was begun on the artificial induction of mutations in wheat, rice, cotton, tobacco, potato and tomato and under the other, a field radiation device employing radioactive cobalt (popularly known as the "Gamma Garden") was set up (See picture on Page 7). Some of the mutations induced in this way have proved to be of economic benefit and I shall cite a few examples.

A variety of wheat called N.P. 799 bred at the Indian Agricultural Research Institute has been under cultivation in parts of Bihar and West Bengal during the last few years. This is an improved variety possessing resistance to rusts and has performed very well in years characterised by severe rust epidemics. It has medium maturity. In spite of its many good features, this variety has not been popular with the farmers, since it does not have awns (i.e., bristle-like structures found on the flowers). Awned varieties of wheat are preferred by our

farmers since they are less damaged by birds. In order to remove this defect, seeds of the variety N.P. 799 were treated with radiophosphorus in 1955 and a mutant with well-developed awns was produced. Seeds of this mutant were multiplied and its yielding ability was tested in statistically laid-out yield trials conducted at Pusa as well as several other places in Bihar. The mutant strain has consistently given about 10 per cent more yield than the parent variety. Hence, the mutant strain has been given the status of a new variety and has been named N.P. 836. A mutation, once obtained, is a permanent change and the character of awning and of higher yield of N.P. 836 will persist over all generations. Already, there is a heavy demand for the seeds of N.P. 836. While the addition of awns into an awnless wheat can also be brought about through conventional techniques, it would take many more years and much more labour to do so.

Several mutants with short and stiff straw have also been obtained in wheat through the irradiation of seeds. A phenomenal increase in the production and use of fertilisers is envisaged during the Third Plan period and if our farmers are to derive the maximum return from the fertiliser applied, varieties which will not lodge under conditions of high soil fertility should be evolved and made available to them. The stiff-strawed mutants obtained in radiation experiments may hence be of great agricultural value. One interesting stiff-strawed mutant isolated in wheat has in addition round grains (picture above). Because short and plump kernels have a better milling quality, the recovery of flour per unit weight of grain is about 10 per cent more in this mutant as compared to the parent variety.

At the Indian Agricultural Research Institute, varieties of wheat suitable for cultivation in all the major wheat growing areas of India have been evolved. Some of these varieties are satisfactory in all respects excepting in one characteristic such as awning, strength of straw or the appropriate maturity period.

The application of radiation genetics helps to eliminate these handicaps more quickly and efficiently than conventional breeding procedures. There is no restriction as to the type of variability that can be artificially generated—morphological characteristics, physiological and biochemical traits, quantitative characteristics can all be affected. For example, mutants having 2 to 3 per cent more protein content than the parent strain have been obtained in the wheat variety N.P. 824 by treatment with X-rays and radioactive cobalt. This variety has been specifically bred for cultivation under conditions of high soil fertility. Thus, the farmers will get, in addition to good yield, grains of high nutritive value. A mutation leading to an increased leaf area was obtained in the tobacco variety "Natu" irradiated with neutrons at the "Apsara" reactor of the Atomic Energy Establishment, Trombay. Mutations conferring resistance to jassids, whose infestation seriously limits the possibilities for cultivating some long-staple varieties of cotton have also been isolated.

TRIALS ON JUTE

In addition to being a tool for the induction of mutations, radiation is also being employed for several other purposes in plant breeding. For example, some crosses between related

species of plants, which have never before been successful, have been made by using pollen exposed to radiation in crossing work. A cross made in this way by the writer and his associates between the two jute yielding species, *Corchorus olitorius* and *C. capsularis*, is now being used to evolve a new jute variety possessing a strong white fibre, immunity to diseases and pests and adaptability to a wide range of environmental conditions. When this is done, the yield per acre of jute will rise appreciably. The economic importance of this cross will be obvious from the fact that this hybrid has been the dream of all those interested in jute improvement since the beginning of this century.

USE IN ANTIBIOTICS

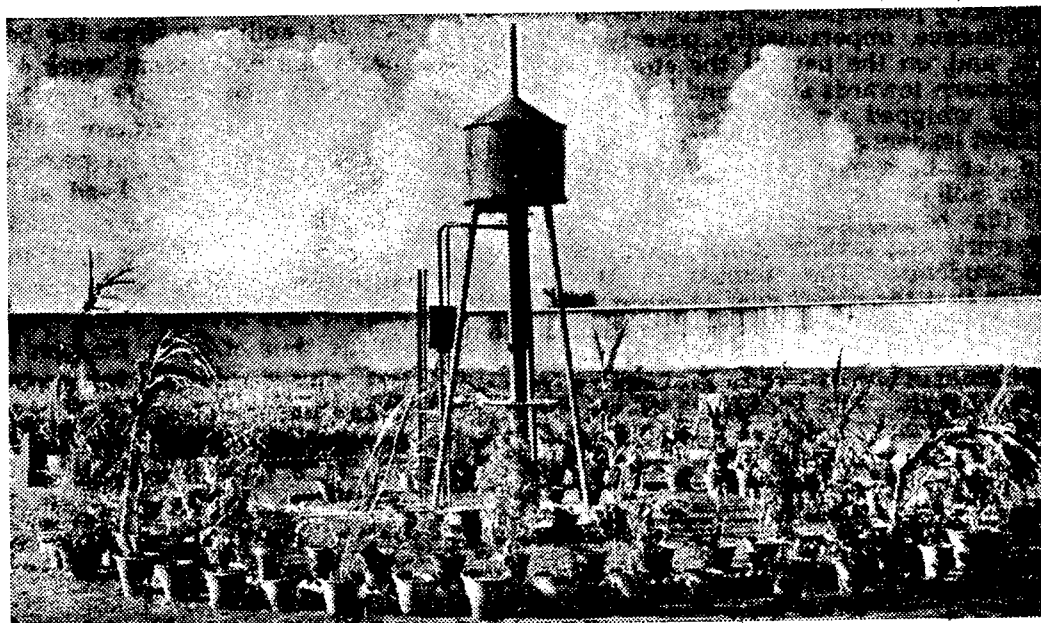
Radiation genetics has had spectacular success in the United States and U.S.S.R. in increasing the output of antibiotics by *Penicillium* and several other species. These fungi have abandoned sexual reproduction and rely solely on asexual propagation. Obviously new variants cannot be produced in such organisms by hybridisation and segregation and hence the breeder must rely on inducing mutations and sorting out those few which raise the production of antibiotic from the many which must lower it. Studies of this kind are also in progress in India and would receive fur-

ther impetus when the antibiotic industry registers more growth.

The economically useful mutations about which I have written so far constitute only a minute proportion of the total number of mutations isolated in radiation experiments. A vast majority of the mutations induced artificially are of a deleterious nature and are of no agricultural value. It should hence be stressed that radiation should not be regarded as a magic tool in crop improvement. As with any research tool, the results obtained will largely depend upon the manipulative skill and theoretical knowledge of the investigator. From the experience acquired so far, it seems likely that economic gains from mutation breeding will grow strictly in proportion with the basic knowledge gathered on all aspects of the experimental alteration of the chemical architecture of genes. It should not, however, be construed from this that the work presently in progress is solely of theoretical interest. That investment in such research is a highly remunerative proposition from an economic standpoint would be obvious from the following single example. The wheat variety N.P. 836 produced by irradiation gives on an average 3 maunds more yield per acre than the

(Continued on page 19)

A view of the I.A.R.I. "Gamma Garden" showing plants arranged for treatment with gamma rays.



NOVEMBER 12, 1961

THE U TURN

TEACHERS are praised and scorned, studied and pitied. Dr. Radhakrishnan has just said that they are the 'reservoirs of our new spirit and new thinking, intellectual, political and social'. The Union Education Minister has held them responsible for much that is wrong in our universities and schools. An author has recently described them as the newest of our discriminated-against castes. Their social standing is going down, although, to be fair, much is being done to improve their economic status. The tallest of them are even now—as they have always been—honoured counsellors of the State. Even the less eminent are sought after for working on the numerous committees.

The tasks of Indian teachers came up for a renewed review at the meeting of Vice-Chancellors and the annual Conference of Secondary Education held last month. The function of education is to mould useful citizens and good men. It is not enough if it trains children and youth to meet the country's growing need for skilled hands and keen minds. At the same time it must also produce men and women of judgement and courage, of virtue and vision. To these general goals is added an immediate compulsion: education should serve to check the forces of disintegration at work in the country.

Professor Shils, a sociologist, has made an inventory of all that is wrong with higher education in India: political interference, wrangling for jobs, petty jealousies, too much toadying, teachers' indifference, impersonality, poverty and frustration, and, on the part of the students, a passive unconcern towards study and a docility which is easily whipped up into frenzy by professional student leaders and others. The events at Aligarh and elsewhere make it difficult to question Professor Shils's analysis. But it needs to be pointed out that he has failed to give credit for the zeal for work and service which sways so many of our students. The number of teachers who realise that the surest way of raising the prestige of their profession is by being dignified, is also not negligible. There has come about a widespread realisation of the danger to the country from educational drift. The Vice-Chancellors' conference has taken some important decisions. The need is for a recovery of faith in our universities. The first condition for their improvement is that the contamination of politics must end. National unity is vital; even more vital is that, in Tagore's words, the complete man must not be sacrificed to the patriotic man'.

FITTERS & WHIPPERS

WHO should run our public enterprises—engineers or administrators? This is a favourite subject for discussion in the country and the debate sometimes overflows into the newspapers. In favour of engineers it has been said that they are receptive to new ideas and that they are innovators, whereas the administrators are sticklers for conventional rules.

Years ago there used to be a similar debate about the respective superiority of Arts and Science, Theoretical Science and Practical Science. These debates now seem so beside the point. The 'Engineer vs Civil Servant' debate is likewise fruitless. All engineers are not innovators. Don't we hear complaints from the younger engineers that many of their elders are dogmatic, obstructionist, ancient and sterile? And not all administrators are conservators. Don't so many of them make new rules where the old no longer suffice? And don't they cut long red tape into short? And when engineers serve government don't they themselves turn civilians?

Champions of the engineers' cause say that in engineering enterprises the most important thing is to know what is to be done and set about doing it in the best manner at the lowest cost. Since this is what engineers do, they are the best suited to administer an enterprise. Well, to know what is to be done and to do it best is not the virtue of engineers alone. Generals and Prime Ministers have also to have this same virtue. To be right is no one profession's monopoly.

The fact to remember is that all top jobs in management require a combination of qualities among which are a firm grasp of the total design, meticulous knowledge of detail, the capacity to take quick decisions, the habit of turning out to be right, devotion, reserves of energy and, above all, the ability to draw the best out of subordinates and make them 'work as a team', in other words, leadership. The qualities of leadership are to be come by in any walk of life. Today an engineer, tomorrow an accountant and the day after a lawyer may head an industrial empire. Elsewhere a professor of philosophy may preside over a great banking institution. The trouble with the civil service, in our country at least, is that it lays greater stress on so-called brilliance at the time of entry than on growth during the job. This is a danger that applies to the engineering profession also, if it lays too much stress on promotion and security. As Professor Appleby said in a interview published in *Yojana* a few months ago, the myth that engineers make better bosses was exploded long ago, and leadership is so rare that we must elect it whatever walk of life it comes from.

Developing ECAFE Region

(The following is a summary of the paper on "A Decade of Development Planning and Implementation in the ECAFE region". The paper was submitted by the ECAFE Secretariat to the Asian Planners' Conference held in New Delhi from September 26 to October 3, 1961).

PLANNING has been accepted as an important means of guiding and accelerating economic development in the countries of the ECAFE region. The basic reasons for planned economic development are: (a) traditional societies, if left alone, may stagnate; (b) unaided private enterprise may not gather sufficient momentum to generate economic growth; and (c) market mechanism cannot be relied upon to promote economic growth.

The degree of planning in the countries of ECAFE region varies widely. On the one hand there is Japan with a predominantly private economy while, on the other hand, there is China with a centrally planned economy. Then, there are other countries with different shades of mixed economy. However, in all the countries creation of general conditions for development, i.e. of ensuring political and monetary stability, has fallen on the government.

The scope and comprehensiveness of development plans varies among the countries due mainly to shortage of statistical data and qualified planners. However, gains in experience and improvement in the availability of statistical data have tended to make the subsequent plans more comprehensive.

Practically all countries of the region are now receiving guidance from a plan. Usually, the first plan represented national aspirations and objectives; in the subsequent plans the investment programmes appear to be more clearly formulated.

The plans of these countries taken together contain a long list of objectives. Qualitative objectives, usually long run in nature, include 'a socialistic pattern of society', 'a reduction in inequalities in income distribution', 'a diversified economy', 'laying the basis for self-sustained growth', etc. Excepting those countries with heavy population pressure (Ceylon and Singapore) almost all other countries have emphasised income rather than employment as the major objective.

INVESTMENT PROGRAMME

The availability of financial resources would depend on monetary and other policies of the Government. Despite the variations in the rate of growth of income and in the capital output ratio, the rate of investment of a majority of the



countries is about 13 to 16 per cent, notable exceptions being Japan (31.0 per cent) and Indonesia (8.5 per cent). This similarity would appear to indicate greater faith on the part of the planners in the investment target.

While the extent of public ownership and investment in these countries differs widely, public investment, nevertheless, assumes an important and decisive part of the entire investment programme. Private investment is influenced to a considerable extent by government policies and measures.

Human capital is equally important. However, countries of the region differ in their emphasis on social development in their plans, though social programmes are given priority.

As more basic facilities are needed and as over-head investment is not attractive to private enterprise, government investment in the field of physical infra-structure has ranked high. In the public sector, share of investment in transport and communications is high in the case of all the countries. In India, Pakistan, Ceylon and Philippines, it forms about a fourth of the total investment. In other countries with relatively inadequate transport facilities it is as high as 40 to 50 per cent. Investment on power is rather low.

The need for more food and foreign exchange in the post-war period led these countries first to rehabilitate and develop agricultural production. On completion of the reconstruction programme, escape from vulnerability to external factors of primary exports has been sought.

The problem of giving priority to agriculture or industry has become acute. Emphasis on industrialisation is based on the assumption that industrial development would absorb under-employed persons. Over-investment in industry or neglect of agricultural development has actually caused strains in several countries. Under-estimation of possibilities in and slow implementation of the task of increasing their supplies as also

the slow response of the cultivators to modern techniques have also contributed to the deficiency in the supply of agricultural products.

Rate of investment (investment as percentage of national income) in these countries is rather low due mainly to low levels of income and productivity. In the development plans, the major sources of financing public investment programmes are government saving, government borrowing from the private sector, external assistance and deficit-financing.

Governments of ECAFE countries derive bulk of their revenue from taxation. Government revenue as a proportion of national income varies from country to country. By and large, in these countries, government revenue has lagged behind government expenditure. The slow rise in government revenue in most of the countries is due to a slow rate of growth of foreign trade sector. Notwithstanding this slow rate of growth in government revenue, these countries have found it difficult to resist expansion of administrative staff and increases in expenditure on social welfare.

It is extremely difficult to plan the availability and magnitude of foreign assistance. In general, the assistance has been extended chiefly for the purpose of building up pre-investment conditions (e.g. resources survey, research, scientific and training institutions, surveys of industrial possibilities, etc.) and constructing physical infra-structure.

The uses and availability of financial resources are inter-related between the public and private sectors. A substantial portion of capital formation in the private sector is in housing which is almost entirely self-financed. Also in large-scale industries (as in India and Japan) and plantations (as in Ceylon and Malaya), self-financing plays an important part.

After taking into account all the above-mentioned sources the gap in saving, if any, may have to be filled by deficit-financing provided this does not result in undue price inflation or balance of payments difficulties.

ACHIEVEMENTS

Appraisal of achievements under the development plans, based on a mere comparison of plan targets with actual results, is subject to several qualifications. Nevertheless, a comparison of planned and actual rates of increase in national and per capita income may serve as a starting point for an appraisal of achievements. Among the countries of the region Japan had a high rate of growth of about 8.5 per cent per annum, exceeding the 6.5 per cent contemplated in the long range economic plan period (1956-62). This high rate has been attributed to the relatively high stage of industrialisation achieved by Japan even before the war, the high rate of saving and capital formation and remarkable improvement in productivity.

In the case of mainland China, actual achievements have been reported to be very high, giving a rate of increase of about 12 per cent in gross domestic product during 1950-58. Agricultural output under the first five year plan showed satisfactory growth though it was lower than expected. However, towards the end of 1960, serious shortages of grains and raw materials emerged.

The annual rate of increase in China (Taiwan) was about 8.5 per cent compared to the target of 7.4 per cent on the second four year plan 1956-60. This high rate was due mainly to high rate of investment and balanced development between agriculture and industry.

In India, during the First Five Year Plan the increase in national income was 18 per cent as against the target of 12 per cent. During the Second Plan, the increase was 20 per cent as against the target of 25 per cent. This over-fulfilment of the income target in the First Plan and the under-fulfilment under the Second can be explained by the difference in capital output ratio. Unfavourable weather conditions accounted for a shortfall in agricultural output during the Second Plan period. The failure to meet the goal under the Second Plan in full appears to highlight the stresses and strains imposed by the rapid industrialisation of the economy. However, the basic conditions re-

quired for a growth were established and a higher rate of accelerated growth could be expected in the future.

In Burma and Pakistan, actual performance was far behind the planned income targets. In Pakistan it was mainly due to the failure in the key sector of agriculture, deterioration in the terms of trade and unexpectedly large increase in non-development expenditure. The main reasons for the shortfalls in the case of Burma were the over-optimistic forecast of production and export proceeds of rice and the unexpected adverse terms of the world rice market.

In spite of the economic growth during the last decade, the agricultural sector is still very large in most of the countries of the region. In 1959, it was 30-35 per cent of the domestic product in China (Taiwan and Mainland), Southern Korea and the Philippines; 40-50 per cent in Burma, Cambodia, Ceylon, India and Thailand; and slightly over 55 per cent in Indonesia and Pakistan. As for the share of the industry sector, only China and Japan were approaching the world average (26 per cent) of the medium income countries.

TOWARDS SELF-SUFFICIENCY

While practically all countries of the region are now operating under the guidance of a plan of some sort to further economic development, the suitability of the plans and the extent of implementation differ widely among them. Several countries seem still to be in the stage of seeking political stability or fighting against inflation. In these countries, the creation of favourable basic conditions for economic development is perhaps more important than immediately embarking upon an ambitious development plan.

Most countries of the region have planned an investment rate of around 15 per cent. With this rate of investment and adequate investment efficiency, one would wonder why they cannot achieve a 5-6 per cent growth rate of national income, and a 3 per cent growth rate of per capita income. In the past decade, many countries have not achieved this rate. Bad weather and adverse terms of trade have been exogenous factors; but the more fundamental problem has been how to absorb effectively and efficiently this or a higher rate of investment into the economy, in order to gather momentum for a 'take-off'.

The provision of economic and social infra-structure has greatly widened the horizon of investment in directly productive activities in the region during the past decade. However, there have been instances of wastage in public spending in these fields. Development in education and health has generally enhanced the absorptive capacity in many ways, but not all social welfare expenditures have been conducive to increased capacity to create wealth.

Governments of the region have also used various policy measures to offer inducements to private investment. However, in some countries inducement measures have become so excessive that strict administrative controls have had to be used in resource allocation, with the net result of hindering, rather than encouraging the full realisation of investment potentials (especially in industry) of the private sector.

An increase in absorptive capacity does not necessarily mean that all investment which takes place yields a maximum output. There has been no lack of instances where over-investment in certain sectors resulted in idle capacity and created strains in other sectors of the economy.

In view of the existing low levels of saving and the difficulties of raising the marginal rate of saving, it would be rather unrealistic to expect many underdeveloped countries of the region to attain the stage of self-sustained growth within, say, 20 years, particularly because any family planning policy would not reduce substantially the labour force seeking employment within the coming 20 years. During this critical period, a foreign-aid generated take-off, which is to lead to a self-sustained growth, becomes a necessity.

However, it goes without saying that efforts to increase domestic saving have to be pursued vigorously with a view to the eventual achievement of self-sustained economic growth.

STRUCTURE OF INDUSTRIAL FINANCING IN INDIA

H. T. PAREKH

The Industrial Credit and Investment Corporation of India

THE structure of industrial financing in India can perhaps be conveniently outlined by dealing first with the facilities for finances available to very small and small industrial undertakings and then for medium and large-sized industries. For this purpose 'very small' may be those needing capital under Rs. 1 lakh and 'small' those requiring under Rs. 5 lakh. Units requiring finance between Rs. 5 and 50 lakh may be termed medium while those needing over Rs. 50 lakh may be called large. It may, however, be observed that this is not altogether a satisfactory division. Capital costs have risen so high compared to costs 10 or 20 years ago that under the above definition an enterprise, which in the past came in the category of medium, may now fall in the category of large. For instance, the smallest unit in sugar industry or cement industry now costs over Rs. 1 crore whereas in the pre-war days its cost was under Rs. 25 lakh.

In recent years a wide variety of institutions, agencies and schemes have been set up to provide finance to these different sectors. Active steps have been taken by Government to provide assistance in suitable forms to both small and large entrepreneurs.

SPECIALISED AGENCIES

At the smallest level in the range up to Rs. 1 lakh, industrial finance can be obtained directly from State Governments under the State Aid to Industries Acts. State Governments operating through their Industries Departments have arrangements to provide direct industrial loans for very small amounts on easy terms, both as regards the rate of interest and kind of security. To cut down delays in the grant and disbursement of such loans, the State Governments have recently been transferring the function of administration of such loans to State Finance Corporations which exist in each State. These Corporations, which were set up to provide loans to small industries, have now been taking over increasingly the responsibility of granting loans also to very small enterprises as agents of the State Governments which assume the risk and provide the funds. As a result of this development it can be expected that financial assistance to very small entrepreneurs would be more readily available under the direction of specialised financial institutions than was the case when State Governments were directly handling this business. The loans dis-

bursed under the State Aid to Industries Act are on an average about Rs. 3 crore per year.

Besides direct grant of loans by State Governments, the Central Government has taken two important steps to facilitate availability of industrial finance to very small and small units. One is that the Central Government has put into effect a scheme of guarantee under which commercial banks and finance corporations can provide loans to small industries up to Rs. 5 lakh; the Government stands as guarantor for risk up to about 80 per cent of what is assumed by the lending institution. This measure should considerably help entrepreneurs in obtaining small loans through local banks which would bear only a small part of the total risk involved and would therefore be induced to lend funds more liberally. The primary difficulty of small units is their inability to provide security in the form required by the financing institutions due to lack of mortgageable assets; under the guarantee scheme, lending institutions will be able to grant loans freely even where the security is inadequate.

Under another scheme, small entrepreneurs are enabled to obtain machinery on hire-purchase basis through the National Small Industries Corporation which is owned and operated by the Government. Under this arrangement imported and indigenous equipment can be purchased on the security of such equipment on easy instalments at low rate of interest with only a small margin to be provided by the entrepreneur. Small industries requiring equipment worth up to Rs. 5 lakh can get assistance from this organisation which has several branches in the country. The number of machines delivered during the three years ending March 1961 amounted to 4,600 valued at over Rs. 4 crore while orders placed for machines on that date exceeded 7,500 valued at over Rs. 8 crore.

NATURE OF ASSISTANCE

It will thus be seen that financial assistance for setting up or expanding small industries is today made available in three alternative ways, viz. 1) direct Government loans, 2) loans from banks under Government guarantee, and 3) supply of machinery or equipment through a Government Corporation under the scheme of hire-purchase. Though the volume of loans granted under

these various schemes has not been very large, a well thought-out machinery is now functioning which should enable small entrepreneurs to meet their requirements in an expeditious way.

The agencies described above provide assistance up to Rs. 5 lakh. In each State we have a State Finance Corporation which, besides being an agent of the Government in several States for very small loans, gives loans on its own up to Rs. 10 lakh. These Finance Corporations have been set up by the State Governments which hold part of the equity capital and have also guaranteed both capital and interest for the entire issued capital of these Corporations. These Corporations also raise loans from the market on Government guarantee. It can therefore be said that financial assistance to small or medium industries is provided by these specialised agencies sponsored and controlled by State Governments. The total loans provided by the 15 State Finance Corporations in India have amounted to Rs. 30 crore including Rs. 8 crore in 1960-61.

It should be evident that both State and Central Governments have thus taken considerable initiative in establishing a network of lending institutions and schemes to meet the needs of industries which may be regarded as very small, small or medium.

THREE INSTITUTIONS

For medium to large requirements of capital, the existing facilities consist of three special financing institutions which are: 1) The Refinance Corporation for Industry (RCI), 2) The Industrial Finance Corporation of India (IFC), and 3) The Industrial Credit and Investment Corporation of India (ICICI).

It is now widely agreed that commercial banks should extend their lending activities to medium-term finance for capital development and, to facilitate such financing, the RCI has been set up under the chairmanship of the Governor of the Reserve Bank of India. The capital of this Corporation has been subscribed by the leading banks and the Life Insurance Corporation (LIC), but the major part of its funds has been provided out of the U.S. counterpart rupees under an arrangement between the U.S. and the Indian Governments. Under this scheme, commercial banks can grant medium-term loans to medium-sized industries for 3 to 7 years, with a limit of Rs. 50 lakh in any one case, and reimburse themselves by borrowing from RCI, which lends to banks at 5 per cent. The risk of lending is on the commercial bank but the RCI provides the funds. RCI has financed commercial banks to the extent of Rs. 14 crore, but its activities are now steadily increasing.

IFC which is in existence since 1948 is a Government-sponsored corporation in which the Government, banks and other credit institutions hold capital which is guaranteed by the Government. This Corporation has played an important part in providing industrial loans which have exceeded Rs. 100 crore. Individual loans or guarantees made by IFC in some cases have exceeded Rs. 2 to 3

crore. Until recently loans of Rs. 1 crore or over were guaranteed by the Government but now they are only subject to Government approval. IFC also has obtained a loan of \$10 million from the U.S. Development Loan Fund for relending to industries.

The operations of ICICI are similar to those of IFC. ICICI was set up under the auspices of the World Bank, with a joint participation of British, American and Indian investors in its capital. Additional funds in foreign currencies and in rupees have been provided by the World Bank and the Government of India. ICICI's activities extend to loans, both in foreign currencies and rupees, and to underwriting of, and subscription to, share capital of industrial concerns. It has so far obtained three lines of credit for a total of \$40 million from the World Bank for relending to private enterprises in India. It has also been playing an active part in the underwriting field. Its operations during the seven years of its existence exceed Rs. 40 crore.

Large capital requirements of industrial concerns in the form of shares and loans have often been met by joint lending by these two institutions, one providing loans and the other providing the share capital. Joint underwriting operations by a number of institutions including LIC, commercial banks, investment trust, brokers, etc. are also being arranged to meet the capital requirements of big industrial projects.

It is necessary at this stage to recognise the role of the Life Insurance Corporation of India, which is the largest investor in the country, having accretion of fresh funds exceeding Rs. 20 lakh a day. LIC is continuously on the look-out for suitable investments for its funds and is playing a major role as provider of new capital for industrial development. LIC is a long-term investor, unlike the IFC and ICICI which are largely lenders and which, to maximise assistance, have to revolve their funds continuously.

INTERNATIONAL AGENCIES

Between these various institutions it is now possible for industrial enterprises to raise capital in whatever form it may be required and this has enabled the establishment of large industries requiring investment of even Rs. 10 to 20 crore. In this connection it deserves to be noted that the man with savings is turning increasingly to industrial investment with the result that a good part of the capital, particularly equity capital, is found from private investors. The funds of the LIC also arise out of the personal savings of the people, paid as premium on life policies. Between the individual investor and these various financial institutions capital for suitable projects is more readily available in India now than in the past. In the past the Government also provided finance to some companies like TELCO and ATUL on an *ad hoc* basis. Since then, the tendency has been to institutionalise the provision of finance to industry.

Mention must be made of two foreign financ-

(Continued on page 24)

A CHOICE OF

THE nicest thing about being a citizen in a Free Republic is that each one of us has the freedom to choose his own aversion. To the non-initiate, aversions come in various shades and sizes. Top priority in my scheme of things goes to the abominable Ad-man who rhapsodises about dandruff, halitosis, bad breath and the relative merits of vegetable oils, all this as a preamble to a film starring Peter Sellers, I. S. Johar or Brigitte Bardot. The villain who really has you at his mercy, even before the first cup of morning coffee, is the one who jumps up at you from the newspaper with a terrific amount of false goodwill while all the time he keeps dinning into you that you are suffering from night starvation, ingrowing toe-nails and other monstrous ailments. The trouble with me is that early in the morning I am quite capable of believing any such bilge. To me it seems that only a cynic can combine such gruesome blurbs with Beethoven and Benny Goodman.

An aversion usually takes on a certain amount of protective colouring. When you least suspect it, he is likely to leap out of the bushes. Take for example, the nice, quiet guy who used to stand beside you each morning waiting for the bus that gets you late to work with uncanny regularity. After a break of a mere three months, you discover to your horror that he has just returned from a trip abroad financed by an over-developed country or Foundation. The nice guy you once knew was a mirage. He now wears terylene shirts and a bowtie in the Delhi summer and has acquired an accent to match the revised decor. As for his attitudes, he has a simple and effective solution for the perennial food problem. No longer a vegetarian, he recommends beef steaks and suggests that a French or Congolese chef could tell us what to do with our hordes of monkeys. Most of his monologues start with the phrase "the trouble with India is..." He no longer can stomach "kababs" at the Jama Masjid and wants to know whether the salad has been 'pinkied' and thinks we aren't serious enough about cholera and infective hepatitis.

The Monster I work for has most of the characteristics that one can expect to find in the common or garden type of monster; he makes it a habit to call me up at five minutes to 5 p.m. and hands me an assignment that cannot wait till tomorrow and considers the Divali and Dusserah holidays were specially designed to frustrate work schedules. But there is a saving grace in his personality (God also made him, I have sometimes to remind myself), that is, the graceless way in which he crashes the telephone back on the re-

ceiver when someone asks him to "hold on, please" because so-and-so wants to speak to him. There is a considerable amount of wear and tear involved in terms of human eardrums and telephone sets (this is good for the nationalised telephone industry), but it helps to restore my faith in the human side of Monsters.

The Capital also has certain specialised aversions. There is the babuji who does not seem impressed that he is now a citizen of an A-class city and can look his brethren of Bombay and Calcutta straight in the eye. He still insists on discussing in a clear, carrying voice in the bus the details of promotions, transfers, and his masterly noting on the files. In addition to the general game of keeping the file in a state of suspended animation, without arriving at a decision, there seems to be a subtle variation on this theme, viz. to raise so many red herrings that in sheer self-defence the case is filed for the duration.

AVERSIONS

The "afsar" is not better when he shares a seat with another in a lower grade/pay scale/date of seniority. He never fails to mention that he comes to work at 8 a.m., long before any other staff member, and leaves at 8 p.m., long after all other staff members have left. What this Casabianca complex proves I have never been able to fathom, except perhaps that, like trains on certain branch lines, he takes the greatest amount of time to get to any given point. And yet the impossible clot hopes to secure a promotion on this very basis and, what is worse, he usually gets it.

Aversions, as by now you have gathered, are legion. Homespun Teddy Boys and Girls who give one the impression that student indiscipline is as infectious as foot and mouth disease. Pseudo-intellectuals who have read all the best book reviews, but never the books (they subscribe to Encounter). The music lovers who make your life miserable by accompanying the musician through the recital by either beating time to the music or humming. The husband who has seen the Hitchcock movie earlier and explains the intricate bits to his wife. The little man who attends all lectures on all subjects and insists on asking the speaker basic questions. The lady who has her name down on every possible committee, but never can find the time to attend any other meeting after the elections. Perhaps, it would be a good idea to leave the reader with enough leeway to add to the list of his pet aversions. It can have quite a cathartic effect.

—“IGNORAMAN”

Donkey's Years

It is not every day that those who do the donkey's work are honoured. But, at the inauguration of the Rajasthan Canal, two donkeys were paraded, patted and garlanded. It is not known by what tests the two were selected out of the thousands which are helping man conquer the desert. Were their ears longer or their back stronger?

Anyway it is good that amends have been made to man's traditional contempt for the ass. There have of course been some well-spoken of donkeys. Not all the donkeys of the Bible are stupid—unlike those of the *Hito-padesa*. The most lovable of all donkeys is the one with which Robert Louis Stevenson travelled. The least known, although so often mentioned, are the ones that Janet had to drive off every now and then in Dickens. And Bully Bottom can't be called a donkey; he was given a donkey's head temporarily.

The donkey has always suffered in comparison with its smarter cousin—a prejudice from which even that hearty hater of human values, Dean Swift, suffered. How much more to the point he would have been if the wise creatures of the last book of Gulliver were asses and not horses.

In our own country donkeys figure profusely in proverbs and folk humour but little in literature. There is, however, a lovely, witty sculpture in a Hoysala temple in a village called Amritapura near Tarikere in Mysore State which depicts Vasudeva, the father of Krishna, falling at the feet of a donkey. The Mysore Gazetteer edited by C. Hayavadana Rao says that the temple was built in 1190 and that the unusual sculpture follows a Bhagavata tradition. According to this tradition, Kamsa had appointed a donkey outside the prison cell where Devaki was held. The donkey's duty was to bray the moment Devaki gave birth to a baby so that Kamsa could rush there to kill the brat. However,

Vasudeva successfully persuaded the ass to disobey the tyrant.

The Vijayavargiya collection of Rajasthani paintings, which was on show recently in Delhi, also contains a miniature in which two donkeys and two 'devas' figure. It dates from the 16th century but the catalogue does not vouchsafe much information other than saying that it illustrates a Bhagavata episode and is the work of an artist of Palam called Kishenchand.

Ethics for Organisers

The conference season has opened in Delhi with the appearance of the cold weather—bright sunshine, blue skies, cool winds and woollen clothes. Among the earliest "birds" to herald the migration were social workers—quite colourful in their sarees from Murshidabad and Mysore, Banaras and Conjeevaram. A cynic would ask whether they would profit much from their jaunt to the capital. Cynicism gently faded away during the long and somewhat tiring discussions in sections, panels and sub-committees under the barrage of questions put by them to the "experts". There was an eagerness to know what was the latest thinking on a variety of topics from urban community development to tribal welfare, from Panchayati Raj to foster homes for children and family planning. One of the speakers made the point that welfare programmes have a chain reaction on each other.

Conference organisers—and what applies to social work applies to less abstract fields as well—could do well to appreciate the significance of this chain reaction. The measure of their appreciation should be emphasised by the care with which they select a general theme, the detail with which they examine related topics, the care with which working papers are prepared and how far in advance these papers are circulated to the delegates. All this requires careful advance planning, but the returns will more than outweigh the trouble in terms of raising the standard of discus-

sion and in giving the delegates something tangible to take home.

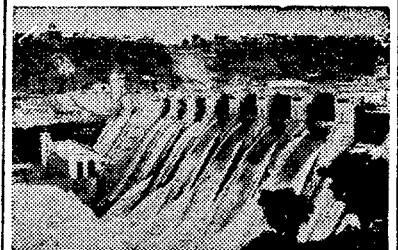
Iron At Source

MR. GONCHARENKO, one of the top Russians at Bhilai, gives an interesting anecdote in an article he has written on the progress of metallurgy in the Soviet Union.

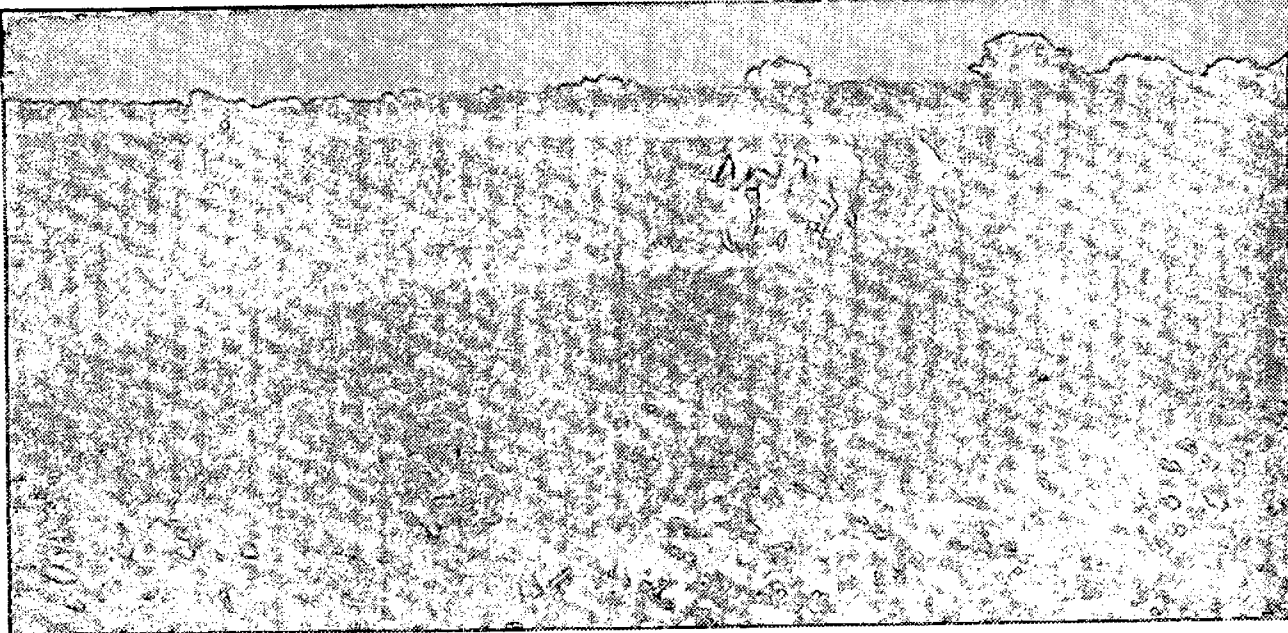
When the famous Jerusalem Temple was built in Moscow, the Czar wanted that the most important builder should occupy the Tribune of Honour. When the workers were still disputing among themselves: who was the most important, a burly fellow quietly went to the chair and sat on it. The Czar asked him to prove his title. "I am the ironsmith, Sir," he replied "and let any builder, carpenter or mason say what tools they have used."

PLAN QUIZ

1. What are alloy and special steels? What are our plans in regard to their production?
2. What is the present annual output of the food and vegetable canning industry in India? a) 287,000 tons. b) 25,000 tons and c) 50,000 tons.
3. Where is the factory for manufacturing raw film situated? What will be the volume of its output and when will it go into production?
4. How many of the sugar factories in production in 1960-61 were in the co-operative sector? a) 50, b) 30, c) 70.
5. What is the picture shown below?



(Answers on page 19)



A DETERMINATION to overcome difficulties—and not to yield to them—is the lesson of Mau Jadubanspur co-operative farming society in Masudha Community Development Block near Faizabad in Uttar Pradesh

The society owes its origin to an idea which was given by the late Acharya Narendra Dev as early as 1950 and could see fruition only in 1957 when the society could start functioning. The initiative for the actual organisation of the society however, came from the members themselves who formed it voluntarily.

The principal motive behind the organisation of the society was the consolidation of 15 members' holdings which previously numbered over 300 and were scattered over a very large area. Proceedings in regard to consolidation have not been smooth. The principal hurdle was the opposition from the vested interests of the richer classes in the village, which led to protracted litigation, spread over about seven years. This held up the effective functioning of the society and also its registration. The progress of the society has brought in a few people from the neighbouring villages also.

The society, with its co-operative farm measuring 76 acres, has 24 members, nine of them being landless. Members also

Co-op Farming

U.P. Society

Makes

A Headway

include two women, one of them with 7 acres of land and the other without land. The fifteen who own land have pooled all their holdings. Seventeen members are actively engaged in the work of the farm.

Consolidation work having been completed, the co-operative farm is now in two blocks of land situated on the two sides of a 10-acre tank which is being utilised for pisciculture. It has been the members' endeavour to make it into one compact block through an exchange of land with other land-holders. This is to secure adequate irrigation facilities on the co-operative farm.

The society has installed a pumping set at a cost of Rs. 5,500, part of which has been obtained as loan and part as subsidy. One pumping set, however, is not adequate and the society has now moved to have another set for the second block of land.

The responsibility for the general management of the society, including the division of work-load among its members, is that of the executive committee. It is this committee which draws up a production plan for each season in consultation with the block staff, the supreme authority vesting in the general body.

The production plan and the cropping scheme take into account such factors as green manuring, fodder, cash crops and legumes. Improved practices, such as the Japanese method of paddy cultivation, top dressing with fertilisers and *mehrbandi*, have been adopted. During their spare time, members of the society and their families, supplement their income by working on Ambar Charkhas.

Since it started functioning in 1957-58, the society has registered a rising trend of profits which have gone up from Rs. 1,038 in 1958-59 to Rs. 3,769 in 1960-61. With what appears to be the end of teething troubles, posed by the difficulties of consolidation and the inadequacy of irrigation facilities, the society is now ready for an intensive effort to increase production. Said Mr. Ram Kewal Singh, president of the society, "We have just got started. Give us some time. If you visit our society a year hence, you will see a marked difference."

(See Pages 16 and 17)



EMOTIONAL INTEGRATION IN THE FIELD

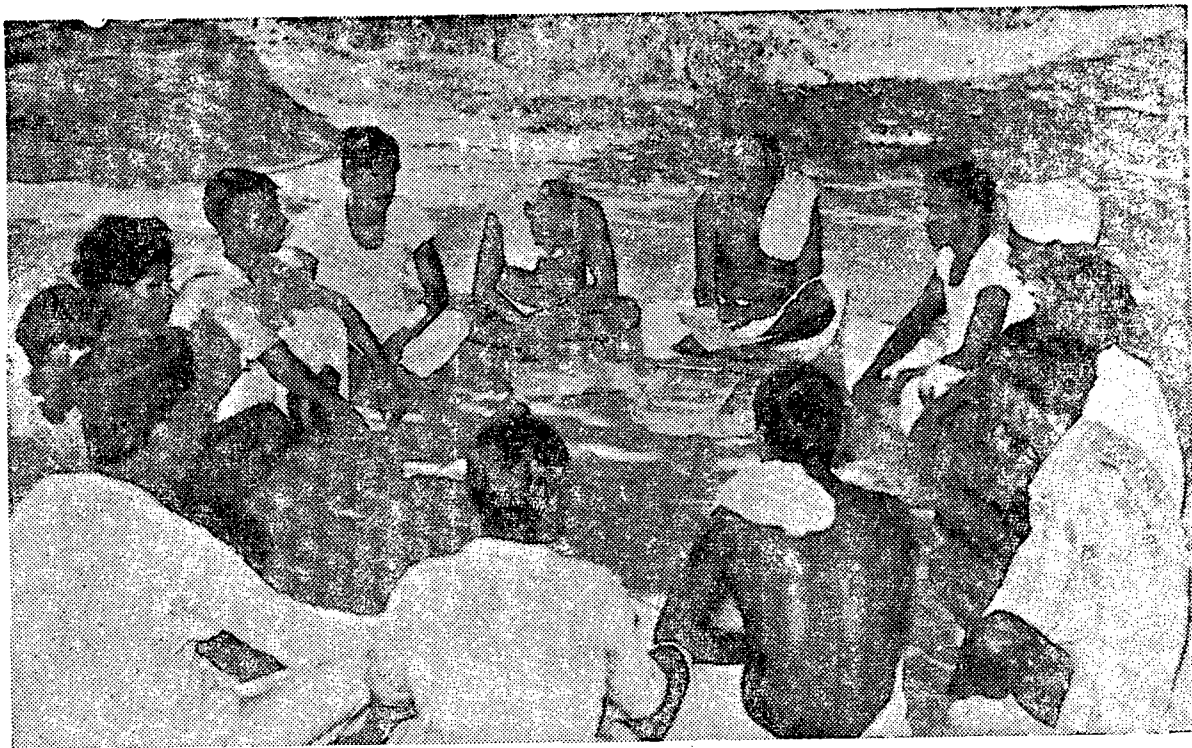
In no field of activity in India is co-operation more fruitful than in agriculture, the country's most important business. Although the emphasis now is on service co-operatives, every effort is being made to convince the rural people of the importance of co-operative joint farming. More co-operative farming societies are coming up everywhere. The pictures on this page are of the society that has been formed in the village Mau Jadubanspur in the Faizabad district of Uttar Pradesh. Its membership consists of twenty-four families (nine of them landless) who have pooled together 76 acres of land.

(Details on Page 15)

Photographs by T.C. JAIN



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Above: Members of Mau Jadubanspur Co-operative Society discussing some common problems. (Below): Women threshing wheat in the farmyard.

Left: Farmers in the field:
Men and women engaged in cutting the crop.



KASHMIR GROWS INTO PROSPERITY

SHEILA DHAR

THERE is always a breathless moment before the curtain goes up on Kashmir. In this respect the valley is perhaps unique. You do not creep upon its beauty, mile by mile, straining your eyes to achieve a first distant glimpse. There is no such opportunity. Whether you convolute up the giddy mountain road or take the luxurious plane service to Srinagar, you must submit to the drama of the moment when your eye finally rests against the peep-hole of the Banihal Pass, and the entire valley of Kashmir flashes up before you in a single, sweeping impression. And for this impression, nothing that you have seen on the way has prepared you. There is clear, sparkling water everywhere. Lakes and pools, streams and rivulets glitter like a thousand little mirrors stitched into some elaborate piece of embroidery. Wherever you look you encounter a scene which could very well be a picture postcard. There is always a bit of water reflecting mountains, or a boat, or lotuses; there is always a row of poplars straining upwards, tipped with heavy green like a painter's brush strokes on thick paper; or willows dipping into a lake; or a rickety old wooden bridge; or sunlight streaming like magic through a sea of chinar leaves; or a group of boatmen gathered round a samovar of kahva, the milkless tea which is almost a way of life with the people; or little shops where a potter smiles amidst turquoise blue and primrose yellow wares, piled up in a frenzy of colour.

Then, ten years ago, it had been summer. The snow had not quite melted, and flowers pushed up even through the snow. The mountains in the distance had been a lush purple and the fields and trees bril-

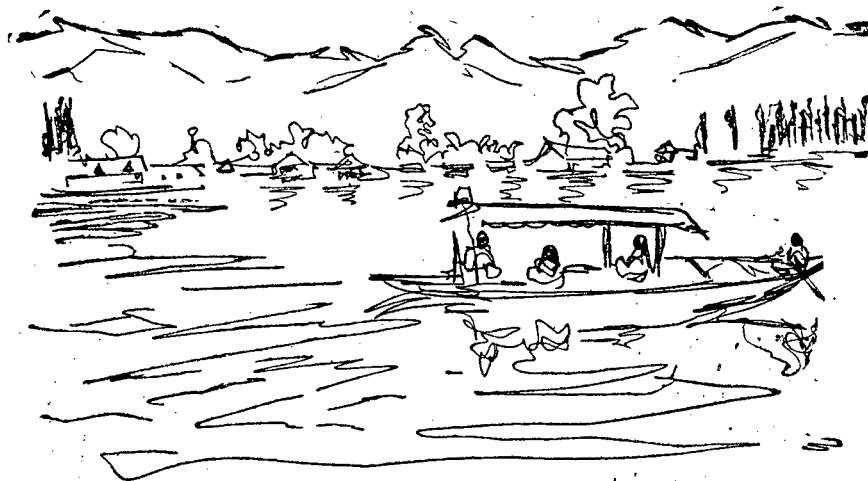
liant with green. Now, it was autumn, a season we of the plains do not really know the meaning of. Mellow, yes, and of fruitfulness as well. Russet, crimson, scarlet leaves whirled mistily everywhere and the countryside was speckled with apple orchards where trees bent double under the weight of pink and golden apples, each tree propped up with several bamboo poles.

CHANGED OUTLOOK

But there are other differences as well which seem to go deeper. The roofs of houses and shops are no longer all thatched. In places, corrugated iron sheets have appeared. Ten years ago, people were reluctant to spend even a few rupees on repairs. Now there is a good deal of construction. New technical colleges, factories, gas stations, hotels, bridges, houses, are going up fast. The old sense of uncertainty and insecurity about

the future has disappeared. The sycophantic wheedling hawker is now a new character, not half as persistent as he used to be. An attitude of 'take it or leave it', which is quite new, and surely a sign of growing prosperity, is frequently to be seen. The wages of the porter, the mason, and the carpenter compare favourably with those in Delhi. One sees the boatwoman buying a cake of toilet soap and a bottle of hair-oil to use instead of ghee for which she has now presumably found a better use. The peasants are no longer quite as tattered as one remembers them, and there are fewer pale-cheeked children than before. At certain construction sites one sees women labourers in skirts of the Rajasthani type. They are obviously non-Kashmiri women. Does this mean that there is no unemployment in Kashmir any longer? It well might. There are long crocodiles of children trailing to school, laughing and talking. Among





them are Muslim girls, which means that there has indeed been a silent revolution.

There has appeared a large and growing middle class. In their homes, crockery has begun to replace the traditional brass khos, and furniture from Delhi is often preferred to the exquisite walnut carving which is native to Kashmir. The character of the tourist has also changed. The mainstay of the tourist industry is no longer the business magnate or the burra sahib whose bearers and khansamas precede him to arrange for ponies and tents and porters for a three-month-long holiday. It is the ordinary person, who cannot afford to get away for more than ten days, or to spend much money, who is catered for. There is a tourist reception centre which affords the visitors adequate breathing time and helps him with valuable advice. There are excellent tourist buses which are cheap as well as comfortable and the valley is dotted with numerous well-equipped tourist huts. Whether you want a houseboat, or a pashmina shawl,

or an itinerary, the Tourist Department is there to help you.

Srinagar has acquired a new look. Brightly lit shopping centres have sprung up where there are slot machines, bars, and night clubs. The Indian army has nothing to do with this development. They are unobtrusively enconced among the pines in the uplands, with their mules and equipment, and the people, far from resenting them, gratefully remember the miracles they worked in crucial times—whether it was the invasion of the tribesmen, or the floods, or the need for the new roads.

Kashmiri food is almost a legend in northern India. In Kashmir it is even more so since there is no obvious way of coming by it. The restaurants do not serve it, and you have to wait (not too long, since the Kashmiri is overwhelmingly hospitable once he overcomes his shyness) for an invitation to a home. The Muslim homes specialise in some dishes and the Pandit homes in others, but in each, the woman who tends the earthen

stove is a born artist. But no fruit, after even the most lavish dinner, because almost all of it is exported and you can buy only the leavings in the bazaar.

ANSWERS TO QUIZ

1. Alloy and special steels are one of the varieties of steel required in the production of the stainless vessels now used in almost every household. The production of these steels involves specialised equipment and processes though low-grade steels can be produced in ordnance factories. At present only a few units in the private sector are producing about 10,000 tons a year.

The target for the Third Plan is fixed at 2 lakh tons and is sought to be achieved by the production of 35,000 tons in the ordnance factories, about 15,000 tons in the Tata Iron and Steel Company and 50,000 tons in the new plant to be located in Durgapur near the existing steel works. Balance is to be met by other units in the private sector for which licences have already been issued.

2. c). 50,000 tons. At the end of the Second Plan the output was only 32,000 tons. The target for the Third Plan is 1 lakh tons.
3. One of the new public sector projects, the raw film factory is being set up in the outskirts of Ootacamund, a well-known hill station in South India. Construction work has begun on the 250-acre site for housing the factory and ancillary units. The factory will produce a variety of photographic sensitised material including cinematographic film, roll and sheet film, photographic paper, etc., worth Rs 5 crore which is now spent on the import of raw film and photo goods. It will go into production by the end of 1962.
4. b). As many as 30 were in the co-operative sector. The production of the co-operative sugar factories totalled 4.35 lakh tons or 14.7 per cent of the total production of 29.54 lakh tons.
5. The Gandhisagar Dam.

Radiation Genetics

(Continued from page 7)

parent strain (which is itself an improved variety). If this variety occupies even about 50,000 acres (which is a modest target considering the fact that nearly 1,273,000 acres are under wheat in Bihar and Bengal where this variety can be cultivated) the increased income to

the farmer every year would amount to over two million rupees. In contrast, the total expenditure incurred during the entire second Plan period on the two schemes, under which the work relating to the evolution of N.P. 836 was carried out, was Rs. 505,720.

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NIRALA

Herald of New Hindi Poetry

ON October 15, at the age of sixty-five, Suryakant Tripathi 'Nirala' passed away in Allahabad.

Who was 'Nirala'? If one went to the stone-paved ancient streets of Daraganj, Allahabad, one would meet a tall, well-built person with sensitive lips and aquiline nose, with an unkempt beard and an ochre loincloth, constantly indulging in an indistinct monologue. If you were an old acquaintance, he would suddenly remember your name, the occasion when you last met him, and even burst into a guffaw. If you were a stranger, he would be courteous, would offer you a cup of tea or 'pan' or other hospitality and suddenly, relapse into subconscious mutterings. If you listened carefully he would be saying unconnected sentences as: 'I am the son of Rabindranath Tagore', 'I have accounts to settle with the publishers', 'Yesterday I talked with Shakespeare' and so on. He would be constantly talking in English.

He was Suryakant Tripathi 'Nirala', whose life-story is not long or eventful in the worldly sense. Born in 1896 of parents from Unnao district in U.P. (Audh), he spent his childhood as a priest of a princely landlord in Mahishadal (West Bengal). Even in early childhood he came under the influence of Ramakrishna Paramahansa and Vivekananda. Bengali was almost like his mother-tongue. He edited *Samanvaya*, a magazine of the Vedanta Society.

'Nirala' was married in early childhood, and was the victim of an abject tragedy—his parents and wife and children having died in a plague epidemic. He was left with only a dearly-loved daughter and a son. Saroj, his daughter, was brought up by him in great affection but she died at the age of 19 just after her betrothal. The grieved father wrote a long elegy on her death in 1935.

He was later attracted towards Bohemian life

in Lucknow, and in the war days was also dragged into the Progressive Writers' Movement. His style changed and became closer to spoken word in semi-humorous prose sketches and longer poems like 'Mushrooms' (Kukurmutta). Readers began to complain that Nirala was becoming more and more incomprehensible. But, as he was a non-conformist, he deliberately broke linguistic or grammatical rules. Like Mayakovsky and Auden of the Spanish War period, he went on experimenting. He was dubbed as a surrealist by Marxist critics and the romanticists had already abandoned him and despaired of him.

By this time a neo-classic devotional but deeply metaphysical strain developed in Nirala and he composed lyrics, some of which remain enigmatic, burdened with personal imagery. He was ailing for a long period physically; and mentally, throughout his whole life, he was out of tune with his times.

POET

Nirala made his debut in Hindi poetry in the 'twenties by his remarkable collection of poems, *Parimal* (Fragrance), in which he divided his verses in three parts: rhymed, blank verse and 'vers libre'. He was the first to introduce free verse and the modern idiom in Hindi. He wrote a preface which, like the preface of Wordsworth and Coleridge to the 'Lyrical Ballads', would stand out as the manifesto of Romanticism in Hindi poetry, called, for reasons unknown, 'Chhayavada'.

In his second volume of poetry, *Anamika*, and his long reflective poem, *Tulasidasa*, Nirala showed greater power over the craft as well as on variety of expression. A few poems from *Anamika* (the Nameless) are worth mentioning: the poem he wrote on King Edward VIII in 1936, his poem on 'Delhi' dated 1924, the famous stark, realistic picture in 1937 of a woman breaking stones

DR. PRABHAKAR MACHWE

on a by-street in Allahabad (translation by Promila Thapar, published in *Poetry*, Chicago, January 1959 and also published in 'Yojana' once), and a long poem, semi-serious and carpingly satirical, on 'jungle jasmines' which is a caricature of a foreign-returned leader. Nirala also published translations from Vivekananda and Tagore, the Miltonesque *Ram Ki Shakti-Puja* (1936) and a long narrative in free verse on an episode from Ramakrishna's life, *Seva-Prarambha*, in 1937. In this collection there are these poignant lines from 'A Letter to Hindi Flowers':

I have no envy, though
I am the harbinger of spring
I was like an untouchable among Brahmins
I remained in the background.

With the 'forties the course of Nirala's poetry changed. In his later works like *Anima*, *Kukurmutta*, *Bela* and *Naye Patte*, he rose from power to power, and he became more and more unintelligible. He was struck by the same malady as Kazi Nazrul Islam or Ezra Pound: people who

thought they were normal called him abnormal. I count myself an admirer of the work of this later period which is like Picasso's cubist and later experiments, like Tagore's later-day paintings, like Beckett and Joyce combined. Nirala made the Hindi language bear the burden of the split imagery of the age corroded with 'doubletalk and doublethink'. *Moscow Dialogues* is a delightful satire of these days: an imaginary Communist, Asarani, wants to bring equality to the world and talks endlessly of 'people' and 'masses' and cannot even correctly spell and write 'Dear Friend' in Hindi. Nirala hit hypocrisy hard, whether right or left, and people in general disliked him and dismissed him as a deranged man.

No doubt, in trying to keep up his ideals, sticking to his guns of non-conformism, Nirala had economically and physically broken down. But the sharpness of his mind, his incisive wit and his insight remained unaffected. He tried new forms—the ghazal, the 'Kajari' (folk-song), the conversational near-prose and the jazzy idiom. He foresaw many genres and opened new vistas in the otherwise closed catacombs of Hindi poetry. 'Agyeya' and the Experimentalists, the New Poets like Shamsherbahadur Singh and still younger 'Na-ke-Na' group, all struck new ground; but had there been no Nirala to bear the brunt of criticism and fight the battle all alone, indefatigably, the later Hindi poetry would have been nowhere. New Poetry in Hindi owes its beginning to later Nirala. His was a sensitive soul and war and the violence of the age and the corruption around him created in him a new language.

PROSE-WRITER

Nirala also wrote some significant prose: fiction and criticism. A historical novel, named *Prabhavati*, on Shivaji's period was no great success. It was almost Bankim Chandrite. Later his social satirical stories like *Billesur Bakariha*, *Chaturi Chamar* (one of them is translated into English and published in 'Hindi Review') and *Kale Karname*, and stories like *Gajanand Shastini*, *Sukul Ki Bibi* and others show his remarkable command over the language spoken around Lucknow, well spiced with Awadhi and Urdu. His descriptions are sharp and the characters live. There is always a Chekhov-like undercurrent of pathos throughout his apparently ridiculous situations.

In his critical essays, Nirala shows a very mature mind, erudite and yet supple. His deep understanding of Sanskrit poetry and Indian philosophy, his study of Bengali and English modern literature and his incisive logic and analytical approach are very remarkable. Nirala had no formal education, but his essays on *Indian Poetic Point of View* or on *Free Verse* are very notable. Sometimes he was bitingly critical even of his friends and exposed many favourite myths of his contemporaries. In fact, he called one of his collections of essays as *Chabuk* (Whip). One could not accuse him of any mediocrity at any place. He was always brilliant, even in his deliberate cryptic prose, ridiculed by many editors as 'Literary Raving or Ranting' (*Sahityika Sannipata*).

Nirala is open-minded to the new, but does not want to totally reject the traditional. He is not obsessed by the western ideologies or by the Bengali influences in Indian literatures. He pleaded constantly for literature being a law unto itself.

Nirala's language needs to be commented upon. Critics have objected to Bengali-isms in his prose. He was always elastic in his syntax; he borrowed freely from English or Sanskrit, Bengali or Urdu-Persian. He is at his best in the prefaces to his collections of poems. Janakivallabh Shastri has a collection of his letters, wherein he is seen at his best. They should be published in a volume.

People tried twice to present him a commemoration volume. But it was all too late. He had to suffer a life of nagging neglect, economic stringency and an un-understanding public. Half-baked wits passing off for critics added to his sorrow. He was a genius, doomed to be lonely, rendered lonelier still by writing in an idiom ahead of his times.

TRANSLATOR

Nirala has done two other remarkable services to Hindi literature. The first is to translate a hundred poems of Rabindranath Tagore, transcribing the original in Devanagari script and translating the text in Hindi prose—and all this twenty-five years ago. The other is translating, in several volumes, the works of Ramakrishna Paramahansa and Swami Vivekananda. He also did another interesting experiment in translation: to render Tulasidas's *Ramacharitamanas* from Awadhi into Khari Boli verse.

Nirala was a milestone in modern Hindi literature—a herald of renaissance. He will be ranked amongst all such writers who formed a bridge between Romanticism and Progressivism in the 'thirties; who brought the language of literature closer to the language of common parlance; who enriched the imagery of modern poetry by bringing references to an urban industrial civilisation; who could clearly see the confusion in values in criticism and discern the genuine from the false; who hated humbug in any form and paid the highest price to hold one's convictions. Such persons are, unfortunately, becoming rarer in the field of literature. He was not a sentimentalist and yet he was not a mere dry-as-bone intellectual using verse for dialectical purposes. Nirala, as his name suggested, was one of his own kind.

A poem by Nirala is given below :

A SONG

(Composed on January 1, 1950)

Don't tie your boat at this spot, brother
It will be the talk of the town, brother.
This is the same 'ghat' where smilingly,
She had her bath, swimming deep,
The eyes lingered entangled,
Both the feet trembled, brother!
That smile told much more,
Yet it remained within itself,
It listened to all, suffered all,
Steered away from all, brother!

(Translated by Prabhakar Machwe)

Zila Parishads Should Wield More Powers

ANDHRA Pradesh has the unique distinction of being almost the first State to introduce Panchayati Raj. In view, however, of the novelty of the reform it is important that those who are charged with the burden to make it a success meet occasionally and review the working of the new scheme so that useful suggestions could be made for consideration both at the State and national levels.

The significant achievements of Panchayati Raj are obvious. In the countryside, there is a new awakening and, what is more important, a new activity amongst the people. Roads are being constructed, school build-

ings are being built and improved medical facilities are being provided. Equally important is the new spirit of responsibility which is permeating the rural population. People are realising that the future prosperity of their village and of their area is in their own hands and much can be achieved by co-operation amongst themselves.

There are perhaps other features of this reform which have to be considered. All of us know that there has been perhaps a slow rise in the spirit of factionalism and local pressure groups are trying to gain the control of the administrative apparatus which the Government has now set up under Panchayati Raj. In most cases, this is no new development. Traditional rivalries of the area have merely become more intense due to the patronage vested in these local bodies. While one need not conclude this as an inevitable feature of the new pattern, it must also be recognised that factionalism cannot be eradicated unless a positive attempt is made in that direction. Perhaps, it may be desirable to stipulate

PERFUNCTORY POWERS

Another problem which is already becoming significant is

that as new Samitis are created the zone of original jurisdiction of the Zila Parishad itself is gradually shrinking. It has already been stated by the Government that by 1963 the entire country is to be covered by Panchayat Samitis. In that case, the Zila Parishad will have no non-Samiti area to administer directly after three years. When this happens, what are the functions which the Zila Parishad is expected to assume? At present, it is basically concerned with communications, school buildings, medical facilities and drinking water wells in non-Samiti areas. In the case of Samiti areas, it merely makes allotments of fertilisers and funds released by the Government. In Andhra Pradesh, it has also recently been made responsible for the maintenance of minor irrigation schemes in the district. The responsibility of

(Continued on page 24)

RAM K. VEPA

QUOTATION BOX

The real point about the end of empire in this century is that the successor states, so far from turning their backs on the West, are trying to implement Western values far more energetically than the Western imperialists ever did. The present rulers of India, and perhaps of even Pakistan, are more 'Western' in everything except racial origin than the British civil servants who ruled India before Independence.

—From a review in the 'New Statesman'

Planning in India is a lesson in patience.

—Mr. V. T. Krishnamachari, speaking in Madras

Dr. Raghavan deplored the 'perceptible rise of an anti-India trend in general literary writings coming now from the West'. Referring to Arthur Koestler's 'Lotus and the Robot,' Dr. Raghavan stated that there were reputed writers who cared to write such books. This was a serious matter which the UNESCO, with its avowed programme of promoting East-West understanding, should tackle.

—From report in 'The Hindustan Times' on the pro-

ceedings of the All India Oriental Conference held in Sri-nagar under the presidency of Dr. V. Raghavan

The rise in prices is due to lack of organisation on the part of consumers.

—Dr. V. K. R. V. Rao, speaking at the Seminar on Consumer Problems

The Third Plan might mean various things to various people. For the common man it means employment here and now.

—From report of the Study Group on 'Weaker Sections' set up by the Community Development Ministry

I say it with all sense of responsibility that there is not a single lawless group in the whole of the country whose record of crimes is anywhere near the record of that of the organised unit which is known as the Indian Police Force.

—Mr. Justice A. N. Mulla of the Allahabad High Court.

Noise is golden

—Mr. Bhupesh Gupta, M.P., in the Rajya Sabha

INDUSTRIAL FINANCING

(Continued from page 12)

ing institutions which are also providing capital for industrial development in India. The International Finance Corporation, which is an auxiliary of the World Bank, grants loans, and the special feature of its lending is that it is prepared to grant loans on unsecured basis but on terms involving some form of profit-sharing. This may include additional interest besides a fixed rate of interest and/or loans convertible into equity shares. This is an interesting development and though until recently this Corporation's operations in India have been very few, its charter has recently been amended to enable it to participate directly in equity and it is likely that it will play a growing role in assisting enterprises in India. The Commonwealth Development Finance Company set up in the U.K. also assists Indian enterprises actively by granting loans either singly or jointly with other financing institutions in India such as ICICI.

DEVELOPMENT CORPORATIONS

In addition to these institutions we have another specialised institution, the National Industrial Development Corporation, promoted and run by the Government of India. This Corporation investigates into the possibilities of starting new industries; but its present active role lies in giving loans for modernisation to cotton and

jute textile industries. It has so far sanctioned loans of over Rs. 15 crore to these industries. Another specialised institution set up by the Government is the Film Finance Corporation of India to assist in the production of cinema films.

Among the recent trends to be noted is the attempt on the part of some State Governments to set up Industrial Development Corporations, one of whose functions will be to provide finance in the medium range above Rs 10 lakh. The Madras Investment Corporation is already providing finance above Rs. 10 lakh for projects in Madras State. Steps are being taken in Andhra, Kerala and Uttar Pradesh to set up such Corporations. It is expected that this will help foster local initiative in setting up medium-sized undertakings.

A variety of finance corporations described above or development banks, as they are aptly called, have been set up to provide development capital. They act as catalytic agents. They play a role not only as financiers or lenders but even more by assisting an orderly and systematic development of industries as well as the capital market. They investigate into all aspects of a project before sanctioning assistance and thereby help educate the entrepreneurs in modern ways of promoting new industries.

The conclusion which emerges from the above description is that an institutional pattern for industrial financing has now been set up in India, which plays an active role in developing new skills and new enterprises.

ZILA PARISHADS

(Continued from page 23)

the Zila Parishad with regard to the working of the Panchayat Samitis is otherwise formal. The supervisory powers of the Zila Parishad over the Samitis seem to be perfunctory and the Zila Parishad has so far not assumed any active guidance of these local bodies at the Samiti or Panchayat levels. If this trend were to continue, it may well be that after about two years there would be little for the Zila Parishad to do except to meet occasionally to pass budgets and programmes sent to it by the Samitis in a routine fashion. In that case, there is a real danger that the institution of the Zila Parishad itself will 'wither away' in course of time.

If that happens, it would indeed be a pity since the Panchayat Samitis themselves will readily agree that co-ordination by the Zila Parishad should be more effective, particularly when the entire district itself is covered by Samitis. The Zila Parishad could then assume a

more active and a more positive role in guiding and co-ordinating the work of the Samitis. This is not to imply that the Zila Parishad should interfere in the day-to-day affairs of the Panchayat Samiti but there is need at the district level for a body to balance the priorities of one Samiti against the other and to view the needs of the district as a whole.

WEAKEST LINK

Again, it is a sound principle of public administration that there is an appellate body, readily accessible, to whom those feeling aggrieved by the decisions of the Panchayat Samitis can make an appeal. The Zila Parishad is quite obviously such an appellate body to the various Panchayat Samitis in the district. If it is argued that the Act provides for the autonomy of the Panchayat Samitis, perhaps, there is need for amend-

ing the Act suitably to enable the Zila Parishad to assume appellate authority over the Panchayat Samitis in the district. Otherwise, persons who are affected by the decisions of the Samiti cannot obtain immediate relief except through courts or through high level Government machinery both of which are often beyond the reach of the common people.

The Zila Parishads are today the weakest link in the three-tier structure envisaged under the Panchayati Raj scheme. There is need for assigning a more positive and dynamic role to them if the institution itself is to survive as a vigorous body.

The value of the Government of India's purchases from the small industries rose to Rs. 6.46 crore in 1960-61 showing an increase of 50 per cent over the figure in the previous year.



Support being given to 'paan' plants. Top: The 'paan bhita'.

PRIDE OF PLACE

"Paan" of Banaras

CHEWING betel-leaves is an indispensable part of the Indian way of life. North or South, East or West, people everywhere in India are addicts to the 'paan' habit. Among the different varieties of 'paan' 'Banarasi paan' holds a top position. 'Banarasi paan' however is something of a misnomer, because the people in Banaras itself use what is called the 'Desi paan'. This is to differentiate it from the 'paan' leaves imported from Faizabad, Mirzapur, Mahoba and of course, other 'paans' that are produced in other parts of the country, such as 'Jagannathi paan' from Orissa and the 'Calcuttai paan' from Bengal.

The cultivation of 'paan' is very specialised activity. A 'paan' plantation, which is called 'bhita' can yield sometimes as much as Rs. 5,000 per acre. The income is only a measure of the special knowledge and care that the cultivation of 'paan' requires. Around Banaras nobody can enter a 'bhita' with footwear on. Also, no women can go there. The good 'paan' grower uses special fertilisers, one of which is made by combining mustard cake, 'nemoli' and sweet peas.

A 'paan' plantation requires a high degree of humidity. During the dry summer months of the Gangetic plain, watering has to be done twice or thrice or even four times a day. Hence the 'bhitas' must be near a river or a lake.

The fields of a 'paan' plantation are generally terraced and every year the ground is raised by anything between 6 inches to 12 inches of soft clay. The photographs reproduced here were taken at the Kardmeshwar plantation near Banaras.

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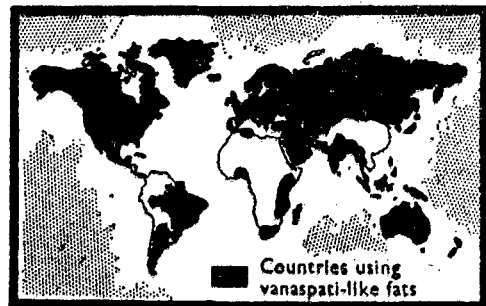
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PRIVATE SECTOR INDUSTRIES

QUESTIONS from Mr. Santosh Narain Tiwari, 205, Rail Ganj, Kanpur.

1. How does the Industries Development and Regulation Act, 1951, enable the Government to exercise a measure of control over the industries in the private sector?

2. What is meant by Census of Manufacturers in India? What are its functions?

3. What is the total number of different industries in the country and of those located in different States?

ANSWER: 1. The Industries Development and Regulation Act, 1951, covers all the major industries in the country. Their number, as given in the First Schedule of the Act, is 37. Under the Act, any substantial expansion of the existing industrial units or establishment of new units cannot be undertaken without obtaining a licence from the Government of India. This restriction has been later liberalised so that the establishment of a new unit or expansion of an existing one may be undertaken without obtaining a licence, provided the undertaking in question will employ not less than 100 persons without using electric power and provided its fixed assets are less than Rs. 10 lakh. There are certain exceptions to this provision also.

The licensing powers, vested in the Government under the Act, enable the Government to exercise control on the installation of additional capacity in industries where such additional capacity is not considered necessary. By regulating and influencing the growth of industries in this manner, it is, to some extent, possible for the Government to ensure that the industrial growth actually takes place according to the priorities and targets set by the Plans.

2. The correct nomenclature is 'Census of Manufactures'. It is a report, brought out annually since 1946, on the statistical

information for the year of all major industries covered under the Factories Act in the country. The report is published by the Central Statistical Organisation of the Central Cabinet. The information records details of installed capacity, production, capital investment, number of employees, value of production, raw materials and fuel consumed, the 'value added', etc.

3. According to the Summary Report of the Thirteenth Census of Indian Manufactures for the year 1958, there were 8068 registered factories in the country. The statewide figures of the registered factories were as given below:

Bombay—1,748; Madras—841; Andhra—966; Uttar Pradesh—598; Bihar—362; Mysore—191; Madhya Pradesh—316; Punjab—533; Delhi—351; Orissa—137; Rajasthan—100; Assam—148; Kerala—165; Himachal Pradesh—4; and West Bengal—1,608.

During the past two years, several new units were sanctioned, adding to the above numbers of factories.

PAPER AND PRINTING

QUESTION from Mr. Mohan Chandra Joshi, B-120, Kidwai Nagar, New Delhi:

Can you give any idea of the pace of development in the field of paper industry including printing presses? What steps are being taken to make paper available at a cheap price for general consumption?

ANSWER: The paper industry does not include printing presses, though printing industry is closely connected with the paper industry.

The annual requirements by 1960-61 of paper and paperboards, newsprint, and strawboards and other boards were assessed by the Planning Commission and targets of capacity fixed. By the end of 1960-61, the annual production of paper and paperboards reached 343,205 tons which was slightly below the target of 350,000 tons. At the end of the Third Plan the

production capacity is expected to reach 820,000 tons.

As regards newsprint, the annual requirement was estimated to have reached 98,000 tons in 1960-61. The Nepa Paper Mills in Madhya Pradesh has been producing 30,000 tons for the past few years. A second factory, intended to produce 30,000 additional tons, could not come off during the Second Plan period. The supply has to be augmented by imports. But lately private sector has been evincing interest in the production of newsprint. The Third Plan has set the production target at 120,000 tons for 1965-66.

The number of units producing strawboards and other boards increased from 20 to 26 during the Second Plan resulting in the total production of 54,500 tons in 1960, as against the requirement of 35,000 tons. The production is expected to reach 70,000 tons at the end of the Third Plan.

A Panel for Paper and Pulp Industries was set up in 1957 with a view to drawing up programmes for the development of these industries. It was reconstituted in December 1959 as a Development Council.

A programme for further development has been drawn for the Third Plan period. New units are being sanctioned to meet the increase in demand during the period. Schemes have been worked out to utilise bagasse as raw material as there is scarcity of conventional raw materials like bamboo.

In order to safeguard the interest of the consumers and to check undue rise in prices, the Government referred the question of fair prices for paper to the Tariff Commission. The main recommendations of the Tariff Commission, which submitted its report in June 1959, have been accepted by Government and a revised price list came into force with effect from January 1, 1960. Sanctioning of additional capacity to meet the rising demand of paper also eventually brings the prices down.



Fish being caught in Jamuna Canal near Okhla, Delhi.

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EAT MORE FISH

IF you offer a plateful of rice with some cooked fish to a guest he might eat it with relish and possibly ask for more. Offer this food to another, he will leave the table. The reason is simple. The one is non-vegetarian to whom fish is one of the welcome items in his daily menu. The other is vegetarian. He treats fish as untouchable.

India has a vast coastline of about 3,000 miles and extensive river system and a network of reservoirs and tanks for pisciculture. Efforts have been made in recent years to increase the yield. But Indians are poor fish-eaters, the average consumption per head in a year being less than 3.5 pounds. Yet rich in proteins, vitamins and mineral salts, fish is considered a valuable food.

How is it that all Indians do not take fish? Well, first of all

one accepts food according to one's choice. One cannot be forced to take such food as does not suit one's choice. Secondly, most of the villagers do not know about the food value of fish. To those belonging to the vegetarian group, it appears unnecessarily cruel to kill live fish for human consumption when there are a number of fruits and vegetables to fall back upon. To another section it is a question of adherence to the age-old family traditions. Born and brought up in an atmosphere of

SAHIB SINGH AHUJA

Vaishnava tradition people of this category can hardly tolerate the 'non-vegetarian' smell of a fish. There is yet another class of people who do not strictly belong to any group. They eat fish in the way-side hotels or restaurants but are reluctant to carry fish either cooked or raw to their homes. To those mentioned above may be added yet another class of people who are non-vegetarian but cannot afford to take fish regularly on account of non-availability or high price.

Since earliest times, however, fish

have been an important item in the diet of man. Today research on marketable fish is being carried out in different government marine stations of the world. The fisheries of the world are estimated to harvest about 35,000,000,000 pounds per year with a gross value of more than \$800,000,000. Fish oil, scales and other by-products have now a wide range of uses in agriculture, medicine and industry.

It was in 1944 that the Government of India began taking an active interest in the development of fisheries. To review the position of fisheries in the country and to recommend measures for their development, a fish sub-committee was appointed. On the basis of its recommendations some technical staff was appointed at the Centre to carry out a rapid survey and help the State (then provincial) governments in formulating schemes for the development of fisheries with assistance from the Centre. Fisheries were still then a State responsibility. Since independence, the Union Government has assumed direct responsibility for fishing and fisheries in extra-territorial waters and research.

In the First Plan a provision of Rs. 2.8 crore was made. In the Second Plan apart from stocking an area of 16.6 lakh acres of water with 600 million fry and fingerlings measures were taken to improve the designs of fishing crafts and gear. Boat building yards were established in Gujarat, Maharashtra, Mysore, Kerala, Madras and Andhra Pradesh and 1,800 boats were mechanised. Six refrigerated rail wagons as well as insulated trucks were also introduced for transporting fresh fish from the coastal ports to places like Delhi and Calcutta. As a result 14 lakh tons of fish was caught by the end of the Second Plan.

EXPANSION PROGRAMME

Fish and allied industries provide employment to about a million persons in the country. Since two-thirds of the catch of fish come from the sea, intensive measures have been taken in the Third Plan to improve deep sea-fishing. Among the sea fish are included a large variety, the most important being sardines, mackerels, prawns, pomfrets and salmon. Besides introducing 4,000 new mechanised craft, additional deep sea fishing units will be set up at Veraval, Mangalore, Paradwip and Port Blair. Thirty-five large vessels are expected to operate and landing and berthing facilities for fishing given at 16 ports. As regards marketing, 72 ice and cold storage plants are proposed to be set up in different States for facilitating movement of fish to the consuming centres. Frozen and canning units are expected to be set up in Kerala, Mysore and Gujarat

while 20 new vans are proposed to be introduced on the main railway routes and a regular transport system will be maintained between the fish producing and consuming centres of the country.

One of the important measures taken for extension of inland fisheries has been the adoption of hormone treatment for induced breeding of Indian carps as well as the introduction of common carp from

Plan, by the end of which 18 lakh tons of fish are expected to be caught and exports will go up to Rs. 12 crore.

DEMAND ABROAD

In 1959, India exported fish and fish products worth about Rs. 6 crore. There is a good demand for some Indian fishery products in some foreign countries. Dried prawns, for instance, are mainly

exported to Burma; Ceylon receives much of our dried, salted and unsalted fish. A remunerative market has also developed in the U.S.A. for frozen prawns. Trade in frozen prawns is carried on mostly in Trivandrum, Cochin and Kozhikode in Kerala, Mangalore in Mysore and Bombay. The prawns are packed in cartons and transported to the U.S.A. and Canada in refrigerated holds of ships.

A scientist inspects two fish specimens at the laboratory of the Central Marine Fisheries Research Station at Mandapam, Madras.



South East Asia. Apart from utilising 1,500 acres of estuarine and 2,000 acres of marshy land, 1,200 million fry and fingerlings are proposed to be stocked. Moreover fishermen's co-operatives are to be organised in a more systematic manner. A number of research stations have already been set up, the more important being the Central Marine Fisheries Research Station at Mandapam, Madras, the Central Inland Fisheries Research Station at Barrackpore and the Central Deep Sea Fishing Station at Bombay. Research on oceanic fisheries, fresh-water prawns and back-water fisheries will also be made in the Third Plan. To train the necessary personnel, a Fisheries Training Institute has started functioning at Bombay while a sub-station for training of assistant development officers required for inland fisheries is proposed to be set up at Kausalya Ganga near Bhubaneswar in Orissa. Further, to train persons for running fisheries development projects, a Central Institute of Fisheries Education will also be established at Bombay. In all about Rs. 29 crore have been allotted for the development of fisheries in the Third

Fish fall in the category of protective foods. They contain a fair percentage of 'good' proteins and also valuable mineral salts and important vitamins except vitamins C. Fatty fish like cod, halibut and sharks are rich sources of vitamins A and D. Small fish contain calcium and phosphorous.

Sea-fish are a valuable source of iodine. According to some the protein of fish is more easily assimilated than that of any other animal flesh.

BENGAL VARIETIES

Among the most popular fatty fish in Bengal are Rohit, Katal, Vetki, Hilsha, Chital, Mrigal and Mahashail. They are good sources of proteins, fat and vitamin A. Among the lean fish mention may be made of Magoor, Koi, Singi, Tengra, etc. which are also very rich in protein and easily digested. They are taken during the period of convalescence.

Shell fish: The class includes oysters, crabs, lobsters, shrimps, and prawns. Because of their coarse flesh they are not easily digested. Unlike other fish shell fish contain a fair amount of carbohydrates and also, in some cases, a small amount of iodine. They may be moderately taken only as delicacies and appetisers if necessary but not too often.

Cod Liver Oil: The oil obtained from the liver of the cod fish is very rich in vitamins A and D. The liver oil of the halibut is another excellent source of these vitamins. In fact, it is richer in vitamin A than the cod liver oil. The liver oils of the shark and saw fish, found in the Indian waters, also contain these vitamins in abundance.



Indo-Norwegian project: Fish catch being sorted on a medium boat.

Now Is The Time For Using Insecticides

WE are now on the verge of winter. Crops continue to grow under the watchful eye of the farmer. The time has come when he can increase his produce and earn more profits if he adopts chemical means for protecting his crop against pests.

From a farmer's point of view, modern insecticides can be broadly divided into four groups:

1) Organic Chlorine Compounds: DDT and BHC are two important insecticides in this group. D.D.T. was found useful during the Second World War when it helped in killing malarial mosquitoes. A contact insecticide, it is effective on a wide

range of insects such as the house-flies, fleas, bugs, beetles, caterpillars, leaf hoppers and plant bugs. It can be dusted or sprayed.

3. Organic Sulphur Compounds: Included in this group are some carbamates, thiuram derivatives, mercaptans etc. They have not become so popular

in Madras though a few carbamates are used in some forms.

4. Organic Nitrogen Compounds: Like the sulphur compounds, nitrogen compounds have also not become very popular. A naturally occurring compound in this group is nicotine. Like the sulphur compounds it has some uses. Search for other similar compounds is being made for use in controlling pests.

THE PADDY STEM BORER

THE paddy stem borer is a severe pest which affects the Thaladi crop in Tanjore district during October and November and cause considerable damage. The adoption of the following methods will help in reducing the loss.

The paddy stem borer is a caterpillar which enters into the

I. C. A. R. AGRICULTURAL

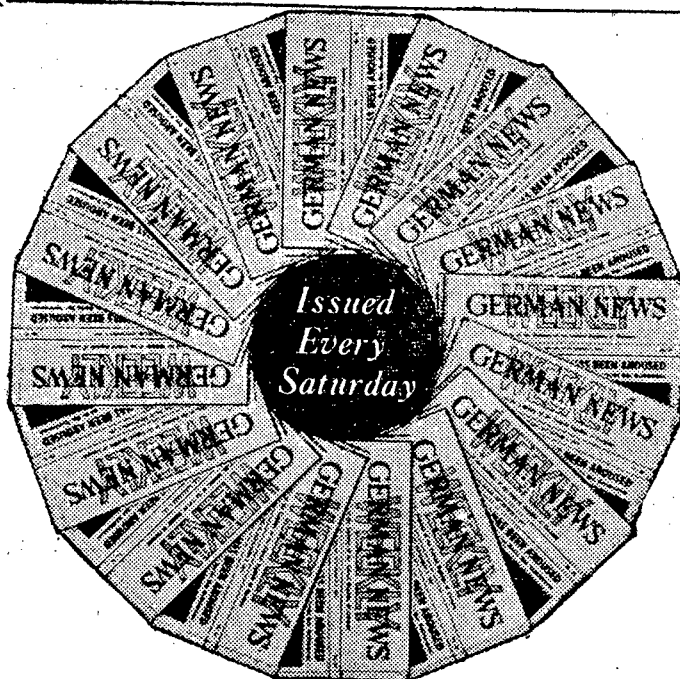
Farming Notes

INFORMATION SERVICE

range of insects such as the house-flies, fleas, bugs, beetles, caterpillars, leaf hoppers and plant bugs. It can be dusted or sprayed.

Also a chlorinated compound, BHC was discovered in France in 1941. This active ingredient is the gamma isomer and the pure form of this isomer is sold as Lindane. It is useful against a variety of pests including aphids and thrips. Aldrin and Dieldrin are used against pests found in the soil affecting the root system. Among others in the group are Chlordane and Endrin.

2. Organic Phosphorus Insecticides: Parathion, Malathion, Diazinon etc. belong to this group and are considered important insecticides in controlling pests. It was Dr. Schrader of Germany who discovered their usefulness. They are toxic and cause reaction on insects even when diluted to 0.002 per cent concentration. The most important in this group is Parathion, a chemical com-



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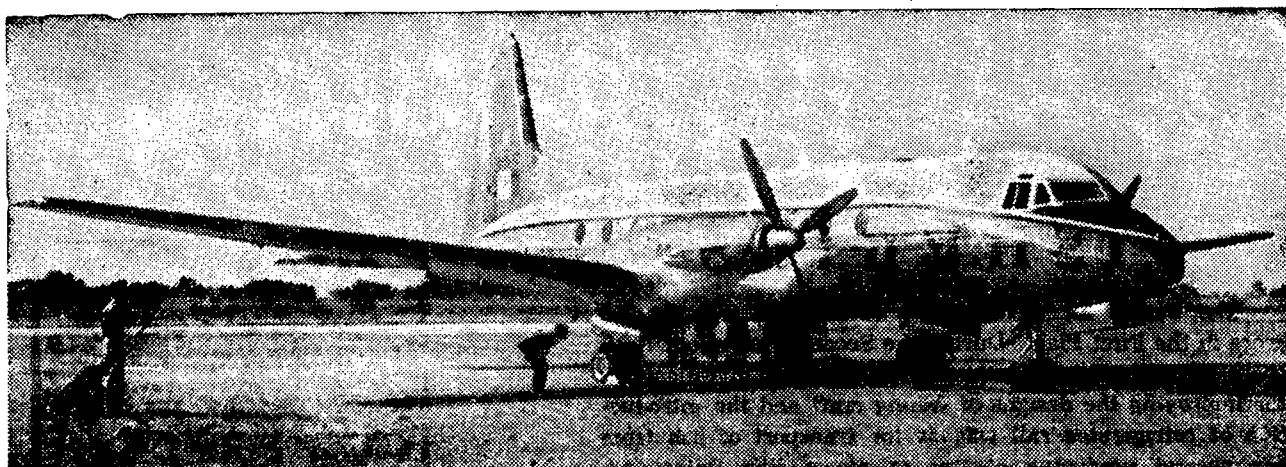
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JWT-G.N.W. 2110



THE first India-built transport aircraft Avro 748 has made its maiden test flight. The aircraft has been christened "Subroto" by Mr. V. K. Krishna Menon, Defence Minister, in "the affectionate, and fond memory of the late Air Marshal Subroto Mukherjee."

Built at the IAF aircraft manufacturing depot at Kanpur by the Indian technicians under a licence from the British designers of the plane, it is fitted with two Rolls Royce Turbo-prop Dart engines and has a wing span of 95 ft. and a maximum operating weight of nearly 36,000 lb. Designed with the greatest possible simplicity of structure the aircraft is 25 ft. high from the ground and has a fully pressurised cabin for 40 passengers.

'Good Vow'

Is The Name

Of This

Aircraft

(Continued from page 30)
stem of the rice plant and kills its shoot. The best method is to spray with Parathion compound. The insecticides in the market that contain Parathion are Folidol, Paramar and others in a strength of Parathion 50 per cent. This is sold as a liquid and one ounce of the liquid is mixed with 12½ gallons of water for the purpose of spraying. As a complete preventive, three sprays are necessary: first in the nursery, second, within a fortnight after transplanting and the third, while the crop nears the flowering stage. In places where the pest has already appeared one or two spraying will be helpful. Since the cost of spraying is not high, the preventive sprays should be given wherever possible. For further information, the Plant Protection Officer may also be contacted.

THE MANGO HOPPER

AMONG the many pests affecting the mango, the most important is the mango hopper. It thrives on the bunches at the

time of flowering and feeds on the flower shoots. Mango hopper is a very small insect, green in colour and about 1/16th of an inch in size. It sucks the juice and punctures the tissues and deprives the flowers, the fruits and the tender shoots of their sap. It is found all over Madras between November and January. It deposits eggs in the tissue of the shoots in unopened flowers and starts its activity as soon as the egg is hatched. In extreme cases leaves turn black.

Mango hopper can be controlled by spraying DDT 0.1 per cent. It is made by mixing one pound of DDT 50 per cent wettable powder in 50 gallons of water. Spraying should be done when the flowers come out. In some places Parathion 0.05 per cent is also applied but since it is a dangerous poison, it is desirable that only DDT is used.

Some believe that spraying leads to shedding of the flowers but this is not correct. Actually spraying increases yield. A demonstration in this connection was conducted at Dharma-

puri which showed good results.

TIKKA LEAF SPOT

IT is a disease found in the groundnut crop in Madras State. It appears generally in the later stages of the crop. It spreads, particularly when continuous wet weather prevails in October or November. Dark brown spots appear on the leaves and leaf, stalk and the young stems are also affected.

The disease can be controlled by spraying Bordeaux mixture 3/4th per cent strength. It can be prepared by mixing 3/4 lb. copper sulphate in five gallons of water and 3/4 lb. of lime also in five gallons of water and mixing together again to make up a solution of 10 gallons. (See last issue of Yojana). Alternatively, powdered sulphur can also be dusted to control this disease. About 15 pounds of sulphur are required per acre. These two methods have been found successful in controlling this disease. When heavily infected, dusting may be done twice or thrice.

GRAPHIC GLIMPSE

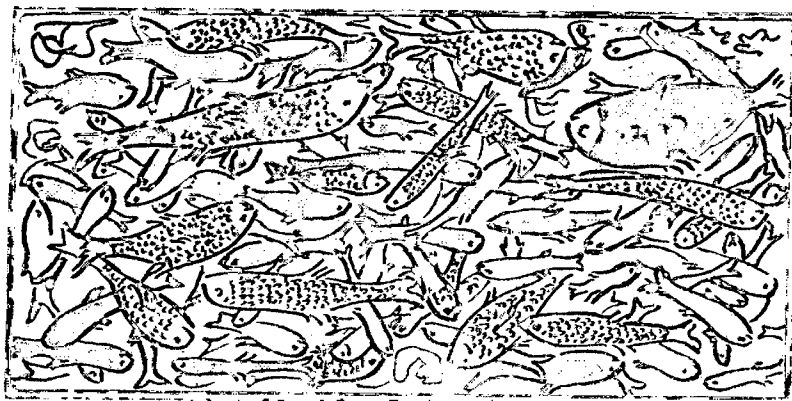
FISHERIES

The outlay for development of fisheries was Rs. 2.8 crore in the First Plan. During the Second Plan about Rs. 9 crore were spent and emphasis was laid on investigations for improving the designs of fishing craft and the introduction of refrigerated rail wagons for transport of fish from the coastal producing centres to places like Delhi and Calcutta. An area of 16.7 lakh acres of water was also stocked at about 600 million fry and fingerlings. As a result about 14 lakh tons of fish were caught in 1960 as against only 7 lakh tons before the First Plan.

A provision of about Rs. 29 crore has been made for further expansion of marine and inland fisheries in the Third Plan. Besides the introduction of 4,000 new mechanised boats 35 large vessels are also expected to open



Before Plan : 7 Lakh
Tons



1960-61 : 14 Lakh Tons



1965-66 : 18 Lakh Tons

rate and facilities for landing and berthing will also be provided at 16 ports. Demonstration fish farms will be set up in different States and 1200 million fry and fingerlings will be stocked. Adequate measures will also be taken for better and quicker transport and fishermen's co-operatives will be organised in a more systematic manner. By the end of the Third Plan 18 lakh tons of fish are expected to be caught while exports will go up to Rs. 12 crore.

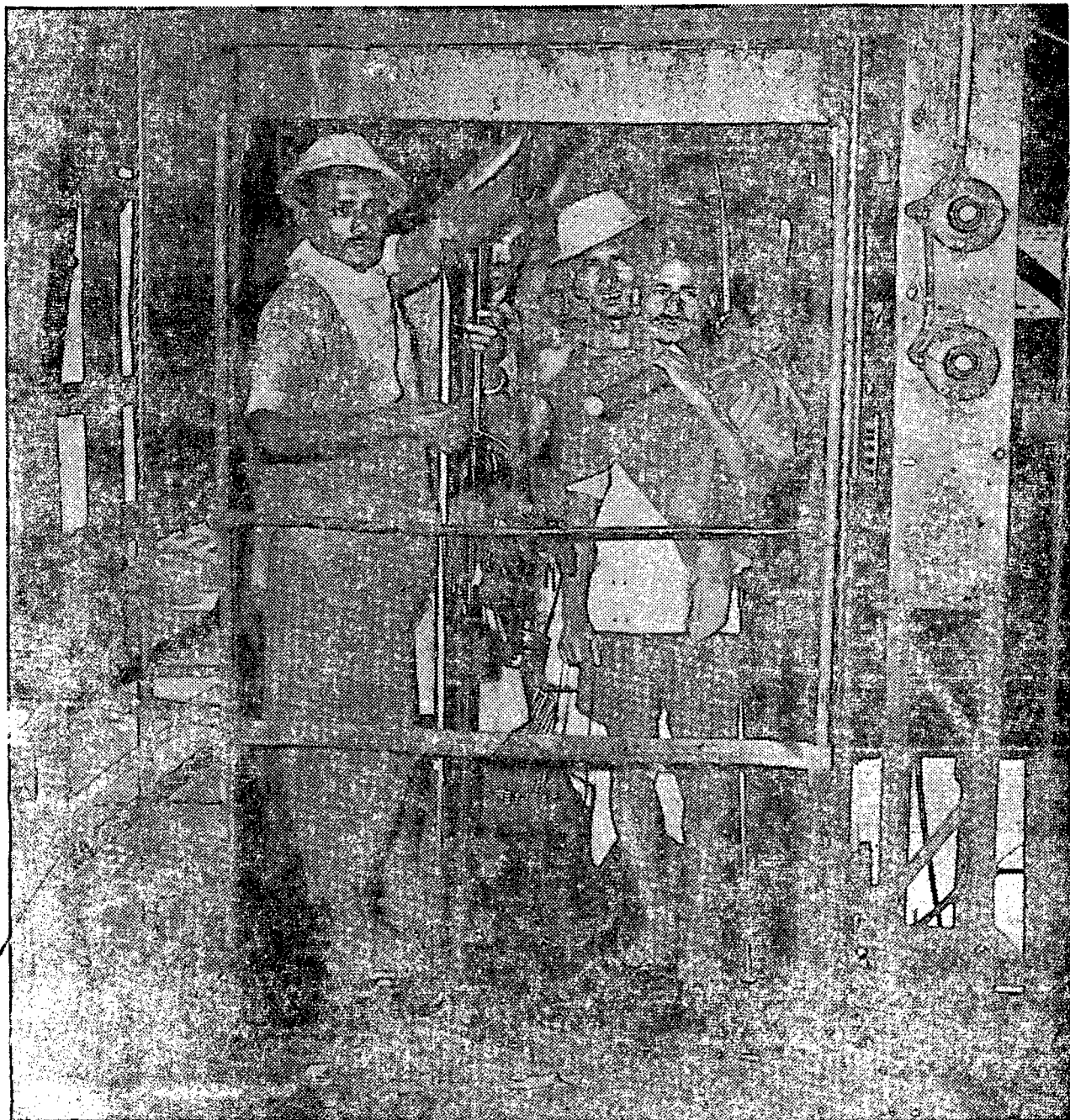
YOJANA

Journal Published on Behalf of the Planning Commission

Vol. V. No. 23

NOVEMBER 26, 1961 AGRAHAYANA 5, 1883

25 NAYE PAISE



WORK AND WELFARE IN INDIA (PAGE 3)

YOJANA seeks to carry the message of the Plan to all sections of the people. It tells the story of our progress, points out the shortcomings and stimulates an open debate on problems of economic and social development. It endeavours to increase mutual understanding among our States and regions.

YOJANA is issued every fortnight in two separate editions (English and Hindi) on behalf of the Planning Commission by the Publications Division of the Ministry of Information and Broadcasting, Government of India. Although an official journal, it is in no way restricted to expressing the views of the Government.

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Subscription Rates

	Single Copy	Annual
India	25 nP.	Rs. 5.00
Foreign	6d or 7 cents	10s 6d or \$1.50

Editorial Offices: Yojana Bhavan, Parliament Street, New Delhi-1. (Tel. 33367 and 34380).

Business Offices: The Publications Division, Old Secretariat, Delhi-6. All business inquiries are to be sent to the Business Manager at this address. Direct subscribers are advised to send their subscriptions preferably by postal order.

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THE COMMON MAN'S LOT

THIS is with reference to 'Light and Heat from Low Origins' (Yojana, October 15, 1961). I would like to draw your attention in this connection to the work done by the Ramakrishna Mission Sardapeeth Research and Production Centre, Belur Math, Howrah. It was as early as May 1959 that I had got from a friend of mine the literature on their Cowdung Gas Plant. Obviously, the Government does not want to encourage private enterprise.

Professor Haldane has criticised our scientists for not utilising what nature has provided us in plenty. The Government, for instance, has spent lakhs, if not crores, on Nitrogen Plants. I would suggest the conservation of human urine as described in one of the old issues of the *Harijan*. Again, money that is spent on Community Development Projects is not commensurate with the result except perhaps the publicity the Government gives for public satisfaction.

It is a pity that even after 14 years of Independence we have not yet been able to improve the common man's lot. If only the amount collected on behalf of the Gandhi and Kasturba Memorials had simply been distributed at Rs. 1 lakh per village, we would have seen 50 lakh villages prosper with plenty of food, clothing and shelter. Seven out of ten persons feel that the position might have been better even without the attainment of so-called Independence. As we find today, the rich are getting richer and the poor the poorer.

Secunderabad

C. G. SRINIVAS

PUBLIC ENTERPRISES

IN his article, "The Third Five Year Plan and Socialism" (Yojana Special Number, October 1, 1961), Dr. A. K. Das Gupta has clearly shown that we are slowly but steadily adopting socialism—both as means and as an end, to raise the living standards of people, without having distributional inequities.

In this context, his observations regarding the need for caution about functioning of the public enterprises are quite true. Public enterprise may lack vigour and resourcefulness which private enterprise is supposed to possess and this fear has been proved not entirely baseless, as the operation of certain public enterprises would suggest. The reasons for this, as pointed out in the article, are that the public enterprises are not run on business lines and operational arrangement that we have is just contrary to this, if only for the fact that these corporations are headed by Civil Servants, with the Secretariat spirit and looking to Ministers for orders. The author also feels that a large part of the delay and inefficiency in our public corporations can be explained by this.

It is pertinent to observe in this connection that in the initial stages of ushering in socialism, as a means and as an end, to eradicating poverty of people, the State or the community has to depend upon the bureaucracy for managing the industries. It is only after a lapse of time, when the socialist economy has passed the transitional stage of the socialist revolution that the industrial cadres will be coming up from out of the socialist intelligentsia, which would largely come from the class of growing working classes and peasants. And it is only when this intelligentsia will take up the managerial functions in industries that the bureaucratic obstacles to further progress will be removed. And only then can people reap the rich fruits of socialist planning in full; therefore, the fulfilment of the desire that 'the sooner this practice (of having Civil Servants leading the public corporations) goes, the better for the effectiveness of socialism' depends upon the pace at which Socialism is ushered in.

Junagadh

L. M. GANATRA

WORK AND WELFARE IN A CHANGING SOCIETY

Human Consequences of Industrialisation

B. N. DATAR

Chief, Labour and Employment Division, Planning Commission, and Adviser,
Ministry of Labour and Employment

Assisted by **I. E. SOARES**, Planning Commission

AN analysis of industrial relations in India must begin by bringing into focus the fact that out of a total Indian labour force of 165 million (1961 estimate), only 7 million are employed in "organised industries and services," the remainder being engaged mainly in work on the land and in small industries and services. The other qualifying factor is the magnitude and character of the employment problem. And most important of all, there is the national decision, as expressed in a democratic legislature, to achieve a socialist pattern of society through a programme of planned development. India has already completed two five-year plans of economic development and is now in the first year of the Third Plan.

As regards the basis of labour policy, it must be said that in India labour policy is the product of joint consultation on a tripartite basis among the representatives of labour, management and the Government. At the apex of this tripartite machinery is the Indian Labour Conference which provides an effective forum for the discussion of labour issues. The consensus of this tripartite opinion is directly reflected in the legislation and administrative action undertaken by Government and in the standards set by labour and management in their day-to-day relations.

Basic Characteristics

Indian industry is at present going through a process of rapid change. Existing industries are undertaking programmes of expansion and diversification. New industries are springing up and a number of new lines of production are being undertaken. As stated in the Industrial Policy Resolutions of Government, certain lines of production are reserved for the "public sector," lines where, because of the difficulties created by the scale of investment, it would not be appropriate to expect an outlay by the private sector. This, however, leaves sufficient scope for the private entrepreneur to operate. But these developments call for a new type of industrialist. Mere finance is not enough, it must be backed up by technical expertise and managerial skill. Most countries in the earlier stages of industrial development are faced with the problem of manning new industries. It is a calculated risk that has to be taken

in entrusting responsibilities to relatively young and inexperienced persons. A foreign observer who recently visited the new steel plants was amazed at the relative youth of Indian engineers; in his country, giant machines are entrusted only to persons who have accumulated many years of experience on the job.

It is evident that recruitment policies will have to be modified to keep pace with technical change. Formerly, an unskilled and uneducated recruit could be put directly on the job. Today complex and expensive machinery cannot be entrusted to the unskilled. It is, therefore, necessary to focus attention on the importance of attracting a better standard of recruit to industry with a minimum standard of education. This recruit will have to be put through an organised programme of industrial training that will equip him with an optimum standard of skill and efficiency. For persons already on the job who are affected by changes in the industrial process, suitable refresher courses are being organised on an increasing scale.

New Outlook

With this change of scene in the ranks of operatives and employers, a new outlook on industrial relations was called for, an approach which took into account the higher level of understanding in the human components of industry. In mid-1958, this new approach was given a more precise form in the Code of Discipline in Industry that was accepted, on a voluntary basis, by the Central organisations of workers and employers. The Code applies to units in both the public and private sectors and is intended to secure constructive co-operation all along the line. The idea is to prevent disputes from developing and to ensure that production is uninterrupted. Both parties have agreed to maintain discipline in their ranks. The results of the Code can be seen in the definite reduction in the number of man-days lost through stoppages and a marked improvement in the climate of industrial relations, since the time the Code was adopted.

Workers' co-operation would require to be based on a sound and well-organised trade union movement. In India, registered trade unions claimed a total membership of about 3 million;

'Rationalisation Without

Tears'—Start Being

Made with Relief

Fund for Workers

✓
A drink of water for a girl working in a tea garden in Assam



this figure must be viewed in the context of 7 million in organised employment. Indian trade unions seem to be faced with the typical problem of getting members to join and continue to pay their dues. Added to this is the peculiar Indian problem of inter-union rivalry. The Code of Conduct as between trade unions recently drawn up under Government auspices, along with the Code of Discipline referred to above is expected to minimise unhealthy practices in inter-union relations and help trade unions to be organised on proper lines.

Such activity is sought to be supplemented by the programme of workers' education, which is directed towards building up well-informed and articulate union members drawn from the ranks of workers themselves. As a matter of historical tradition in India, trade unions owe a lot to the efforts of enlightened "outsiders" who were appalled by the conditions that prevailed in the early stages of Indian industrial development. But it does seem that the time has now come when the Indian worker should be called upon to handle his own problems and negotiate with management on matters that affect him. The workers' education programme envisages the setting up of a network of training classes that will reach right down to the plant-level. The scheme has got off to an effective start and will be expanded rapidly during the Third Plan period.

The scheme of workers' participation in the management of industry is the logical outcome of the legitimate aspirations of labour and the declared objective of a socialist pattern of society, accepted by the country as one of the main goals of planning. After an expert study of foreign experience, it was agreed in a tripartite meeting that a start should be made with the scheme, on a strictly voluntary basis. Joint Management Councils set up so far, apart from being consulted on all matters that affect the worker, have also been entrusted with administrative responsibility

for items such as training, welfare and safety. It is intended to extend the programme in the next five years to new units and industries on the basis of the experience gained during the experimental phase.

Technology and Personnel

The problem of displacement of personnel has mainly centred on the major irrigation and power projects and the new industrial units, specially in respect of persons engaged during the construction phase. On the completion of the construction phase, a number of persons are declared surplus. Special arrangements have been made for the re-deployment of such personnel, because apart from the human consideration of attempting to lessen individual distress, it would be a great waste of qualified and experienced technical personnel—a waste which a developing country with shortage of technical personnel cannot afford. Special employment exchanges have been opened by Government for the purpose.

A discussion of technical change takes us on to the employment problems that accompany rationalisation. It has been agreed at the national level by the representatives of labour and management that there should be "rationalisation without tears". The existing work staff will be assured of continuity of employment and there will be an objective and scientific assessment of work-loads and, finally, there will be an agreement on the sharing of the benefits that accrue from increased productivity. The Third Plan suggests that in cases where retrenchment has become inevitable, a special relief and assistance fund should be organised for retrenched workers. Such a fund could be used to finance programmes for retraining workers in new skills and arrange for their transfer to new areas, where work is readily available, the entire programme being organised on the basis of the workers' consent. Such a programme could help widen the scope of

rationalisation and bring the staff strength down to more manageable limits.

An equally important problem that faces Indian industry is that of productivity. It is a matter of satisfaction that enlightened managements have stated that it is they who have a vital role to play in raising productivity standards though in this task they need the co-operation of the worker. This would imply that scientific management must be made the standard practice in Indian industry. For this purpose, it will be necessary to train a cadre of managers, delegate to them the powers to take decisions and assist them to get the best out of the workers. Planners have emphasised, right from the time the process started in India ten years back, that the workers can only hope to secure real gains on the basis of increased productivity. For this purpose, far from resisting, the working class will have to speed up the process of rationalisation. This recommendation in the Plan reports has had its welcome effects.

The Older Worker

The problem of the older worker is conditioned by the existing social attitudes and organisations. Thus, in the joint family system it is taken for granted that married children live with their parents and when the parents cease to be earning members, they continue to be members of the family, though their roles may be reversed. It is true that the joint family system is gradually being weakened by time, but so far the problem of the older worker has not assumed alarming proportions. A beginning has been made with the organisation of an Employees' Provident Fund Scheme which now extends to workers in 58 industries. A number of industries have pension and gratuity schemes for the benefit of their workers.

The Family

In industries like plantations, construction, mining and in agriculture, employers find it convenient to engage families rather than individuals as a unit of employment. In the case of plantations, particularly in the Northern and Eastern regions, families migrate from other areas of the country to accept work on plantations. There is a regular system of recruitment for this purpose. In the case of mining, women do most of the work on the surface, leaving the more difficult drilling operations to men. Here also, families are preferred to individuals. The pattern of employment in agriculture has always been with the family as a base.

The working conditions of women are regulated by protective legislation that covers a wide

variety of items such as maternity benefit, hours of work, wages, creches and rest rooms. But a real problem has come to the fore in recent years with the acceptance of the principle of equal pay for equal work. Employers in marginal units consider that the burden of such "protection" is heavy and in their recruitment policies have continued to show preference to men, when new entrants are required in the unit. The number of women in a traditional industry like cotton and jute textiles has definitely been on the decline.

There is, however, the other side. In new industries where dexterity, prototype production and generally lower levels of skill have a premium, the employment of women has been quite rapid. Thus, "automatic" job reservations in favour of women have developed in industries that involve the assembly of radios, telephones and electrical appliances and the packing of pharmaceuticals, sweets and confectionery.

There has been a significant increase in the number of women clerical workers. It is now quite a common feature to see them engaged as typists, stenographers, telephone operators and receptionists in Government departments and private offices. In recent years, it has also been observed that a number of them continue to work even after marriage; this may be due partly to the decline of existing social prejudice and partly to the rising cost-of-living index, which makes it necessary for them to supplement the family income. The question of separate technical training programmes for women is also under examination by Government, the intention being to prepare them for the new employment avenues that are thrown open to women.

Youth

Educated youth in search of employment present another difficult problem. Apart from the long-range goal of gearing the educational system to the changing demands of the economy for persons with technical and industrial training, it has now been considered necessary to evolve certain short-term solutions to keep distress to the minimum among a group with a valuable potential. Apart from organising work and orientation centres, it has been decided to train them in the techniques of modern management and place them in employment in the small industries that are rapidly expanding, either as individual entrepreneurs or as members of a co-operative.

In a planned development, considerable attention has to be given in advance to problems of technical training. It has been the experience in India that resources, other than the resources of skilled personnel, can be mobilised with some effort but technical personnel of the right type are hard to find. As it is, in the last ten years, there has been a considerable expansion of technical training facilities at various levels. These include technologists and engineers in various

(Continued on page 19)

This paper was prepared in reply to a questionnaire on 'The Human Consequences of Industrialisation' circulated by the organisers of H.R.H. the Duke of Edinburgh's Second Commonwealth Study Conference (Toronto, Canada, 1962).

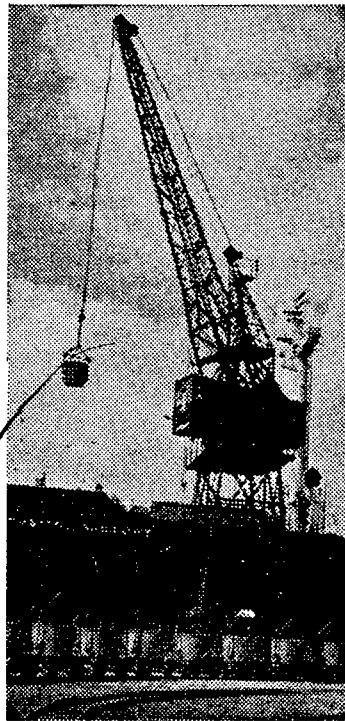
The Challenge of EXPORTS

We Must Start Now To Reduce Our Reliance On Foreign Aid

DR. S. K. MURANJAN

THE position of our export trade and, with it, the future of our Plans is grave. How grave, is appreciated only by a few. So long as foreign aid is flowing in an adequate volume, the crisis is indefinitely postponed. But a stage must arrive when foreign aid must fall off, if not cease altogether. Even where intentions are generous, foreign economies cannot be expected to continue free of all unforeseen vicissitudes. It would be ordinary economic common-sense to put our trade balance in a position to meet sudden difficulties of this kind. Over a period of fifteen years and more, we have built up a structure of exports, imports and trade balance in which normal economic forces are operative only to a limited extent. The change to operation of normal economic forces cannot be brought about at a single stroke. If we embark on initial steps now, it would be possible to cover the whole journey by tentative and cautious stages in the next ten years. It is necessary, however, to realise that the time to make a start to return to normal conditions is here and now; four or five years more may be culpably late.

Our exports have been stagnant over the last ten years of planned development. The average of exports during the First Plan period was Rs. 609 crore and for the next period Rs. 614 crore only. This is certainly disturbing. During these ten years, our gross output is estimated to have increased by more than 40 per cent. The whole of the increase appears to have gone into domestic use. It is not that the world did not need our exports. During the same period, world



Manganese being loaded into a ship at Visakhapatnam.

trade increased quite substantially. India, however, was excluded from a share in this increase. For our economic development, we have drawn on our accumulated exchange resources of the war till they have completely evaporated and on foreign aid and grants on which repayment at an annual rate of Rs. 100 crore falls due for the next five years.

It has been estimated that if our requirements of foreign machinery, raw materials and other complementary goods are to be balanced by equivalent exports, our exports must be more than doubled. It is important that we bear in mind the magnitudes at stake. Drawbacks on customs duties, subsidies, raw material imports in exchange for exports, export com-

pulsion for a proportion of output, exports at loss, differential exchange rates, even if allowed by our obligations to the International Monetary Fund, may achieve some expansion of exports. It would be idle to claim that they could cover more than a minor part of the yawning gap.

How is the balance between import needs and export payments maintained in free economies? This happens in two ways which are interlinked. Taking her natural endowments and aggregate world demand into account, India finds that she can produce rice and timber more cheaply than Burma. But she may find that she can produce engineering goods still more cheaply than Burma. Therefore she concentrates on engineering goods up to the point that her advantage in engineering goods relatively to rice and timber persists. Rice and timber are left to Burma to produce. Simple arithmetical examples will show that under this arrangement India will obtain more rice and timber per unit of engineering goods than if she were to insist on producing both classes of goods herself. Secondly, the importing country—India in our example so far as rice and timber are concerned—releases its output for exports to cover its import needs by adjusting its national expenditure. To the extent that it does not expend its national income on domestic output but prefers the cheaper imports, the unbought portion of domestic output is automatically released for exports. Of course, we speak of "countries" and "nations" only as a convenience of expression. The decisions to produce, buy or sell are made by individuals on both sides of the frontier and not by any collective agency.

How has our economy departed from the behaviour of free economies—if such exist—and landed itself in our present exchange difficulties? First, our investment and therefore production are based to an appreciable extent on certain priorities which are not indicated necessarily by immediate profit prospects. It is possible that we

have invested disproportionately in fixed assets without making proper allowance for requirements of raw materials which must go with them. Or, it may be that while fixed assets and raw materials are available in proper proportions, we have not made adequate provision for wage goods which must keep pace with expanding employment. Such mistakes and miscalculations are inseparable from planned investment since decisions are made by a collective agency—government.

Import Control

Secondly, it may be that our investment by and large has a bias towards goods of domestic use and overlooks goods suitable for export. It has never happened that a developing country has ever experienced less and less need of imports from abroad. On the contrary, economic development and growth of imports disclose parallel growth. Even those countries which have attempted to substitute imports by domestic production have had at some stage to admit their error.

How have we met this pressure for increased imports? By and large, we have sought to counteract this pressure by imposing some import prohibitions and numerous quantitative import restrictions. As a short-term remedy, such import controls have their usefulness. But when maintained over an appreciable period of time, they have a tendency to aggravate the evil. With a portion of the market entirely segregated for their benefit, new units arise in different industries which are in no way justified by their production costs. These make demands on available machinery, raw materials and labour; but, because of their high cost structures, contribute nothing to exports. Licensing of factories and fixation of prices cannot possibly be an adequate answer to this unhealthy growth. Moreover, import controls merely reduce the pressure on limited exchange resources; they do not help to expand exports.

As a first step to remedy this situation, it would be well to change the bias of our next

Plan period from production for domestic use to production for export. In agriculture, our traditional export crops like tea, jute, raw cotton and oilseeds should receive as much attention as food, if not more. In industry, the cost structure of different lines and units in these lines should be analysed and the causes of high costs isolated. It is quite possible that by working to full capacity, expansion of capacity, linking of wages and productivity, reduction of charges for power and transport, more mechanisation and so on costs in certain industries and units could be reduced at least for the purposes of exports. Reduction of costs and not bribery of one sector at the expense of another, howsoever disguised, should be the main foundation of our export trade.

Secondly, our import trade should be cautiously released from its octopus restrictions. To prevent sudden collapse and dislocations, high import duties may have to take the place of existing quantitative restrictions. But import duties are flexible and can be quickly adjusted to meet each situation. It is also possible that where the user imports directly on his own licence, he obtains his material cheaply and this is reflected in the price of his final product. On strict ascertainment of facts, such cases should be dealt with on a priority basis. It will be also necessary to do away with the present discriminations based on rupee payments and hard and soft currencies. It does not appear on available facts that these discriminations are particularly effective. One merit of the abolition of these restrictions is that it will eliminate grave bottlenecks which are seriously hampering production. Under pressure of even high-priced imports, it is also likely that Indian industry will show more regard for quality than it is inclined to show at present. A few prohibitions on goods, like those on certain luxuries which are in no way desirable in our circumstances, may be allowed to continue. But this whole process of elimination of controls will have to be cautious and tentative so as to avoid inflationary trends.

The chief merit of foreign trade free from quantitative restrictions is that when overall investment tends to exceed available investible resources, it hoists the danger-signal and compels remedial measures. The excess of investment is caused by expansion of credit in one form or another and its penalty is excess of imports. Unless the country is prepared to tolerate inflation or depreciate its exchange rate, the causes of the malady have to be located and remedied without delay.

Monetary Policy

Some critics of the present situation will not agree that disproportions and misdirection of investment are the cause of pressure of imports and stagnation of exports; and that these have compelled the expansion of credit, in one form or another. According to them, the evil originates in expansion of credit itself caused by the over-all tendency to make investments in excess of savings by inflationary processes like deficit-financing. Such inflationary finance, according to them, raises prices and monetary incomes. On the one hand, people have more to spend on domestic output and imported goods; on the other, costs of export goods rise, their prices for the foreign buyer have to be raised and there is also less to export. On the available facts about savings, foreign loans and supply, it is difficult to prove or disprove this thesis.

Even if we accept this thesis of monetary inflation, it would be prudent to adhere in the first instance to the remedial procedure outlined above. Our inflation is not so desperate that we should embark on desperate remedies. Our initial steps ought to be to concentrate on export industries and to free by stages our foreign trade of its present draconian restrictions. This procedure may have to be spread over the whole of the Fourth Plan period. It is only in the last resort after all such efforts have been made that we may think of deflation and/or exchange depreciation remedies which are attended by serious risks to a developing country like ours.

NOVEMBER 26, 1961

IMPROVING THE LINKS

PLANNING has rightly been described as a continuous process in which there are milestones but no sign which says "Here The Road Ends." Formulation of the detailed policies and programmes of the Third Plan has not come to a stop with the adoption by Parliament of the Third Plan report, but goes on, as it must, while work continues on the projects carried over from the Second Plan and new projects are taken up in accordance with the time-table set for them. In the matter of 'planning', as distinct from execution, particular attention has been paid in the last two months to watching the developments in regard to transport, power and certain key industries and also to drawing up a scheme for the next stage of the Rural Works Programme.

The Planning Commission has also completed another important activity—examining hundreds of suggestions made by legislators, the general public, people's organisations, administrative agencies and State Governments, and recommending appropriate action. One of the results of these studies, for example, is that the pattern of Central assistance to the States has been greatly simplified. The Commission has also begun a round of consultations with the States and Union Territories about their annual plans for 1962-63. How far the resources of the States can and have to be enlarged during the coming year is one of the important subjects for discussion in these talks.

The expansion that is proposed in the Rural Works Programme during the five years may now be indicated. Thirty-two pilot projects were taken up in the last 'slack' season to find out what kinds of projects would best serve the two objectives of the programme, namely, increasing the employment in the countryside and adding directly to the agricultural production. The State Governments have been asked to send their proposals for starting 150 more Rural Works Schemes during the next 'slack' season which starts in some areas in January and lasts in others till July. The first batch of 32 projects was financed totally by the Union Government. In the case of the 150 new schemes—which will enable nearly one lakh people to improve their incomes—the Union Government will give a grant of 50 per cent of the cost,

offering the remaining 50 per cent as a loan to the State Governments.

Considering how vital the production of power is to the entire pattern of our progress, the Planning Commission is determined that there shall be no let-up in this sector and has devised measures to forestall bottlenecks. A team of senior administrators has visited all the power projects and gone carefully into the power needs of each region and the difficulties that the projects might be experiencing. Where supplies of cement and other materials have been holding up work, the team has indicated the action to be taken—and action has been taken. A high-powered working group has also been going into the question of transport and distribution of coal. A production programme for coal, which specifies date-by-date targets, is being evolved, as also a pattern of distribution for the whole country. In addition to improving the co-ordination between the output of the mines and the movement of rail wagons, more ships have been chartered to carry coal by sea.

The difficulties experienced in regard to transport raise a point which requires to be better appreciated throughout the country. Strains are inevitable in a fast growing economy. While it is the duty of the planners to foresee them and devise preventive action, foreign exchange difficulties severely restrict their scope. Foreign assistance is mostly tied down to specified projects, and cannot be diverted to meeting a situation that may arise elsewhere in the economy. Hence the need for 'free' exchange. The Government of India has been impressing on our foreign creditors—with some success—how essential it is that we should have more of 'untied' exchange which can be spent on precisely those programmes which ensure better co-ordination between the different sectors.

LITTERBUGS

MYSORE'S Minister for Local Self-Government has said that the State is thinking of bringing in a law to punish those who throw rubbish on roads. Dislike of litter is one of the later fruits of a civic sense in democratic countries. Cleanliness seems to be much easier to enforce in dictatorships. There is no reason, however, why Mysore should not go ahead with its proposal. It isn't a bad idea if the State can pick up a coin every time a person throws an empty cigarette pack or the paper funnel out of which fried gram has been eaten. There are other forms of dirtying our public places. How about collecting a fine of 10 naye Paise from everyone who spits 'paan' on the road, 25 naye Paise from those who use the road as a lavatory for themselves, their children or their dogs, and 10 rupees from landlords and contractors (private or governmental) who dump bricks and rubble on footpaths?

ECONOMIC AND SOCIAL RESEARCH

Complementary To Planning

IN the regime of planning, the organisation of continuous study and research into all the important aspects of the economy is considered an indispensable adjunct. The approach, the policy decisions and the practical measures in a planned economy have often a wide range and a profound impact; they have, therefore, to be based on data whose accuracy and quality have been ensured by scientific studies and investigation.

From the very beginning of Indian planning, the need for encouraging and assisting research on economic, social and political problems of planning through special arrangements have been recognised. In the First Five Year Plan a provision of Rs. 50 lakh was made for research and investigations relating to social, economic and administrative problems of national development. In 1953, the Planning Commission set up a Committee consisting of leading economists and social scientists, to be known as the Research Programmes Committee, to invite, consider, approve and finance schemes of research on selected problems of planning. The work of this Committee was not intended to duplicate research activity already being conducted in the Universities and other research organisations, but rather to stimulate additional activity directly focussed on selected problems of planning.

RESEARCH INSTITUTES

During the past ten years of planning, apart from the research sponsored by the Research Programmes Committee, a large number of schemes on problems connected with planning have been undertaken in the Universities and other research institutions which have been functioning for a long time. A further contribution to this activity has been made in recent years by the Institutes set up during the past five or six years, notably the National Council of Applied Economic Research, Delhi, and the Institute of Economic and Social Growth, Delhi. The Indian Statistical Institute at Delhi and Calcutta and the Programme Evaluation Organisa-

tion have in their respective fields undertaken analytical studies or evaluation based on field surveys on subjects connected with planning.

Through all these bodies and institutions a fairly large volume of information on the varied aspects of the Indian economy has become available. There has nevertheless been a feeling all the time that much remains to be known and that the area of ignorance is fairly large. At the root of it lies the fact that, as development has proceeded at a rapid pace during the last decade, new problems have been thrown up and the need for studying new and complex sets of inter-relationships has confronted the planners.

TYPES OF RESEARCH

Research is a continuous activity and its content, methods and techniques have to be constantly methods and techniques have to be constantly geared to a developing situation in order that it may provide the material for finding answers to new problems and facilitate difficult decisions being taken with a measure of knowledge and confidence about the results likely to follow from them. The task for the next five years has been succinctly mentioned in the Report on the Third Five Year Plan as follows: "To a greater extent than in the past, during the Third Plan, the direction and management of the Indian economy will call for improved methods and machinery for planning and execution, better statistical and economic intelligence, greater appreciation of technological and other developments occurring in different fields, fuller knowledge of the country's potential resources and generally far more systematic analysis and research."

Many of the problems of a country which undertakes a programme of planned development are of a long-term character and require studies of basic relationships and magnitudes and what are known as macro-economic aspects such as national income, rates of saving and investment, investment/output and investment-employment ratios, con-

sumption trends and projections, population, etc. These studies from the core of research for planning and have been undertaken in India as fundamental research in the Universities and specialised institutions and in teams or working groups consisting of eminent scholars. Of this last, a special case involving cooperation between foreign and Indian scholars is provided by the India-MIT research programme which has been in operation for about three years. On the whole, progress with this kind of research has so far been limited and there are further possibilities to be explored.

Short-term, operational, empirical or applied research into problems, for which some practical solutions have to be devised without waiting too long, forms a distinct category. Its utility for certain problems is, however, limited due to the inadequacy of the available data or analyses in the absence of long-term research. Much of the research sponsored by the Research Programmes Committee and a good part of the research carried out in other research organisations is of this applied type and covers a large number and variety of problems including studies of the effects of land reforms legislation, problems of small scale industries, intercorporate investment, evaluation of the benefits of irrigation, unemployment in selected areas, rural-urban migration, impact of economic development on foreign trade, cultural change in backward communities, problems of Plan implementation at various levels, etc.

Allied to this kind of research and often supporting it are the large-scale field surveys undertaken with the object of collecting essential informative data about particular sectors or areas. These surveys have been an important part



of the activity of the Research Programmes Committee and include socio-economic surveys of 21 cities, farm management in selected areas, economy of particular regions and occupational groups.

THIRD PLAN PROGRAMME

An important aspect of research for planning which may be emphasised in the light of experience is the need of building up a close relationship between the requirements of those who fashion policies and take decisions in planning matters, on the one hand, and the selection of problems on which research is sponsored, on the other. In other words, research for planning should itself be planned.

The Research Programmes Committee decides at the beginning of each Five Year Plan about the priority categories of subjects on which research would be sponsored during the Plan period. An attempt is being made to bring these research categories closer to the requirements of planning. The subjects tentatively proposed for the Third Five Year Plan are:

1. Analytical studies of the macro-economic aspects of Indian economy with special reference to: a) foreign trade and balance of payments in relation to economic development; b) effectiveness of investment in different sectors of the economy; c) pricing policies and techniques in the context of planned development; and d) regional disparities.
2. (a) studies of specific aspects of regional development, including development of urban areas and village and small-scale industries; (b) studies of the impact of major projects including major irrigation and industrial projects on regional economy with special reference to subsidiary or ancillary investment.
3. Land Reforms, Rural economics and Cooperation.
4. Problems of social change and welfare in relation to economic development.
5. Problems of organisation and administration in relation to planned development.
6. Labour problems: a) case studies of industrial relations in selected industrial units; b) studies of incentive schemes and methods of wage payments in different industries; c) non-wage benefits in different industries; d) wage patterns within an industry or area; and e) evaluation of impact of mechanisation, automation and modernisation on the work, attitude and earnings of workers in selected industries.

INTEGRATED PROJECTS

Another consideration of some importance in the planning of research is the undertaking of integrated

schemes so that investigations are carried out simultaneously on the same problem by a number of scholars working on different aspects of the problem or studying it with reference to diverse conditions prevailing in different parts of the country. Integrated research projects of this kind ensure that all the facets of a problem would be studied and the results would be broad-based. A good example of this is a scheme recently sponsored by the Research Programmes Committee for the study of the benefits of irrigation projects covering studies of five irrigation projects in different parts of the country.

In studies of this kind, it has been found essential to design the research scheme carefully so that there is uniformity in the concepts and definitions used by the research scholars. Further, during the course of the execution of the scheme, periodical meetings of the Directors of the research schemes have been found useful for facilitating exchange of views on their common problems.

Two other aspects, namely, early publication of the results of a research and the utilisation of these results for the various purposes in view are of considerable importance. The interval between the completion of report of a scheme and its publication should be reduced to the minimum possible. In practice, difficulties arise partly from the need of ensuring that data incorporated in the report are accurate and internally consistent, concepts are technically sound and the report as a whole measures up to an acceptable standard. The Research Programmes Committee has over a period of years elaborated a procedure for technical assessment of the reports before they are approved for publication. With the exception of a few, all the reports on the completed research schemes have either been published or approved for publication.

QUALITY OF RESEARCH

As regards utilisation of the results of research, one of the factors is the period within which the report is available; and in individual schemes the experience has been that by the time the report was published, the data had gone so much out of date that they had only some historical value. In other cases the research schemes being of an isolated nature and not part of an integrated pattern the results had only limited utility. Where an integrated scheme was undertaken in response to specific requirements of planning or on the specific request of a Government Department, there has been greater interest in the results of research and a larger possibility of its practical use. It is, of course, neither possible nor desirable to relate every research scheme to immediate or specific problems and a good part of research activity should continue to be directed to basic studies which will result in distinct additions to know-

ledge and to awareness of complex inter-relationships in the economy.

While adequate facilities by way of finance, equipment, etc. are essential for the successful completion of research schemes, basically it is the quality of mind and technical competence of research personnel which is reflected in the quality of research at all stages from the preparation of the scheme to the drafting of the report. Since some Universities and research institutions have more of such personnel and are otherwise better organised to undertake research, there has been a tendency for them to become the focal points of research.

The individual researcher working in a distant college, away from the University centres, has often felt handicapped in offering suitable research schemes. This is a matter of some importance because a wider base for research for economic and social development should be constantly sought. Just as the processes of planning should secure in increasing measure the participation of people at various levels, similarly, as a result of economic, social and educational advance the people, new research talent should emerge in places and institutions not reached before. Research and planning have thus to be viewed as essentially complementary activities in a growing economy.

Based on a paper read by Dr. D. K. Malhotra, Joint Secretary, Planning Commission, at the Asian Planners' Conference held in New Delhi from September 26 to October 3, 1961.

PRIVATE RAILWAYS

QUESTION from Mr. Vijayendra K. Gupta, Dev Kutir, Sirsa (Hissar):

How is it that some railways are still run by private companies when Indian Railways were nationalised so many years back?

ANSWER: The question of nationalising privately-owned light railways and their improvement, especially conversion into broad gauge, was considered on several occasions in the past. The Railways Minister explained in Parliament in March, 1958, that the present policy of the Government was not to expand the limited resources of Government on taking over a facility which was already in existence, but rather spend them on augmenting the railway capacity and, to the extent possible, on opening new railway lines.

From Pile-Driver to Leading Dam Expert of the Century

BUILDER OF BHAKRA

India Has Learnt Much From The Tireless Mr. Slocum

DR. A. N. KHOSLA

Member, Planning Commission

MR. MANLEY HARVEY SLOCUM, one of the top-most dam builders of the century and chief construction consultant of the Bhakra Dam for nearly ten years, died of heart failure on November 11, 1961. He was 74 on October 23.

With his unique experience of the construction of 17 dams in U.S.A., one of them being the Grand Coulee Dam—the biggest of all in volume—and his unusual knowledge of plant and equipment, plant lay-out and engineering techniques of all aspects of dam construction and his unerring sense of costs and time schedules, he made an outstanding contribution at each stage of the planning, design and construction of the Bhakra Dam—a most, if not the most, difficult dam construction job in the world because of its great height and unusually complicated foundation problems.

TOP MAN IN HIS LINE

Born on October 23, 1887, in National City, California, he got his training for construction jobs from his childhood with his father who was a construction contractor. At the age of 13 he started working for his living. He worked as a messenger boy, a cabinet-maker, a pile-driver and a reinforcement binder. He taught himself the use of surveying instruments and engineering drawings and estimating. He worked later as crane-operator, rivetter, and tunnel-driver for skyscrapers and subways in New York. Through sheer hard work and learning through doing he got to be the top man in each trade he took up. He was exceptionally well-informed in most fields of human activity and though of a retiring nature

was a brilliant conversationalist. He did not go through any university education in engineering or in arts. Through industry and self-study he acquired deep knowledge of human psychology.

With his training and experience the hard way, his native talent and organising ability he rose to the top of the engineering profession as construction superintendent and was recognised as among the foremost authorities in the construction field. He used to call himself a "Construction Stiff". He had a keen eye for quality, efficiency and economy. He could not stand red tape, indecision, or bad or uneconomic work. He could be hard-hitting and even offensive in speech.

His contract was for ten years with effect from the end of February 1952. Under the contract he was required to be at the Project for four months in the year and to visit India thrice each year. Actually Mr. Slocum spent about eight months each year in the country. He was devoted to his work. His heart was in the Bhakra Dam and he wanted to see to completion the construction of what, according to him, was the most difficult and challenging dam construction job ever undertaken in the world. If he had lived another few months, he would have witnessed its completion.

BHAKRA'S PROBLEMS

In the year 1945, his advice was sought in connection with the plant and equipment requirements for the Bhakra Dam. Soon after Independence, it was decided to raise the height of the Dam by 100 feet above what had

been planned earlier, making it more than 70 feet above deepest foundation and one of the highest dams in the world. The Punjab engineers had constructed several low dams (barrages) on permeable foundations and irrigation works of all types. In view of the immensity of this new undertaking and of the foundation and other problems involved, the question arose whether the Punjab engineers, with their fine record of construction, would be able to shoulder the responsibility for its construction or the entire or part of the work be entrusted to a consortium of experienced foreign contractors and consultants. Such dams had been constructed in Europe and U.S.A. through big construction firms—generally a combine of several such firms—notable exceptions being the dams of the Tennessee Valley Authority in U.S.A. which were constructed departmentally by the Authority itself. In the case of Bhakra Dam, it was found that foreign firms were not prepared to bid on unit rate basis, but were keen to undertake the work on a 'cost plus' basis. Because of the almost certain heavy increase in cost inherent in a 'cost plus' basis contract, the relatively small opportunities of initiative and innovation becoming available to the Indian engineers, the inevitably large foreign exchange required and the possibility of the next job of similar magnitude almost certainly going to another foreign combine, the question of agency of construction assumed crucial importance and remained under serious and continuing discussion over more than a year.

In August 1950, the Bhakra

Control Board was set up and the agency of construction was the first question for its decision. The Board took the vital decision to do the entire construction departmentally through Indian engineers with the assistance of top American specialists in such numbers and specialities as may be dictated by the nature of assignment and time schedule—the foreign specialists to be given the responsibility of executing the job of their respective specialities, including fabrication, installation and operation of plant and equipment and the additional and more important responsibility of training Indian personnel. Such top specialists were mostly employed with contracting firms and were hard to come by unless the contract was awarded to these firms.

'MORAL OBLIGATION'

Mr. M. R. Chopra, until recently General Manager, Bhakra Dam and now General Manager, Beas Project, who had been earlier deputed to the U.S.A., made exploratory enquiries from the top organisations in U.S.A. and suggested the name of Mr. Slocum as the best choice if he could be made to agree to come to India in connection with the construction of the Bhakra Dam. Mr. Chopra and I were in the States in 1951 to select the construction consultant and hit upon Mr. Slocum as the best man for the purpose. He was accordingly approached but we found that it was extremely hard to make him agree. However, ultimately we succeeded in securing his consent and the contract was signed between him and the Punjab Government for a period of ten years effective from March 1, 1952. This contract would have expired by February 28, 1962, and it is most unfortunate that Mr. Slocum died just three and a half months earlier.

Mr. Slocum came to India in the first week of April and got straight to business. He briefly outlined his plan and approach. Having roughly gauged the magnitude and complexity of the work, he immediately decided that it was his 'moral obligation'

to see the job through by staying on the job, if necessary for periods much longer than those stipulated in the contract, without extra compensation and thus guiding the construction operation more or less as a construction superintendent would do in U.S.A., but with the provision that in all such matters he would act through the Indian engineers. Training of Indian engineers was his major preoccupation so that we could replace as speedily as possible the American specialists by their Indian counterparts as soon as we were satisfied that they had developed equal competence. Mr. Slocum had originally thought of importing 200 specialists from U.S.A., but he soon discovered that Indian engineers could efficiently handle many jobs for which he had visualised bringing American specialists. The number of these foreign specialists, therefore, never exceeded 60. This number has, under the discharge of that "moral obligation" to train Indian personnel, dropped to only a few today. Mr. Slocum was always alert, direct and decisive. To secure efficiency, economy and speed, his watchwords were "Organise, Deputise and Supervise." He laid stress on safety measures.

The engineers, the technicians, the workmen and all remember Mr. Slocum with admiration and affection for his single-minded devotion and tireless application to the work of construction of the Bhakra Dam and to that of training of Indian engineers in the techniques which were new to them. His contribution in building up the Indian technical potential through on-job training is of far-reaching consequence to the future of engineering enterprises in India and in overall assessment may even be higher than his contribution in the building of the Dam. India will remember with gratitude the noble role played by Mr. Slocum in building the Bhakra Dam and his outstanding contribution to our techniques of organisation and execution of major projects.

NEXT ISSUE

**TO CHAMBAL
AFTER FIVE YEARS**

—'Yojana' Interviews

Fateh Singh

★

SARIS OF CHANDERI

—Pride of Place

★

**REFLECTIONS OF A
SHIKARI**

—Yuvraj Digvijay Singh

See also announcement
on Page 22

New British Credit For Third Plan

A NEW credit of Rs. 6.67 crore (£5 million) from the British Government has been arranged.

The loan is not tied to any particular project and can be used with immediate effect by India to pay for a broad range of imports from the United Kingdom.

This is the third in the series of British loans for the Third Plan towards which the British Government has so far promised Rs. 120 crore (£90 million) under the 'Aid India' consortium arrangements. It follows the loan agreements for £30 million (for mixed projects and development goods) and £10 million (for general balance-of-payments support) signed in May in fulfilment of this Third Plan commitment. During the Second Plan, Britain's assistance amounted to just over Rs. 107 crore (£80.5 million). Taken together with the Third Plan commitment, total British aid committed to date amounts to Rs. 227 crore (£170.5 million).

The new loan is repayable over 25 years with a grace period of seven years.

THE SUBURB

Where Our Cities Make Peace With Villages

PANCHAJANYA

HARSH words have been spoken about the suburb in the West. If some writers are to be believed, it is a synonym for monotonous dullness, soul-destroying uniformity. These objections cannot be made of the suburbs that have arisen in modern Indian cities. In many cases, these suburbs are the best part of these cities. A great transformation has come over the older sections of the characteristic Indian city today. Commerce has overrun them. What were once peaceful thoroughfares have now become roaring streets, shops have invaded the front portions of once quiet houses. The old amenities, the old world charm have been quite lost. With these have also disappeared the convenience of living an unhurried, spacious life. The houses were rather extensive if, to modern eyes, not quite attractive. There was room to move about, to lead a life in comparative seclusion, if it was sought. But today space is at a premium—the insidious flats have spread from Bombay, where truly the millions live as in an ant-heap, and the benefits of “vertical” buildings are being preached much in the spirit of the fox and the sour grapes.

The suburb is a refuge from these unnatural conditions. In our parlance, it is a “colony”. The typical colony may be considered as the last haven of decent living, a protest against the growing febrility of modern life, as far as the middle classes are concerned. The houses in a colony boast of, above all things, little gardens. In a country like India, whose best instincts and traditions are connected with the land, there is nothing more pathetic than the dispossessed villager perforce living in the cities. The oldest modern city in our country, like Bombay, Calcutta or Madras, is only three hundred years old and was the creation of the British. Older cities like Delhi, and, perhaps to a smaller extent, a provincial capital like Ahmedabad, have had to adapt themselves to the modern age. They have not always been successful. One may regard as two extremes the sight of passengers swarming perilously into and over ramshackle tram cars as they lumber painfully in the shadow of the Jamma Masjid in Delhi, with the vision of Rashtrapati Bhavan viewed across the straight road of Sir Edwin Lutyens.

Except in absolutely new cities like Chandigarh and Bhubaneswar, the average urban citizen has lost his moorings, the countryside and its immemorial traditions which have become ins-

tinuous with him. The squalor and harshness of characteristic modern Indian existence are really a confession of the failure so far of urban life. Man and his environment have not yet come to terms. No doubt, time will reconcile them, but it will be mostly in the spirit of the prisoner serving a life sentence being reconciled to his cell. No one single aspect of the Industrial Revolution now sweeping our country as a result of the national Plans is fraught with both greater possibilities and greater perils than the compulsory and haphazard urbanisation of the characteristic Indian who is a villager.

Uprooted from his native soil and leading what is to him still an unnatural life as he is, the small patch of garden of which he boasts in his colony is a reminder of past experience either actual or felt in the memory. His gardening may be beneath contempt; he may succeed in only growing weeds. Nevertheless, the soil is a link with his past, and so he cherishes it. The house to which this garden is an adjunct is seldom a work of art. The contractor reigns supreme here, and there is no scope for the architect. It may, in fact, happen that the average house in the colony will move the derision of a later and more knowledgeable generation which should have come to terms with the spirit of the times. The best recommendation of such a house is that man may breathe in it, and not suffocate as he must in the old crowded city. This, of course, is its justification and its apology. The colony is, in fact, a brand plucked from the burning.

SENSE OF ONENESS

The colonists, if they may be so described, tend to come together. Their civic sense finds expression in associations which, where they are not paralysed by internal factions, do some good work, mainly by drawing the attention of the civic authorities to the many deficiencies of the colony. Many colonies even boast of cricket clubs, which means that the consciousness of oneness has percolated even to the boys. This sense of oneness is often accompanied by some dislike, not strong enough to be called hostility and not weak enough either to be called absence of gladness, of similar colonies elsewhere. Chesterton could fancy a Napoleon of Notting Hill who made war on some other civic divisions of London. Things have not quite acquired such a martial colour here. But, generally speaking, there is not much love lost among different colonies. Nor need the moralist disapprove of this, for it is harmless.

It may well be that, with the older parts of the city given over to commerce, the real civilisation of the towns will take refuge in the colonies. At least man may call his soul his own here. Further, it is here that the reconciliation of the Indian with what has hitherto been his uncongenial environment must take place. The “garden cities” of the past are disappearing; the colony, or the suburb, must do the best it can today and in the future.

Labourers Who Pay Income Tax

WHO are the best-paid industrial workers in the country?

The registered workers of the Bombay Port, according to an article in "Indian Shipping".

The journal says that these workers, who numbered 5,075 in 1960-61, earned as much as Rs. 193.73 per month on an average. Some of them made nearly 400 rupees and even paid income-tax.

The benefits that these labourers enjoy (leave, holidays, provident fund, gratuity, housing, medical aid), according to the journal, cost the employers more than the wage bill. "The stevedore labour in Bombay", it asserts, "enjoys wages and conditions of service incomparably better than those enjoyed by workers in any other land-based industry in the country."

Nasal Manners

WHEN Tagore first went to England as a teenager he was puzzled by the fact that a people who kept their homes and roads so clean thought nothing wrong in spitting into their handkerchiefs and placing them back in pockets of costly clothes.

The Indian taboos regarding saliva don't seem to extend to other bodily wastes!

Aldous Huxley and Madame Matsuoka of Japan and another delegate to the International Literary Seminar held in Delhi this month were startled to hear a noise close to them as they were walking from the conference room to the lounge. They turned round to see an Indian savant leaning sideways, pressing a thumb on one side of the nose and forcing out quantities of mucus from the other nostril. They quickly turned their eyes away, and the lion of one of our literatures was completely unaware he had done anything unseemly.

Dropping The 'O'

SUB-EDITORS or newspapers have a natural preference for short names. They liked Trygve Lie, because his name permitted them to write "Lie tells the Truth". When Ham-marskjold became the U.N. Chief they looked around and soon settled down to calling him Dag. In Fleet Street, Mr. Macmillan is usually Mac.

When the Constituent Assembly was in session an unhonoured Madras sub-editor thought that C.A. would not do, and hit upon "Consembly". Mr. Pothan Joseph gave it countrywide currency.

"The Hindu" has done something equally happy. It has changed the awkward expression "Afro-Asian" into Afrasian. All to the good. The hyphenated hybrids like "Indo-Anglian" or "socio-politico-economic" sound too condescending and unstable.

A Human Press

THE good guest makes it a point to send a bread-and-butter note after a visit. Even if he doesn't, the experienced host will not mind. It is wrong, particularly at the national level, to attach too much value to words of praise from visitors. If Mr. Astor, who owns the London Times and who was in India for the conference of the Commonwealth Press Union, calls our press the freest, the most responsible and most democratic in Asia, we need not feel particularly elated. We know it ourselves—or ought to. And we have such little competition in Asia in this department. But if Mr. Hugh Cuddlipp says that our newspapers could unbutton themselves a little and become 'popular' it is necessary that we should think over his words.

Trade competition between the 'quality' press and the 'popular' press is so great in the Western countries that some essential features in the dispute are overlooked. Many 'popular' newspapers are no doubt too sensational or too ready to stoop



IGNORAMAN

Wants to Know

When We May Have

A NATIONAL WEEK

Of Respite From

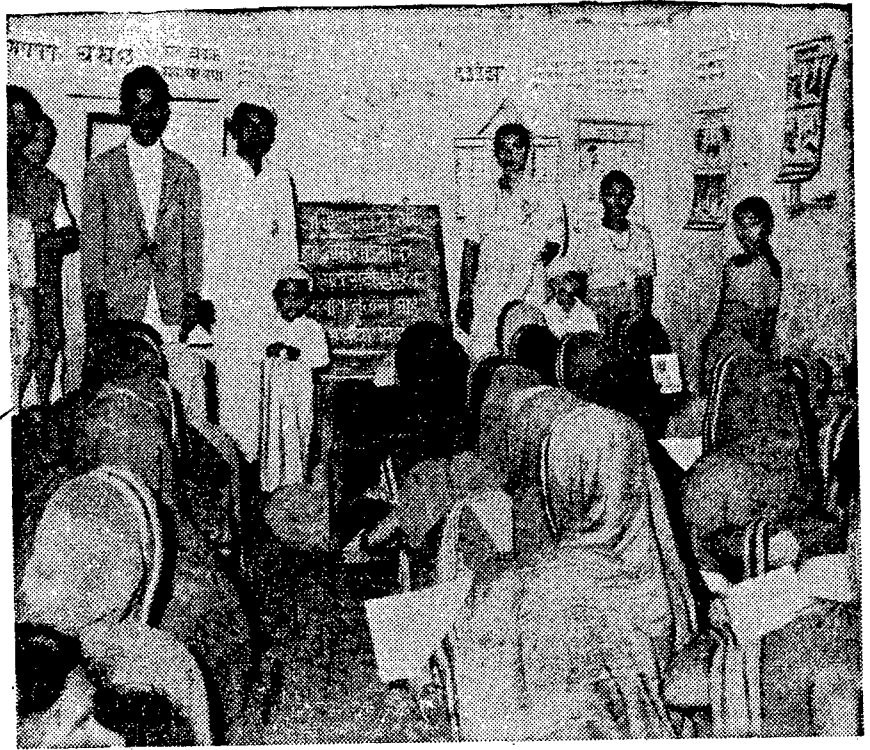
NATIONAL WEEKS.

to keyhole reporting. But they are often more courageous, less easily taken in by political humbug and have a surer finger on the people's pulse. Mr. Cuddlipp's own 'Daily Mirror' has been right many times when the rest of the British press has been wrong. 'Demos' may be poorly dressed, often vulgar, but not any the less worthy than aristocracy.

In our country dignity seems to be overrated. Almost all our newspapers are edited as though only the top people read them. They ought to bother themselves much more with the everyday life of everyday people. They ought to brush aside formality. When an exhibition opens, they should say more about the exhibits than about the words spoken by the official inaugurator. When accidents occur, they should report the way people behave in the crisis than print the messages of sympathy. The best of our newspapers have this human impulse. Unless the others also pay more attention to the problems and the pain of the common people, the major vice of our country, namely indifference to suffering, will not lessen.

*Total Literacy
And Fine Gesture
By Teachers*

**MAHARASHTRA
VILLAGES
FOLLOW**



THE EXAMPLE OF LAHSURNE

SMALL men can achieve big things, provided they act with determination and high purpose. Lahsurne, an obscure hamlet of 1,400 people in Maharashtra, is an example. This village achieved cent per cent literacy within the short period of three months and is a model to other Maharashtra villages in this respect.

It happened thus:

Adult literacy classes were being conducted for quite some years in Lahsurne, which is in the Koregaon block of Satara district. Teachers of the local primary school were given an extra payment of Rs. 4 for each adult made literate. However, the scheme did not make much headway. People did not believe that by knowing how to read and write they would earn more or become better people. Going to the class would only be waste of their leisure.

Mr. B. R. Patil, District Inspector of Education, sensed this unwillingness which is by no means limited to Lahsurne. He felt that the solution did not consist in offering a negligible

inducement to the poor teacher, but in converting adult education into a voluntary movement.

In June last year, Mr. Patil called a meeting of the villagers of Lahsurne in the village temple and announced that the money which had all along been paid to the teachers for adult literacy work would now be given to the village for development work. The teachers had agreed to make this sacrifice provided the whole village took a vow before the village deity to make every villager literate within three months.

The headmaster of the primary school, Mr. R. D. Kadam, who is a winner of the President's Award for Teachers, then stood up and announced, on behalf of all the teachers, that not only their future earnings but also their past earnings on account of adult education would be donated to the village development fund, if the vow was taken.

This sacrifice on the part of the teachers, who, everybody knew, were none too opulent, worked a miracle. It stirred the hearts of the village folk, who

stood up one by one and took the oath.

From the next day, the literacy classes started in full swing. About 15 night classes were conducted in every part of the village. The Village Panchayat provided lanterns and kerosene oil. The Social Education Department supplied slates and pencils. Books came from helpful people, or were bought by the pupils. And at the end of the prescribed three months, there was no person left who could not read or write. The total cost of the classes worked out to less than one rupee per head.

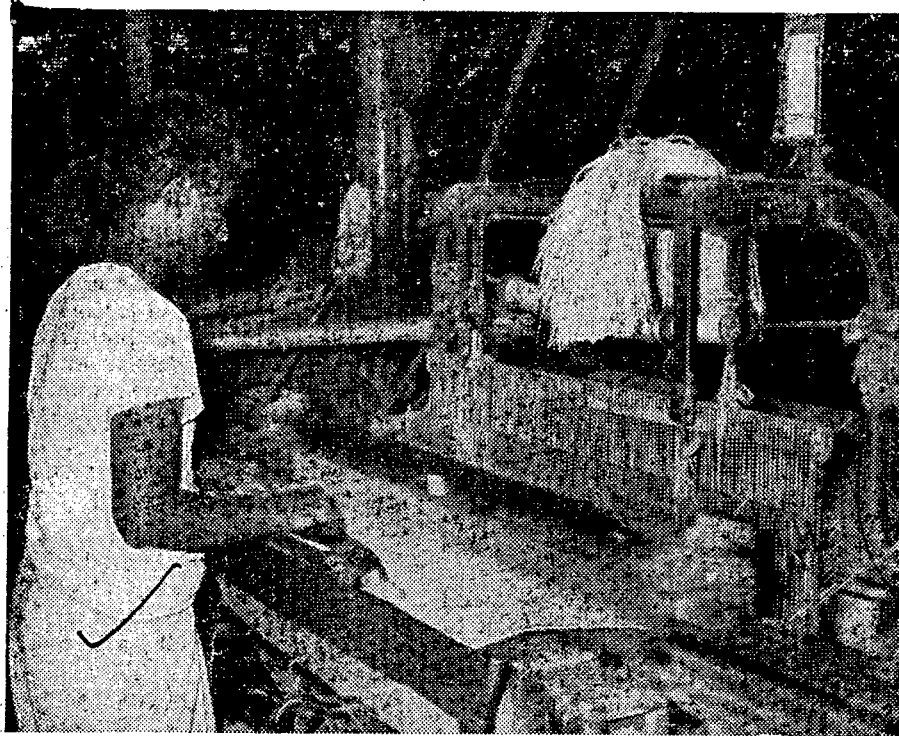
The village celebrated this event in September, 1960, in great rejoicing and festivity. It was aptly called 'Gram Gaurava Mahotsava'.

The Gram Gaurava Mahotsava, symbolising the attainment of cent per cent literacy in the concerned village, has since been held at 40 other places, and the campaign, initiated by Lahsurne, has now assumed a State-wide character.

R. N. GUPTA



FROM GREEN STALK



Top left: A jute farmer of Faitke, near Serampore, gathers the fibre.

Centre: Reels of jute thread.

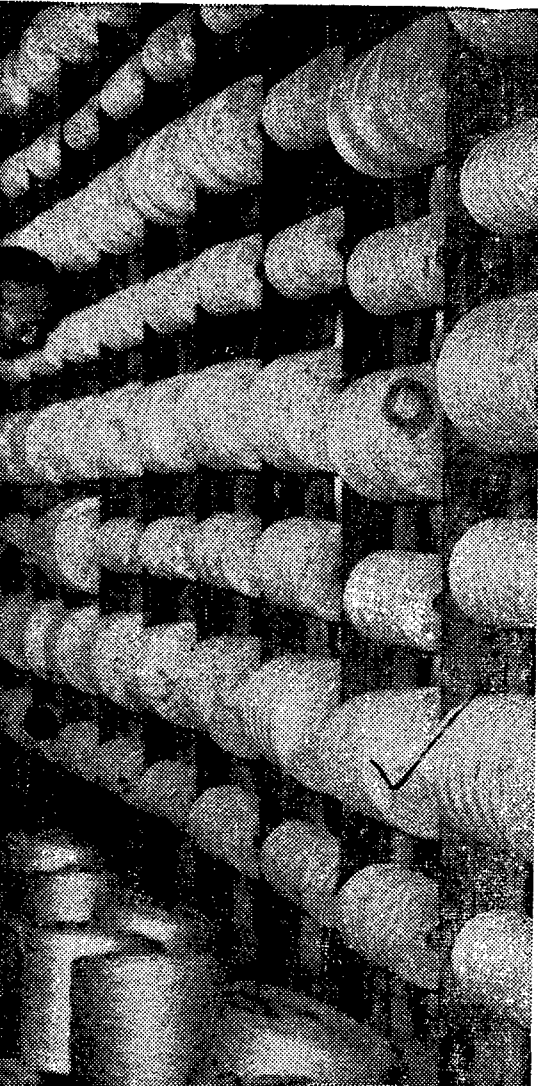
Above: Thread being woven into gunny cloth

A great many of the world's goods are made of jute. Though a dull, hardy, unpretentious fibre, it is so valuable—and has been bringing in so much money under its familiar name "golden fibre" has spread its wings.

In the fields jute looks almost like a weed. When it is cut, it is soaked for many days in water. Then it is retted in Bengal. Retting jute gives Bengal its name—and at the proper time the farmer takes it out and teases and pulls the fibre out of the stalk. Then, like a comb, he combs her daughter's hair, and at last, like a husband, he drags the wife around the world.

After the fibre is dried and spun into yarn, the story is like that of cotton or silk. It goes to the mill; only, the parts are a little sturdier.

A large part of the sub-continent of India and Pakistan's lot at Partition. But we must not forget the jute mills are still not out of the competition from abroad. We must not forget the different to jute. It still accounts for a large part of the exchange we earn.



TO SACK-CLOTH

Above: Gunny cloth rolls off a calendering machine.

Below: What's in this bale wrapped in gunny? More gunny.

These photographs were taken in the Howrah Jute Mill.

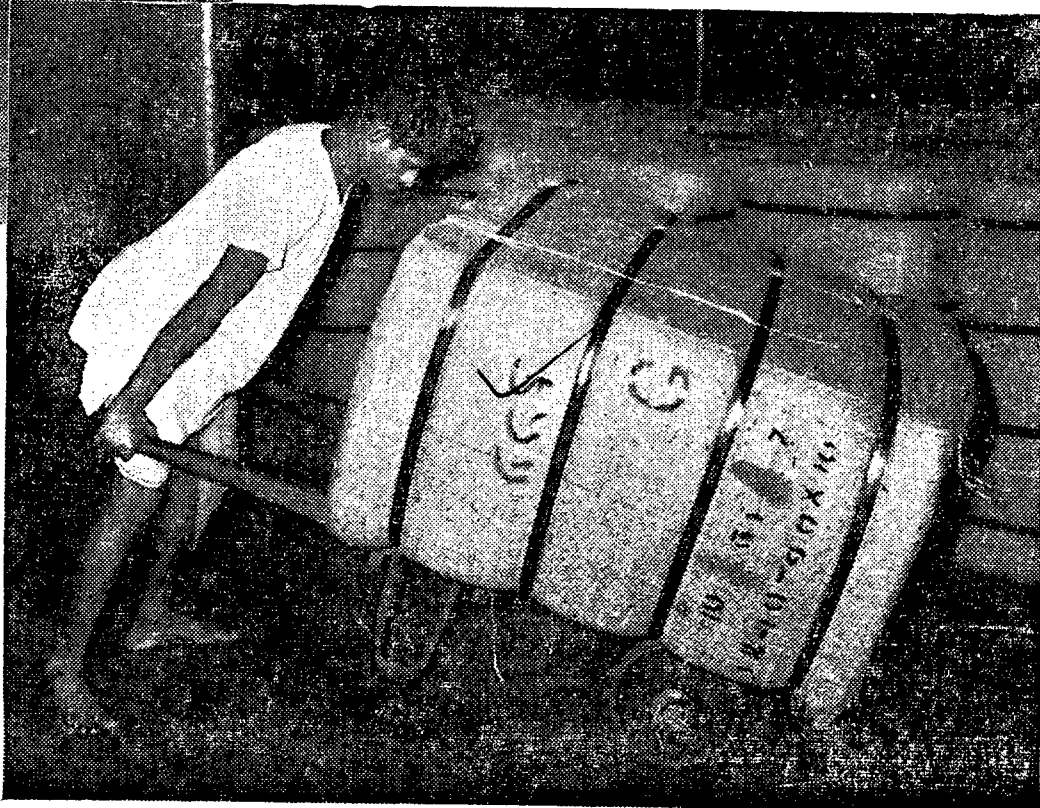


...e packed in gunny.
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A BOOK FOR TEACHERS

"Educational Theories & Modern Trends" by D. N. Gaiind and R. P. Sharma (Ram Prasad and Sons, Agra), Pp. 426, Rs. 7.00.

EDUCATION, it is said, is what is done for the express purpose of bringing us nearer to the perfection of our nature. In its largest acceptance, it also comprehends, according to John Stuart Mill, the indirect effects produced on character and on the human faculties by society, government, climate, soil and local position. Under this wider interpretation, the educative process is no more coterminous with school or college but a process of evolution that continues through life. This evolution of man is helped to a large extent by contributions of psychological ideas on and of philosophy of education.

Rousseau 'started afresh' thinking about educational philosophy in his 'Emile'. This influence was sustained, each in his own way, by his successors like Pestalozzi, Herbart, Froebel, the Macmillans, Montessori, Caldwell, Cook and Dewey. Development of devices such as the Nursery School, the Dalton Plan, the Play Way and the Project Method are but the practical results of their ideological teachings. The book under review deals with the details of these developments and the present practices in the field of education.

The first few chapters discuss the aims, scope and philosophy of education. All the "isms"—idealism, naturalism, pragmatism and realism—are reviewed and analysed. Some of the problems of modern education are dealt with clearly and succinctly in later chapters—"Democracy and Education," "Education for International Understanding," "Religion and Education" and "Education and Social Order".

A separate section is devoted to discussion of the system of

Basic Education, "the last and perhaps the greatest gift of the Father of our Nation" (p. 276). Tracing a brief history of development of the idea as embodied in the Wardha Conference Resolution of 1937, the authors have described the salient features of the system such as activity principles, craft instruction and correlation. According to them, there is nothing wrong in the concept of Basic Education; but the practice of the idea "lags far behind its theory".

The book has been primarily written as a text-book for teacher-trainees at the graduate and post-graduate levels and it will have a good response from all the training colleges.

K.R.S.

Economic A.B.C.

Modern Economic Theory, 1961 edition. Two volumes (pp. 692) by J. D. Khatri, Head of the Economics Department, Hans Raj College, Delhi. Publishers: Kitab Mahal, Allahabad. Price Vol. I Rs. 10, Vol. II Rs. 7.

THERE is no dearth of text-books on economic theory for university students. But it is not frequently that we come across one which blends old concepts with new trends of thought as they develop out of the changing economic conditions and situations. The merit of Mr. Khatri's book lies in the fact that it is a sincere effort in this direction, relating in particular the relevance and usefulness of various economic doctrines and their policy implications to the problems of under-developed countries.

Volume I of the book deals with the theories of consumer's behaviour, production, capital formation, partial equilibrium and distribution. The endeavour throughout is to rid pure theory of its wooden concepts and bring home to the readers some simple, though basic, eco-

nomie truths such as that capital formation is the key to economic progress or that knowledge of the elasticity of demand is essential for a number of economic decisions.

Volume II is devoted to the problems of money and banking—with an interesting comparison of banking practice in India and England and a comprehensive discussion of credit control, the theory of employment, inter-regional and international trade including relevant conclusions for policy regarding balance of payments, public finance summarising the evolution of its theory and practice and the various issues involved in fiscal policy, deficit financing, etc., and the role of the State in a country's economic activity. The chapter on planning, though elementary, is clear and emphasises the special need for planning in under-developed countries.

On the whole, it may be said that some of the features of the book make it particularly suited to the study requirements of students.

Dwarka Nath Munshi

100 Years of Forestry

THE administrative machinery that is preserving our vast forest wealth was a hundred years old last week. The occasion was celebrated at the Forest Research Institute in Dehra Dun.

Our forests cover an area of about 274,000 square miles, nearly 22 per cent of the country's total land area. They yield annually about 500 million cubic feet of hardwood and 50 million cubic feet of coniferous soft wood to support a number of industries—building construction, furniture, plywood, rayon, matches and paper. During the First and Second Plan periods, a sum of Rs. 28.8 crore was spent on the development of forest resources. The Third Plan provides for an outlay of Rs. 51 crore for forest development.

Human Consequences of Industrialisation

(Continued from page 5)

grades and craftsmen required for manning the new industries.

Simultaneously, with the expansion of such training facilities, India felt the need of securing a co-ordinated view in regard to the utilisation of such personnel. A high-power Directorate of Manpower has been set up by Government both at the Centre and in the States. For policy decisions, a Cabinet Committee on Manpower has also been functioning over the period of the last five years. The present thinking is that with regard to manpower planning it is necessary to look ahead even beyond the present (five-year) plan period. Careful assessment, both of the requirements of personnel for longer periods and also of the training facilities available to them in the country, has been the main function of the Directorate of Manpower, as also of a unit in the Planning Commission. Full co-operation has been extended by the industry in the public and private sectors for a large expansion of the apprenticeship training programme. Suitable enabling legislation has also been thought of.

Seasonal and Migratory Workers

As mentioned earlier, agricultural workers make up the vast majority of the labour force. Unlike the urban areas, where unemployment is more overt, it is disguised unemployment and underemployment that affects the rural areas, especially during the slack seasons. The general tendency is to share the same amount of work between an increasing number of family members. When the situation becomes intolerable, the more venturesome move away to the nearest industrial town, thus shifting the focus of the employment problem, but not achieving any real solution. It is in this context that an attempt is being made to retain potential leadership and initiative in the rural areas by providing more and attractive employment opportunities. New industries will be encouraged to locate away from existing industrial concentrations and special incentives will be given for the development of small industries and the processing of agricultural products. Finance and marketing facilities will be given to rural industrial co-operatives and power supplies at special rates.

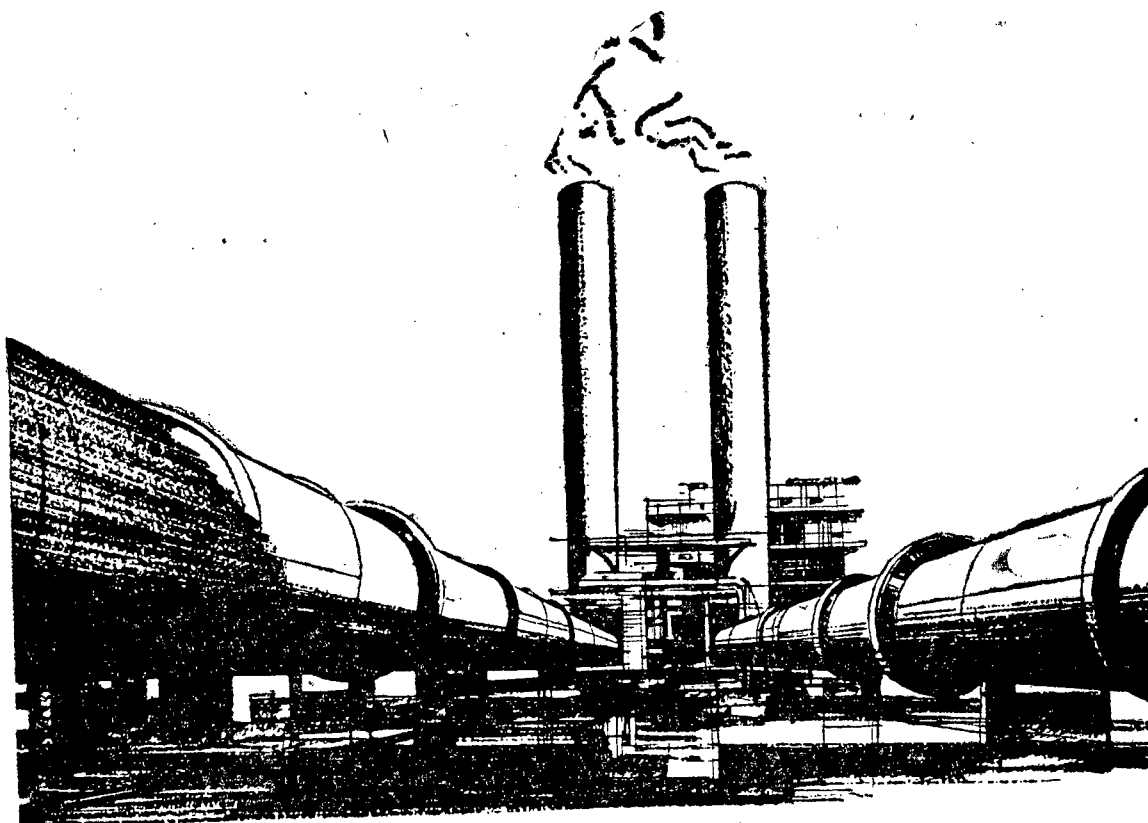
Borrowing an idea that was utilised during the depression years in the United States, a beginning has been made in the organisation of rural works projects. The idea is to provide employment at not more than prevailing market rates during the slack seasons and simultaneously secure the building-up of community assets. The initial experience gained in the working of these projects has been recently reviewed and it has since been decided to expand the programme as rapidly as possible during the Third Plan period.

The question has been asked whether there are any minority groups that are discriminated against in the matter of employment. As declared in the Constitution, India is a secular State and does not countenance any discrimination on the basis of religion, caste and creed. Constitutional safeguards have been provided in the case of groups in need of special assistance, when compared with the general community in terms of economic, social and educational progress. These groups, described as Scheduled Castes and Scheduled Tribes, are located primarily in certain States and special officers have been appointed by Government to look after their interests. In addition to special welfare programmes, these groups receive certain reservations in the matter of appointment to posts in the administration.

Community Approach

The idea of welfare for industrial workers through community organisation is not generally prevalent in India. Only limited experiments in urban community development have been undertaken so far in a major city, Delhi. By and large, the responsibility for welfare has been that of the employer or of the Government. Some of the welfare requirements have been legislated upon, whereas there are many others which have been developed more on the basis of mutual advantage both to employers and workers. The quality of welfare activities varies with the distance of an industrial unit from the nearest organised community. Mines and plantations have to set standards of welfare which can be quite different from those in factories. Government has taken the initiative in organising welfare services for coal and mica miners through the constitution of a fund financed by levying a cess on production. The proceeds of the cess are earmarked for welfare and housing activities through an organisation which is advised by a high-level tripartite committee.

The question as to the change that has taken place in the management personnel and in labour can be briefly summed up. As has been pointed out in the earlier paragraphs, the planning process has a number of socialistic elements in it. This has helped in the changing of the conventional type of managers, who were in the early days drawn into the managerial cadres because of their ability to guard the interests more of the entrepreneur than of the general community. A technical-minded managerial class is rapidly evolving and, simultaneously, management training institutions on modern scientific lines are being built up. The effects of this change which has been of a very recent origin, cannot be judged so soon. So far as the working class is concerned, with the progress of education, on the one hand, and the breaking-down of the resistance to undertaking manual and industrial work, on the other, the younger element in factories is perhaps better equipped for vertical advancement than their counterparts in an earlier generation. The combined effect of these developments will be all to the good of the economy.



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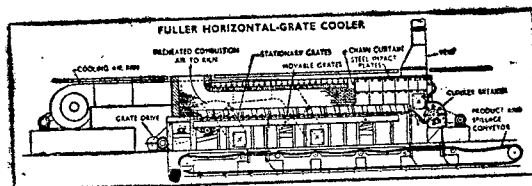
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Jaishankar Prasad

AND HIS POETRY OF FAITH AND REASON

UMA RAO



JAISHANKAR PRASAD, the seniormost of Hindi's Big Four in the field of poetry—the other three being Pant, Nirala and Mahadevi—occupies a unique position in the historical development of Hindi literature. His is the name which symbolises the transition from the past into the modern age. It is a significant fact that Prasad should have ushered in the modern era for Hindi. Too frequently is it held that modern trends in Hindi literature came as a result of the impact of Western literature, directly through English or indirectly through the influence of Bengali. Prasad was free from the sway of either; he knew neither language sufficiently well to be steeped deeply enough in the creative processes of their genius. The fount of his inspiration lay in the Sanskrit classics and the Upanishads, the modern content of his works being the result of his intense awareness of the social milieu. In Prasad we find perceptible evidence of a mind in harmony with the remote and the recent past, moving along in companionable conformity with the age he was born in.

Jaishankar Prasad was born in the year 1889 in a Vaishya home of Banaras. The family had a flourishing business in tobacco and snuff. His shop is to-date popularly called the shop of "Sungani Sahu". Prasad was a student of the Queen's College till the eighth class when he had to abandon his school education on account of his father's sudden death. His studies were continued at home while he also helped his elder brother in looking after the business. Thus, in the midst of tobacco and snuff, figures and accounts, his poetic genius sprouted.

HIS 'KAMAYANI'

Prasad has written poetry and drama, novels and short stories; but it is as a poet first, and next as dramatist, that his most significant contribution was made. His major work, *Kamayani*, is still unrivalled in the opinion of many. Of the four leading figures of the Chhayavadi school, from where the modern age in Hindi literature begins, he is the only one to have produced an epic. Setting aside some lack of polish, restraint and adventurous experimentation in execution, the epic is near grand in conception.

The theme of *Kamayani* is the human mind, its journey through the stages of despair, hope, faith, conflicting influences of reason and emotion,

to the end—a state of *ananda*, supreme and detached bliss. The story of *Kamayani* is the story of the first man, Manu, and his companion Shrad-dha through whose union is born Manav—Man. The three main characters of the story are Manu, Shrad-dha and Ida, Shrad-dha symbolising the heart and Ida the head. It is doubtful whether *Kamayani* can really be classified as an allegory, though some critics and scholars have found enough characteristics of the allegory in it. The symbolisation is too patent—for instance, there are characters named Chinta, Asha and Vasana, besides Shrad-dha and Ida. They enter the story embodied in human forms. Despite such very obvious symbolisation, there is an undercurrent of philosophic thought in the reactions and the historical progress of Manu.

In his natural state Manu is filled with self-conceit and spends his time musing and meditating. It is only when he meets Shrad-dha—emotion, faith, the symbol of the pure heart and idealistic values—that the better human qualities in him begin to manifest themselves. A reawakening of his self-conceit drives him away from Shrad-dha. He wanders about and eventually meets Ida—reason, representing the material values. He allows reason to rule his conduct and turns towards the material things of life. But when he tries forcibly to gain mastery over reason itself, fury breaks loose. Manu is vanquished. Again Shrad-dha finds him and urges him to action. She also meets Ida and blames her for being too rigid and unyielding. Finally, as a magnanimous gesture, Shrad-dha hands her son Manav over to Ida. Shrad-dha, along with Manu, goes away to the summit of the Himalayas. Manav, the son of Manu and Shrad-dha, who has inherited the power of reflection from one and feeling from the other, sets forth in the company of Ida to propagate huma-

nity. Manav represents the best, the most perfect, in man—a combination of knowledge, feeling and purpose. Today, in a world becoming overwhelmed with 'reason', Prasad's philosophy, his analysis and solution can have particular appeal.

LIMITATIONS

Besides this major work of poetry, Prasad has written and published quite a few collections of short poems. Some of his lyrics show distinct influence of folk metres and patterns. Prasad lacked Pant's power to mould language and weave a delicate web of expression, Nirala's daring to break and make metre, images and idiom to suit his rebellious spirit, and Mahadevi's artistry and lyricism. His was a refined and staid dignity, and therein lies his strength and his weakness. He is more easily understood and readily accepted by the general mass of Hindi readers, but his somewhat feudal culture, his tendency to move within traffic boundaries, has not so much appeal for the more modernistic mind.

AS A PLAYWRIGHT

Prasad's stature as a playwright is rather out of proportion to his skill. He carried forward the torch lighted by Bhartendu Harishchandra and rescued Hindi drama from sinking to the lowest common denominational level. This fact does certainly entitle him to an important place in the historical development of Hindi drama. Nevertheless, the non-stageworthiness of his creations, dialogues heavily loaded with words and emotions, remain as glaring blemishes. Prasad could not free himself from the shackles of tradition. His play, *Skandagupta*, is stopped from heading towards tragedy—because a tragedy was inconceivable in Indian drama. Even as in *Kamayani*, where a tragic end is almost forcibly averted and lifted to a level beyond tragedy or comedy, so in *Skandagupta* Prasad unreasonably conforms to the dramatic principles laid down by the classical tradition.

Prasad is claimed by the Progressives mainly on the basis of his novel *Kankal*—a novel with a purpose which portrays the hollowness of feudal society and in which is told the story of the revolt of a woman, down-trodden and chained to unjust social conventions.

Prasad died at the young age of 48 on November 15, 1937. He is perhaps the most widely-read poet even today. His works find place in every college and university curriculum. There exists almost a Prasad "cult" to keep safe his place in literature with critical estimation, reverence and affection.

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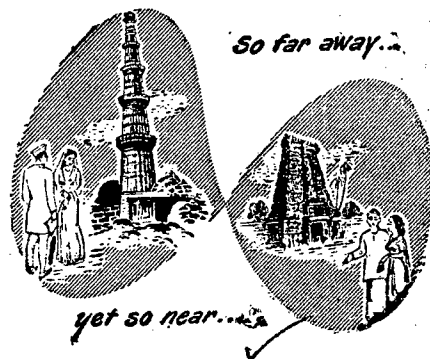
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Government Publications

Cataloguing Becomes More Difficult With Increase In Quantity

GOVERNMENT publications serve as the primary source of information for historical, political, economic, sociological and legal studies about a community. Data collected and published by government and its various organs and agencies are of value because of their authenticity. In fact, in various fields such as production, trade, taxes, and crime, it is not possible for individuals to collect data and they have to depend on some agencies, of which the government is evidently

N. K. GOIL

Institute of Economic
Growth, Delhi

the largest. The government is endowed with the necessary authority to set up data-collecting organisations. Blue books have been the source of many far-reaching social theories, like Marxism.

The difference in the political set-up of various countries makes it difficult to adopt a universally accepted definition of 'government publications'. The Brussels Convention of 1886 defined a government publication as "official documents, parliamentary and administrative works executed by the order and at the expense of the government, and published in the country of their origin." The General Conference of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) at the tenth session adopted the following definition: "official publications and government documents when they are executed by the order and at the expense of any national governmental authority: parliamentary documents; reports and journals and other legislative papers; administrative publications and reports from central, federal and regional government bodies; national bibliographies; state handbooks; bodies of law; decisions of the courts of justice; and other publications as may be agreed." These definitions seem to be comprehensive enough. But the mere execution at the expense of any national government authority should not entitle a document to be classed as government publication. This loose definition may raise many problems, particularly for the cataloguer. For example, in India several research projects are being executed at the instance and expense of the Research Programme Committee of the Planning Commission. These studies have been done by different individuals. The thought-contents of these studies are those of the in-

(This article describes the importance of government publications for research; provides a definition of a government publication from the point of view of acquisition and cataloguing; states the extent and types of such publications; discusses the factors which bring pressure on a government to publish; singles out the factors which hinder the regular acquisition of the government publications in the libraries; and suggests (a) the setting up of a semi-government autonomous corporation to look after the printing, publishing and sales organisation of all the Central Government publications; (b) separation of printing from stationery department and (c) establishment of a chain of depositary libraries for all government publications).

dividual authors who have undertaken these projects. The mere fact that these studies have been financed by Government, cannot entitle them to be called as government publications.

ACQUISITION

From the point of view of acquisition, all those publications whose printing, publishing and distribution are handled by a government (federal, state, local) agency, even if the work is that of personal authorship, should be treated as government publications. In India at the Central level, mainly the following agencies handle the publishing and distribution of all the government publications:

1. The Manager of Publications, Delhi-6 (whose office is under the Chief Controller of Printing and Stationery, Government of India);
2. The Lok Sabha Secretariat, New Delhi; and
3. The Publications Division, Ministry of Information and Broadcasting, Delhi-6.

Publications are also brought out by various other Ministries and Organisations of the Government, such as the Council of Scientific and

Industrial Research, Indian Council of Agricultural Research, and the Ministries of Education and Labour, and so on.

CATALOGUING

The proper cataloguing of government publications is a pre-condition for their use. However, because of the imprecise nature of authorship and unhelpful display on the title pages, even veteran librarians find it difficult to catalogue government publications. It is advisable that only such documents should be considered government publications whose thought-contents are the direct responsibility of some organ or other of the government concerned. The mere appearance of the seal of a government on the title page of a document, if the authorship of the document is a personal responsibility, cannot entitle it to be considered as government publication for cataloguing purpose.

On account of the change in the concept of functions of the state, the activities of government have increased enormously since the First World War. Simultaneously, the problem of communication with the people receives more emphasis today. The printed word is one of the most effective media of communication, especially in a democracy. Governments these days are the largest publishers in every country. Beck has observed about the United Kingdom that "in 1887 it was estimated that the number of books and papers published by the British Government then (on sale and excluding Acts of Parliament) would be understated at 2,000; in 1950, 400,000 would be an understatement. And the number is being added to at the rate of about 4,000 titles annually." As regards the total government publications in India, the Indian National Bibliography for 1958 lists 1921 publications (both Central and State). The position of periodical publications as on December 31, 1959 was that out of the 186 papers issued by the Central Government, 132 were published by different Ministries and Departments of the Government of India and 54 by semi-government and autonomous bodies under the Central Government. The distribution of these papers by language was as follows: English—113; Hindi—32; Telugu—five; Bengali—four; Marathi, Tamil and Urdu—three each; Gujarati and Kannada—two each; and Malayalam, Oriya and Sanskrit—one each. Of the remaining 16, eight were bilingual, one multilingual, and seven in 'other' languages.

The distribution of the Central Government's newspapers, according to their periodicity, was: dailies—3 (the weather bulletin issued by the Meteorological Department, Delhi; the Daily List of Imports and the Daily List of Exports issued by the Ministry of Commerce and Industry from Bombay), weeklies—16; fortnightlies—23; monthlies—73;

STATE PUBLICATIONS

One hundred and seventy periodical publications were brought out by the different States. Of them, 62 were in Hindi, 40 in English, 12 in Gujarati, eight in Marathi, five in Bengali, four each in Oriya and Urdu, three each in Kannada and Tamil, two each in Malayam, Punjabi and Telugu and one in Assamese. Of the remaining 22, eleven were bilingual, eight multi-lingual and three in 'other' languages.

In terms of periodicity, these consisted of 20 weeklies, 24 fortnightly, 95 monthlies, 27 quarterlies and half-yearlies and four annuals

The Uttar Pradesh Government and the local self-governing bodies under it published the largest number—40, followed by Bombay (then still undivided) with 37. The number of papers issued by other State Governments was Bihar—18; Madhya Pradesh—16; West Bengal—13; Orissa—11; Madras and Punjab—eight each; Mysore—five; Kerala and Andhra Pradesh—three each; Assam, Rajasthan and Delhi—two each and Himachal Pradesh and Tripura—one each.

FOUR MAIN CATEGORIES

According to the definition of government publications for cataloguing purposes, the whole range of government publications can be grouped into the following categories:

1. *Legislative*, such as Bills, Acts, Ordinances, Rules, Minutes and other records of the meetings of Assemblies.
2. *Administrative*, such as annual reports of the various ministries or departments of the government, international treaties and engagements and the official gazette.
3. *Judicial*, such as judgments, awards, and decisions and rulings of courts of law.
4. *Research*, such as the reports of ad hoc commissions, committees, study groups, boards appointed to study specific problems, periodicals and yearbooks.

The maxim that 'ignorance of law is no excuse' makes it obligatory for the state to publish every law which it wants the public to obey. Therefore, unless legislation is published in the official organ (the Gazette in our country), no court of law will take cognisance of it. The set-up of a modern society requires that all the laws governing its structure and the inter-personal relations regarding freedom, property, contract or crime, should be codified in unambiguous language. Even an

amendment to an existing piece of legislation has to be codified. The statutes of all countries are growing rapidly in size. In India, Parliament alone has passed as many as 694 Acts between 1950-59.

Because of the concept of welfare state, the number of Governmental agencies and the range of their activities have been vastly expanding. Many of these organisations are under legal obligation to publish a report of the activities in their respective fields. These reports help the public to know the extent of the activities of the organisation concerned. Other publications are also brought out by them from time to time.

The awards, judgments, decisions and rulings of the judiciary of a country have to be published for the following reasons: (1) to inform the plaintiff about the decision of the court of law on the plaint; (2) to enable the executive to act according to the judgment or decision; (3) to enable the lower courts to be guided by rulings of superior courts such as Supreme Court and High Courts on a point of law; and (4) to enable the original court itself to be guided by its own interpretations and rulings for future judgments and decisions. For example, in India all the decisions of Supreme Court and High Courts are published. The awards of Central or State Industrial Tribunals are also published.

With the expansion of the administrative ambit, there is need for the policies of the Government to be based on well-informed grounds. This is possible only through expert and unbiased advice. In modern times governments obtain such information and advice from expert committees appointed by them to report on specific problems. The reports of these ad hoc bodies provide a wealth of information which is usually not otherwise available. In India, particularly after Independence, there is a trend in favour of setting up research units and bureau even under the wings of a Ministry, to enable the administrator to base his decisions on well-informed grounds. It would be interesting to know the expansion of research activities of the Government after Independence. The government is publishing many useful research papers, some in the form of a periodical digest. For example, the Labour Bureau of the Ministry of Labour and Employment, set up in October 1946, has been publishing: the Indian Labour Gazette (from January 1960 renamed as 'Indian Labour Journal', which is published every month) and the Indian Labour Yearbook: Large Industrial Establishments; Statistics of Factories and Trade Unions, which are issued annually.

The second part of this article will be published in the next issue of "Yojana".

QUIZ ANSWERS

1. The scheme promotes holiday camps for children in the age-group of 12 to 16 years, whose parents' monthly income is less than Rs. 200. The idea was initiated by the Indian Council of Child Welfare, and the camps are aided by the Central Social Welfare Board. Since 1959, grants amounting to Rs. 4.41 lakh have been sanctioned, through the ICCW to 120 voluntary organisations for holding such camps at hill stations and seaside resorts. So far, 7,124 boys and girls have benefited.
2. To promote village and small industries, 23,245 Ambar Char-khas, 2,159 improved oil ghanis, 15,442 bee-hives and 7,202 sewing machines were supplied to rural areas in 1960-61.
3. 300 by the State Warehousing Corporations; and 50 by the Central Warehousing Corporation.
4. The Bhadra Project is situated at Lakkavalli in the Chick-mangalur district of Mysore State. It is a multi-purpose project which comprises the construction of a masonry dam on the river Bhadra right and left bank canals of about 112 miles in length and a powerhouse with an installed capacity of 33,200 kW. After completion by the end of this year, the project is expected to irrigate 245,000 acres of land in Mysore State and supply power for industrialisation of the area.

Sand Paper From Broken Glass

To make sandpaper you require glue, powdered glass and thick sheets of paper. First, pound the broken pieces of glass in a mortar. Pass them through a sieve with very fine meshes. The sieved glass powder must be very fine.

Next prepare the glue. You can buy solid glue from the market but it should be boiled with water before use. Buy thick paper. Spread the prepared glue evenly on the paper. Then take a wooden roller and paste foolscap papers round it. Spread over the glued paper the fine sieved glass powder and then roll the roller over it and then dry it. You will get fine sandpaper.



A variety of articles to suit different tastes.

Brassware of Hajo

Photographs by HARBANS SINGH



PRIDE
OF
PLACE



A craftsman polishing the ware

A FEW miles from Amingaon across the Brahmaputra from Gauhati is a small town called Hajo. It is a well-known pilgrim centre, doubly and specially sacred because both Muslims and Hindus worship at the same shrine. This shrine is called One-Fourth Mecca by the common people.

Hajo has yet another claim to fame. Brass utensils of household use are made there which have a sale throughout Assam. In fact the town is populated almost wholly by farmers and metalworkers. The State Government has organised these craftsmen into a co-operative. The society helps in supplying the members' requirements and also looks after the marketing of what they produce. The articles themselves are produced in the craftsmen's homes.

"DINNER will be ready at 7 p.m." "Attention please... Tomorrow at 8 a.m. we shall go to the Rashtrapati Bhavan." "Please listen, after lunch tomorrow....." These were some of the announcements I heard as I reached the Bharat Scout and Guides headquarters near Humayun's Tomb, New Delhi, on a late October evening. A number of tents had been raised on

Teachers Honoured HEROES

OF A BASIC INDUSTRY

the lawns. Powerful lamps had been fastened to poles, and from loudspeakers came the strains of radio music. People were all attention to the guests. It was not a scouts' rally, though. The arrangements had been made for teachers who were in Delhi to receive the President's Award.

What a good thing it is, I told myself, that the nation has begun to honour teachers, and not merely its statesmen or stars. These teachers had come from all parts of the country.

Here were men and women who had spent a life-time in tending tomorrow's harvest, or, as the platitude goes, shaping the future leaders of our country. Yet what had been their attitude towards life? How far had they been successful in realising the dreams they had dreamt at the start of their career? What compensations had they found in a profession known for its meagre rewards?
Home & The School

One of those who had firm views was Mr. Shreedharan Nair, headmaster of the Pappanancode Lower Primary School in Trivandrum. He has been a teacher for 30 years. He told me that only those who have a genuine love for children should take to teaching. Miss A. D. Cooper, headmistress of the Taiyebiyah Madrasa Girls' High

School, Surat, said that since women are temperamentally more affectionate it is they who should be in charge of schools. Mr. Kailas Kar laid stress on closer relationship between home and school. Remarkably young at 52, Mr. Kar is the headmaster of the Laban Bengali Boys' High School, Shillong. As one in the profession for more than 30 years, he considered training of teachers to be as essential for the country's progress as, say, the basic industries.

What do the teachers think of the present crop of school-going children? Miss Cooper thought the students of the present day had much larger opportunities.



Mr. Har Prasad, a headmaster who remembers his headmaster

They had a good deal of extra-curricular activities which helped them to build up a corporate life. And the teachers also, observed others, commanded more respect now than they used to do some years ago. "Not always, perhaps," snapped another teacher. "Our services are requisitioned," he said, "whenever they require some funds to be raised. On other occasions we are ignored."

I tried in vain to cajole the assembled teachers to tell me about some incidents in their lives. They exchanged glances. "Teachers, after all, are not politicians—their life follows but one monotonous routine," said one. "We are on the whole happy now," remarked another, "though we have to attend to many things other than teaching." "The fact is, once one becomes a headmaster one has to retire as such," added the headmaster of an aided school.

In The Blood

Mr. Har Prasad, unlike others, was communicative. He is the headmaster of a municipal primary school in Deputyganj, Delhi. As he talked I felt that teaching is not a vocation but something in the blood. After passing the Punjab matriculation examination in 1926, Mr. Har Prasad joined a tobacco firm in Saharanpur. But he found out that he liked the com-

pany of children to that of his office colleagues. He passed a training examination and joined a private school in Delhi as headmaster in 1929. After the school was taken over by the municipality he has been headmaster of a few other primary schools. "Throughout my career," Mr. Prasad said, "I have followed the example set by Mr. Dharm Singh, a headmaster at whose feet I had the fortune to sit....Teaching—and only teaching—was his motto."

During the conversation I came to know that Mr. Har Prasad was secretary of the Municipal Corporation Headmasters' Association as well as secretary of the Municipal Corporation School Tournament. "Unforgettable moments," he told me in a soft voice "are not many in a teacher's life....I recall how proud I felt in 1935 when I was selected as instructor for a teachers' refresher course! To others such things may appear trivial."

What was his reaction to the honour conferred on him by the President? "Of course it is one of the memorable events in my career," he replied. He leaned forward and whispered: "You know, one of my students is now a professor in a British university. Isn't that as great a reward?"

K. B.

ROTARY PLOUGH

QUESTIONS from Mr. B. Manoharlal, 29, Kaliyannan Koil Street, Vellore.

1. What is the difference between a tractor and a rotary plough?

2. Who are the manufacturers of rotary ploughs in India? If it is not manufactured in India, how can it be imported? What would be the price?

3. Is the rotary plough suitable for Indian soil?

ANSWERS: 1. The difference between a tractor and a rotary plough is like that between a pair of bullocks and a cart. The tractor only provides traction power for ploughs and other mechanical implements. A rotary plough differs from other ploughs in that, though, like other ploughs, it digs and turns the soil, unlike others, it also pulverises the soil automatically.

2. Rotary ploughs are not yet manufactured in India. The import of these ploughs is, for the present, not encouraged by Government on account of stringency of foreign exchange and uncertainty of its utility in Indian conditions. The price of a diesel-engined rotary plough is approximately Rs. 4,000.

3. Rotary plough is suitable mainly for the paddy growing lands with considerable moisture and soft soil. The plough has not yet been experimented on large scale to recommend it in general Indian conditions.

CROPS WITH PADDY

QUESTION from Mr. N. Venugopalan, Madurai.

In my area paddy is the main crop. Which other crops can be combined with it to enable the farmer to enjoy the advantages of diversified farming?

ANSWER: It depends mainly on the fallow period. If paddy is a kharif crop in the area, pulses may be grown. In irrigated lands, cotton also can be tried.

DRY FARMING

QUESTION from Mr. P. K. Damodaran, care of the Municipality Committee, Sakti, Dist. Bilaspur (M.P.).

What is dry farming?

ANSWER: Dry farming is an integrated, rational system of cultivating purely rain-fed crops in regions of low and highly erratic rainfall. The object of this system is to maintain fertility and conserve the maximum amount of rain water in the soil, so as to make it available for crops during their growing period. The crops vary in the different dry farming regions of the country. Generally these crops require very little moisture in the soil and they grow mainly after the short period of rainfall. For obtaining the best yield, methods for dry farming have been evolved for different regions.

ON RURAL ECONOMY

QUESTION from Mr. K. P. Singh, Civil Lines, Ludhiana.

Will you please suggest some books on 'rural conditions and problems of rural economy and culture'?

ANSWER: There are number of good books on the subject. However, the following works are suggested for general reading: (1) Indian Rural Problem by M. B. Nanavati and J. J. Anjaria; Fifth edition, 1960; Indian Society of Agricultural Economics, Bombay. (2) Economics of Indian Agriculture by B. V. Narayanswamy and P. S. Narasimhan; Fourth edition, 1948; Rochouse and Sons Limited, Madras. (3) Indian Economics by G. B. Jathar and S. G. Beri; Vol. I; Eighth edition, 1947; Oxford University Press, Madras.

LITERACY PROBLEM

QUESTION from Mohan Chandra Joshi, B-120, Kidwai Nagar, New Delhi.

What should be the percentage of literacy among men and women at the end of Third Plan irrespective of the fixed target or its achievement?

ANSWER: Education is a basic need for improving the conditions in the country and for the success of our development plans. Cent per cent literacy would lead to better results of our present nation-building effort.

But the problem of literacy is not so easy to solve. Age-old traditions, pressing needs for earning bread for the poor families, lack of facilities for training teachers and several other factors come in the way. The Third Plan has not fixed any target for literacy, but has suggested measures for a large-scale programme of adult literacy. The programme is being drawn up by the Ministry of Education, in consultation with the Ministry of Community Development and Co-operation.

At present there are 24 literates in every 100 persons of our population. The Third Plan envisages that every child of the schoolgoing age will be in school by 1965-66. This means that 76 children out of every 100 will be going to school at the end of Third Plan.

As regards adult literacy, no doubt the success of any programme of social education depends on public cooperation. If the voluntary social workers, Panchayat Samitis, Government personnel in rural areas and the people all come together to make the full use of facilities provided by the Government, illiteracy will soon become a thing of the past. The example of the village Lahsurne in Maharashtra State is worth emulation in this respect. The success in achieving total literacy at Lahsurne is described in this issue elsewhere (See page 15).

INVENTORIES

QUESTION from Mr. R. C. Mahapatra, Puri College, Orissa:

What is meant by "Inventories" and in what items will the sum of Rs 600 crore under this head be invested in the Third Plan period?

ANSWER: 'Inventories' broadly represent working capital, which includes raw materials, semi-finished goods and stocks. In the Third Plan, the total investment on Inventories is placed at Rs. 800 crore—Rs. 600 crore in the private sector and Rs. 200 crore in the public sector. The details of investment are under consideration.

Use Fertilisers Get Better Price For Cotton

I.C.A.R. AGRICULTURAL
INFORMATION SERVICE

TOP-DRESSING is the process of applying fertilisers to standing crops. Measured quantity of ammonium sulphate is applied in two bands at the base by hand, about six inches from the rows of plants. A ridge plough is next applied and the furrows bury ammonium sulphate in the soil root zone. Immediately after this operation, liberal irrigation is given to the field.

The Cambodia cotton responds well to top-dressing with ammonium sulphate. For the crop planted in September, top-dressing can be done during November-December. According to latest research on manuring,

FARMING NOTES

basal application of 100 lb. of ammonium sulphate per acre prior to dibbling the seed and followed by top-dressing at the same rate at the time of commencement of flowering, results in extra yield. With fairly good prices now prevailing for cotton, particularly for the improved long-linted departmental strains, it pays to apply fertilisers.

CERTIFICATION SCHEME

Superior strains of cotton are evolved by the Cotton Specialist for producing higher yield and better quality. Farmers should also be helped to get a better price for the quality cotton they produce. It is therefore necessary to certify that the cotton grown by the farmer is of the improved strain, so that with this certificate he can claim a better price for his produce. The Cotton Certification Scheme introduced by the Government is thus intended for helping the farmer in getting a better price for the superior varieties he grows in his farm.

This certification scheme applies to three important strains



A full-grown cotton plant, after being treated with fertilisers.

of cotton, namely, MCU 1, MCU 2 and MCU 3 grown by the cultivator. The merchants are also benefited by this scheme in that they are assured of a high quality. This certification scheme was started about a decade ago and many farmers have already been benefited by this scheme. Both MCU 1 and MCU 3, grown as winter crop, and MCU 2, raised as summer crop, are eligible for certification. The seeds for growing these crops should be purchased from the Agricultural Department or through the approved agents like the Co-operative Societies in the area. The cash receipt should be properly preserved and produced while applying for the certificate. For obtaining a certificate, a fee of Rs. 1.50 is charged for every acre. The farmer has to apply to the Extension Officer from whom the prescribed form for application can be obtained

free. After filling up, the form can be sent to the Extension Officer with the receipt obtained for the seed. The crop will be inspected by the certification staff. If found satisfactory and the purity not less than 95 per cent, the certificate will be issued. This certificate can be produced by the farmer to the dealer who is interested in buying the produce. The last date for application for obtaining this certificate is December 31, 1961.

A pothi of certified crop fetches about Rs. 10 to Rs. 15 extra and therefore farmers can get up to Rs. 60 per acre by this certification scheme. If you are growing improved seeds, it is better you get higher price by obtaining the certificate from the Agricultural Department. The nearest Extension Officer will help you with further particulars.

GETTING PURE SEEDS

SINCE seeds of improved strains yield bigger and better crop, farmers are advised to use them for sowing. Maintenance of pure seeds involves care during such stages of cultivation as harvesting, threshing, winnowing and storing. Steps should also be taken so that the same improved strain is grown year after year. 'Roguing' is important for maintaining purity of seeds. A 'rogue' is a term given to the type other than what is grown in the field. 'Rogues' can be located during the maturing stages of the crop and removed. If necessary, fields should be visited twice or thrice to spot them. In the case of high class seeds, there appear only one or two 'rogue' plants for about every 250 meters of the field or about 20 to 30 to an acre.

Harvested lots of different strains should be kept separately in case a farmer grows more than one improved strain in his farm. The threshing floor must be swept well and washed with cowdung and scrupulously cleaned. Storing should be done in separate places. Old gunnies should be turned inside out, thoroughly cleaned, and dried before the bags are filled. Each bag should be labelled both inside and outside with the name of the strain so that the one inside will remain intact even if the one outside gets lost.

MAINTAINING ACCOUNTS

No farmer is expected to run a farm efficiently without adequate records and accounts. Keeping accounts is simply a method of entering financial transactions in a systematic manner. This helps the farmer to find out the exact financial position of his farm and enables him to calculate the profits or losses he has made during a period of time.

The value of accounts from the point of view of efficient management of a farm can hardly be overestimated. A detailed analysis of the accounts will indicate the weak spots in his management. Efficiency can be increased by effecting economy by locating wastes, and by a proper planning for the future.

QUOTATION BOX

If I may say so with all respect, we are a slovenly people.

—Mr Nehru.

'National integration'—in recent months the largest single begetter of platitudes.

—From an editorial in 'The Statesman'

Nowhere is the change in India more marked, and more revolutionary, than in the condition of the press.... Though it is necessary to see that the disintegrating forces are controlled, after careful consideration, Government felt it would be better that freedom of the press is not checked in any way, as any control of a political kind might bring in worse evils.

—Dr B. V. Keskar

In reporting legislative proceedings the Press has less freedom now than in the British days.

—Mr. Durga Das

For the motor-tourist India is close to Russia as the most expensive country to travel in.... You in India have some of the lowest wages in the world and the highest prices, just as they have in the USSR.... If India is to attract tourists in future, she must get these prices down; they won't pay 6s a gallon for petrol, 6s for a small bottle of beer, more than 3s for a tin of condensed milk. They are double the Australian prices, and yet our wages (in Australia) are six times as high.

—Mr Eldred Norman of Australia in a letter to The Statesman.

Like the magistrate (from Australia), I, too, with three other young men have motored from Europe, and we have found, to our relief that India is one of the cheapest countries from the traveller not in the luxury class.... There are several matters, such as hotel accommodation and road conditions in which there is room for improvement to suit the more fastidious tourist. But I came to see India as it is and not as a tourist-conscious imitation of Western Europe.

—Mr. John Davies of New Zealand.

A Westerner who talked only to Indian intellectuals might well feel that there was no hope for the country at all, for a more hopeless, rootless, disillusioned group it would be hard to find. The soul-sickness of the Indian intellectuals is depressing, and it is probably getting worse.

—Mr. Angus Maude, former Morning Herald, Australia Editor of the "Sydney Lia."

A majority of the people in underdeveloped countries suffer from a lack of purpose and dedication. There is a great need for the development of a spirit of discipline, devotion and dedication at all levels, from top to bottom.

—Dr. Radhakrishnan.

Some foreign observers, while praising the remarkable stability of India in the 1960's, stress that a contributory cause was the handing over of the torch to the Indians as the British were making efforts generously to get out. This is a fiction as there was no conscious effort either to hand over or take over....

Within the bosom of a most up-to-date modern constitution functions an administration, well-saturated with caste spirit—alas, considerably strengthened and rejuvenated by linguistic parochialism and caste patriotism of the new elites.

—Mr. C. S. Venkatachar in 'The Eastern Economist'

The present-day Indian Administrative Service recruits are as good as the former Indian Civil Service men.

—Mr. A. N. Jha, Director of the National Academy of Administration.

Hunger may be prevented, but nutrition and health will not be ensured. Not much will be gained by merely preventing hunger now, if only to subject the population later to numerous preventable deficiency diseases.

The present situation calls for a greater stress on the production of foods other than cereals, particularly the protective foods like pulses, milk, vegetables and fruits.

—Mr. S. Ranganathan, a scientist, writing on the food production programme of the Third Plan.

Vanaspati is used in over 50 countries

VANASPATI-LIKE fats have been used the world over for several decades. In western countries these fats are known as margarine and shortening, and are very popular. Even the butter-rich countries consume more vanaspati-like fats than butter, as this table shows:

				<i>Annual per head Consumption (lb)</i>	
				Butter	Shortening and Margarine
Denmark	...	...		23.0	41.4
Netherlands	...	...		9.0	44.8
U. K.	...	...		18.5	19.9
U. S. A.	...	...		8.0	20.6
West Germany	...	...		17.2	27.1

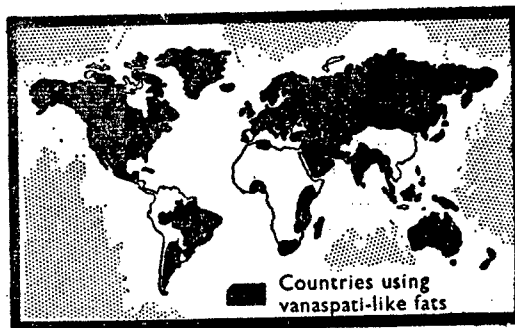
The world-wide popularity of vanaspati-like fats has its source in the industrial revolution. Industrialisation in Europe brought rapid rises in populations, higher standards of living, better diets, and a demand for more food-fats. Soon traditional fats—butter, lard and dripping—were in short supply.

This led to the search for less expensive yet equally nutritious food-fats. The search ended when the hydrogenation process was used to convert edible oil into semi-solid fat. Thereafter, hydrogenated fats have been produced in larger and larger quantities. They are known in various countries as shortening, margarine, vegetable ghee and vanaspati.

Today vanaspati-like fats are made by over 25 countries: the largest producers are the U.S.A., West Germany, the U. K., the U.S.S.R. and India.

Nutritious, low-cost fat

India's population and standard of living are rising; so also is her need for food-fats. But her traditional food-fats—ghee, and some vegetable oils—are expensive and in very short supply. Fortunately India has vast groundnut oil resources which are being tapped to produce large quantities of vanaspati. And we in India have been increasingly using this nutritious, low-cost cooking fat...just like millions the world over.



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
Nigeria Norway Pakistan Poland Portugal
Rumania Saudi Arabia Sweden Switzerland
Turkey Union of South Africa U.S.S.R.
U.A.R. U.K. U.S.A. Yemen Yugoslavia.

For more information, please write to:—

The Vanaspati Manufacturers' Association of India

India House, Fort Street, Bombay

AS THE PLAN MOVES

Bhakra Power---

Last 2 Units Ready

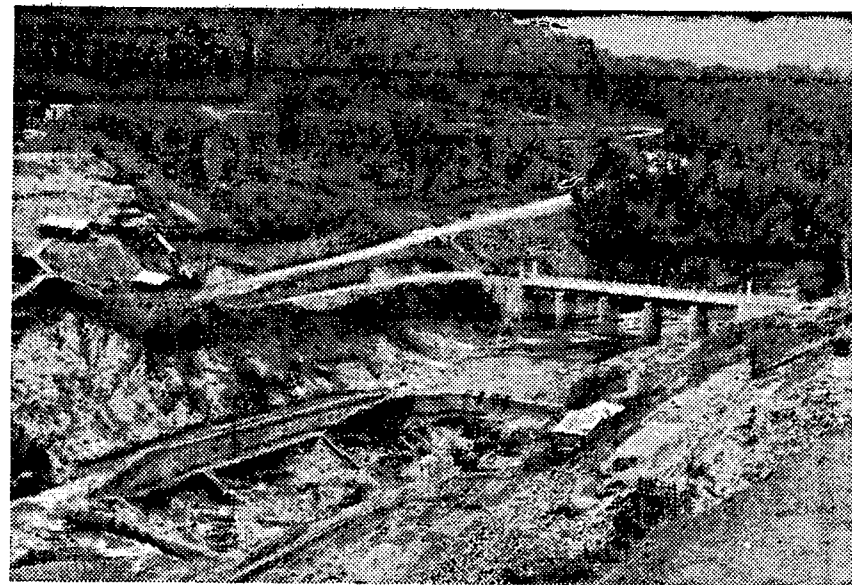
THE left bank Bhakra power house will be in full commission by the first week of December when all its generators will be in action. Three of the five generators, each with a capacity of 90,000 kW, have already been commissioned. Of the remaining two, one has already been tested and the other is ready for a trial run. With the addition of these units and one unit each of 29,000 kW at Ganguwal and Kotla, there will be an installed capacity of 6,04,000 kW and firm capacity of 3,66,000 kW. The first unit of the Bhakra left bank power house was commissioned on November 14, 1960.

Rourkela's

New Record

ROURKELA has shown a further rise in its production records. A stock-taking of its achievements during October, this year, indicates a considerable rise in the output of its various units.

During the month, Rourkela produced 41,907 metric tons of pig iron and 33,903 metric tons of steel—an increase of 31 and 35 per cent respectively. In addition, Rourkela also made high quality flat products like heavy and medium plate, plain and tin-plated sheet. Its rolling mills (where the ingots are converted into forms which can be put on sale) showed better output. The slabbing mill produced 26,707 metric tons of slabs. The hot



In this well-wooded valley in southern India, a dam is coming up, which is part of the Parambikulam-Aliyar project. The project, which will cost Rs. 35 crore (See page 12 of 'Yojana', October 29) will bestow many benefits on both Madras and Kerala States.

strip mill also gave a better account of itself.

A notable feature of the Rourkela Plant is that it adopts the LD Process for steel making. This process has been found very successful. Compared with the conventional Bessemer or open-hearth processes, it requires lower capital outlay and operating costs.

To convert hot metal into steel in the converter, oxygen is required. Unlike the conventional processes which use air to provide oxygen, the LD process uses pure oxygen. It is blown from the top into the hot-metal baths. The LD converter of Rourkela produced a record of 30 blows on a single day with a daily average of 25 blows per converter during October.

Awards For

Our Inventors

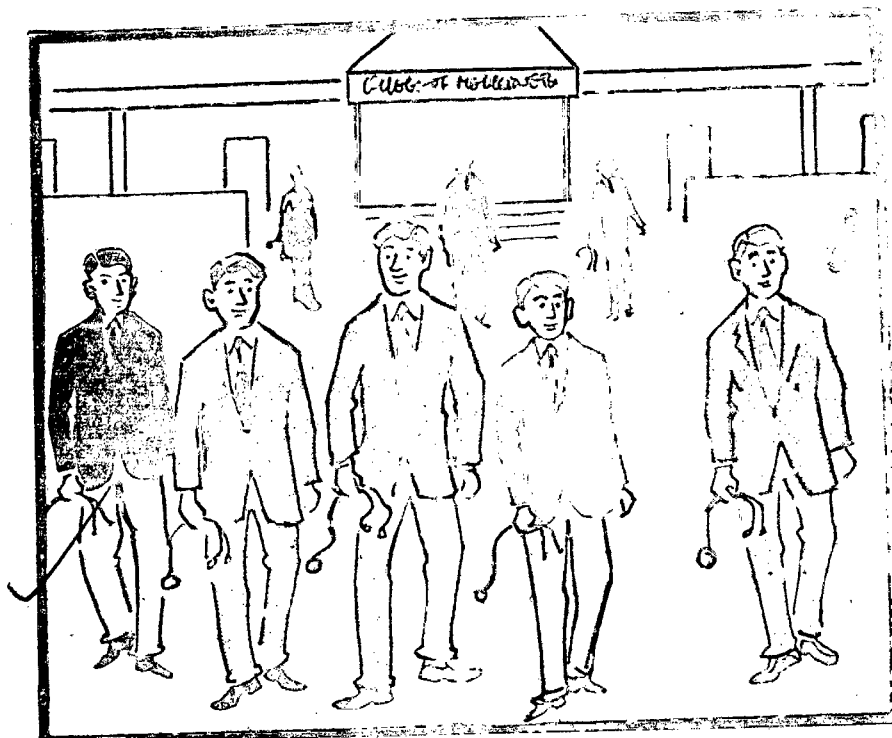
THE Inventions Promotion Board of the Union Ministry of Commerce and Industry has announced 19 awards.

Among the winners is Mr. Subhash Chandra, a 15-year-old student of a Delhi school. His invention: an electro-timer. This is a simple device made by using two alarm time-pieces which, when put to any electric circuit, acts as a time switch to make and break the supply at pre-set time intervals. He has been awarded a silver medal and paid the cost of making the model. Other winners include Mr. B. Sahai of Allahabad (invention: a design for a water lifting arrangement employing manual or animal labour), Mr. K. Dutt of Calcutta (invention: a new method of construction of long lasting mud walls by using bamboo and mild steel in cement-cinder brickwork, using mud as mortar), and Mr. J. P. Subramanya Iyer of Trivandrum (invention: a self-closing water tap using the water pressure to keep it closed).

The Inventions Promotion Board was set up in early 1959 to promote thinking on new ideas and inventions among the people by giving them suitable technical and financial help. The inventions submitted to the Board are adjudged by a panel of experts. During its first year the Board gave nearly Rs. 1,10,000 to 73 inventors.

GRAPHIC GLIMPSE

TRAINING MORE DOCTORS

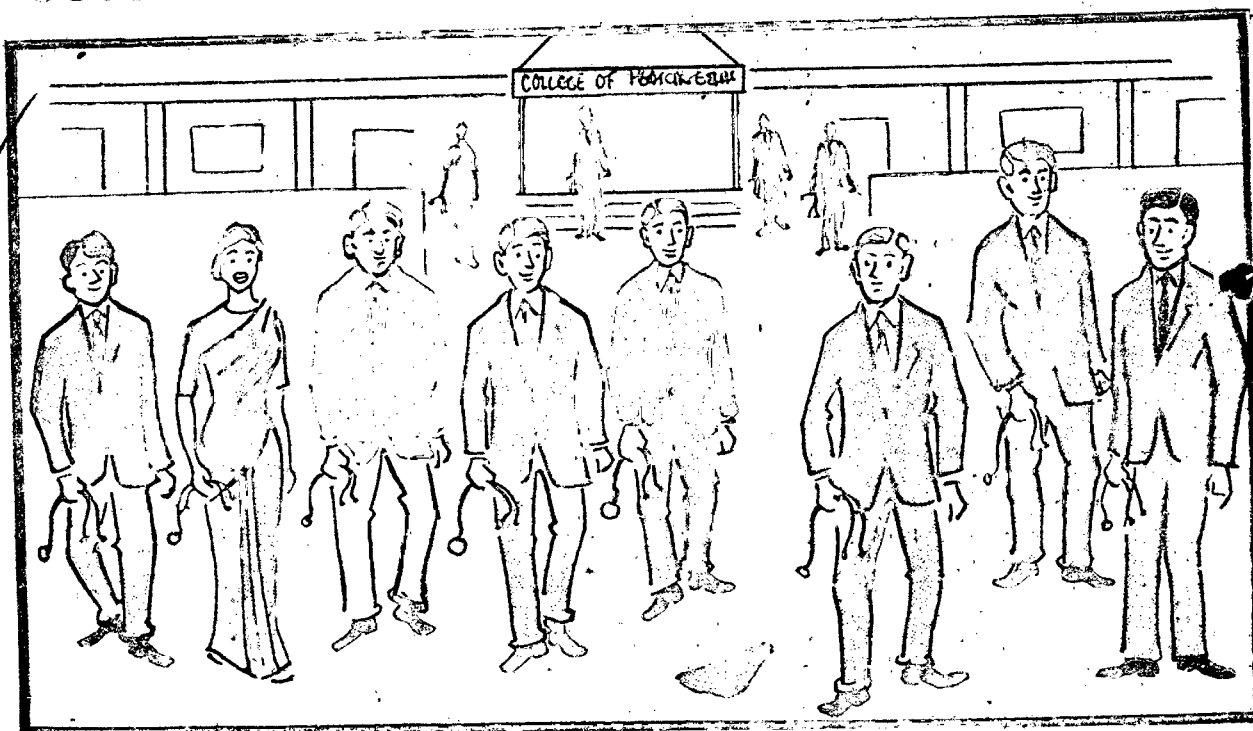


Training of doctors is an important aspect of our development programmes and holds the key to the achievement of our health targets.

In 1960-61, the intake of medical colleges was 5,800 and the outturn was 3,200.

In 1965-66, the intake will be 8,000 and the outturn will be 4,830.

OUTTURN IN 1960-61 — 3,200



OUTTURN AT END OF THIRD PLAN — 4,830

rationalisation and bring the staff strength down to more manageable limits.

An equally important problem that faces Indian industry is that of productivity. It is a matter of satisfaction that enlightened managements have stated that it is they who have a vital role to play in raising productivity standards though in this task they need the co-operation of the worker. This would imply that scientific management must be made the standard practice in Indian industry. For this purpose, it will be necessary to train a cadre of managers, delegate to them the powers to take decisions and assist them to get the best out of the workers. Planners have emphasised, right from the time the process started in India ten years back, that the workers can only hope to secure real gains on the basis of increased productivity. For this purpose, far from resisting, the working class will have to speed up the process of rationalisation. This recommendation in the Plan reports has had its welcome effects.

The Older Worker

The problem of the older worker is conditioned by the existing social attitudes and organisations. Thus, in the joint family system it is taken for granted that married children live with their parents and when the parents cease to be earning members, they continue to be members of the family, though their roles may be reversed. It is true that the joint family system is gradually being weakened by time, but so far the problem of the older worker has not assumed alarming proportions. A beginning has been made with the organisation of an Employees' Provident Fund Scheme which now extends to workers in 58 industries. A number of industries have pension and gratuity schemes for the benefit of their workers.

The Family

In industries like plantations, construction, mining and in agriculture, employers find it convenient to engage families rather than individuals as a unit of employment. In the case of plantations, particularly in the Northern and Eastern regions, families migrate from other areas of the country to accept work on plantations. There is a regular system of recruitment for this purpose. In the case of mining, women do most of the work on the surface, leaving the more difficult drilling operations to men. Here also, families are preferred to individuals. The pattern of employment in agriculture has always been with the family as a base.

The working conditions of women are regulated by protective legislation that covers a wide

variety of items such as maternity benefit, hours of work, wages, creches and rest rooms. But a real problem has come to the fore in recent years with the acceptance of the principle of equal pay for equal work. Employers in marginal units consider that the burden of such "protection" is heavy and in their recruitment policies have continued to show preference to men, when new entrants are required in the unit. The number of women in a traditional industry like cotton and jute textiles has definitely been on the decline.

There is, however, the other side. In new industries where dexterity, prototype production and generally lower levels of skill have a premium, the employment of women has been quite rapid. Thus, "automatic" job reservations in favour of women have developed in industries that involve the assembly of radios, telephones and electrical appliances and the packing of pharmaceuticals, sweets and confectionery.

There has been a significant increase in the number of women clerical workers. It is now quite a common feature to see them engaged as typists, stenographers, telephone operators and receptionists in Government departments and private offices. In recent years, it has also been observed that a number of them continue to work even after marriage; this may be due partly to the decline of existing social prejudice and partly to the rising cost-of-living index, which makes it necessary for them to supplement the family income. The question of separate technical training programmes for women is also under examination by Government, the intention being to prepare them for the new employment avenues that are thrown open to women.

Youth

Educated youth in search of employment present another difficult problem. Apart from the long-range goal of gearing the educational system to the changing demands of the economy for persons with technical and industrial training, it has now been considered necessary to evolve certain short-term solutions to keep distress to the minimum among a group with a valuable potential. Apart from organising work and orientation centres, it has been decided to train them in the techniques of modern management and place them in employment in the small industries that are rapidly expanding, either as individual entrepreneurs or as members of a co-operative.

In a planned development, considerable attention has to be given in advance to problems of technical training. It has been the experience in India that resources, other than the resources of skilled personnel, can be mobilised with some effort but technical personnel of the right type are hard to find. As it is, in the last ten years, there has been a considerable expansion of technical training facilities at various levels. These include technologists and engineers in various

(Continued on page 19)

This paper was prepared in reply to a questionnaire on 'The Human Consequences of Industrialisation' circulated by the organisers of H.R.H. the Duke of Edinburgh's Second Commonwealth Study Conference (Toronto, Canada, 1962).