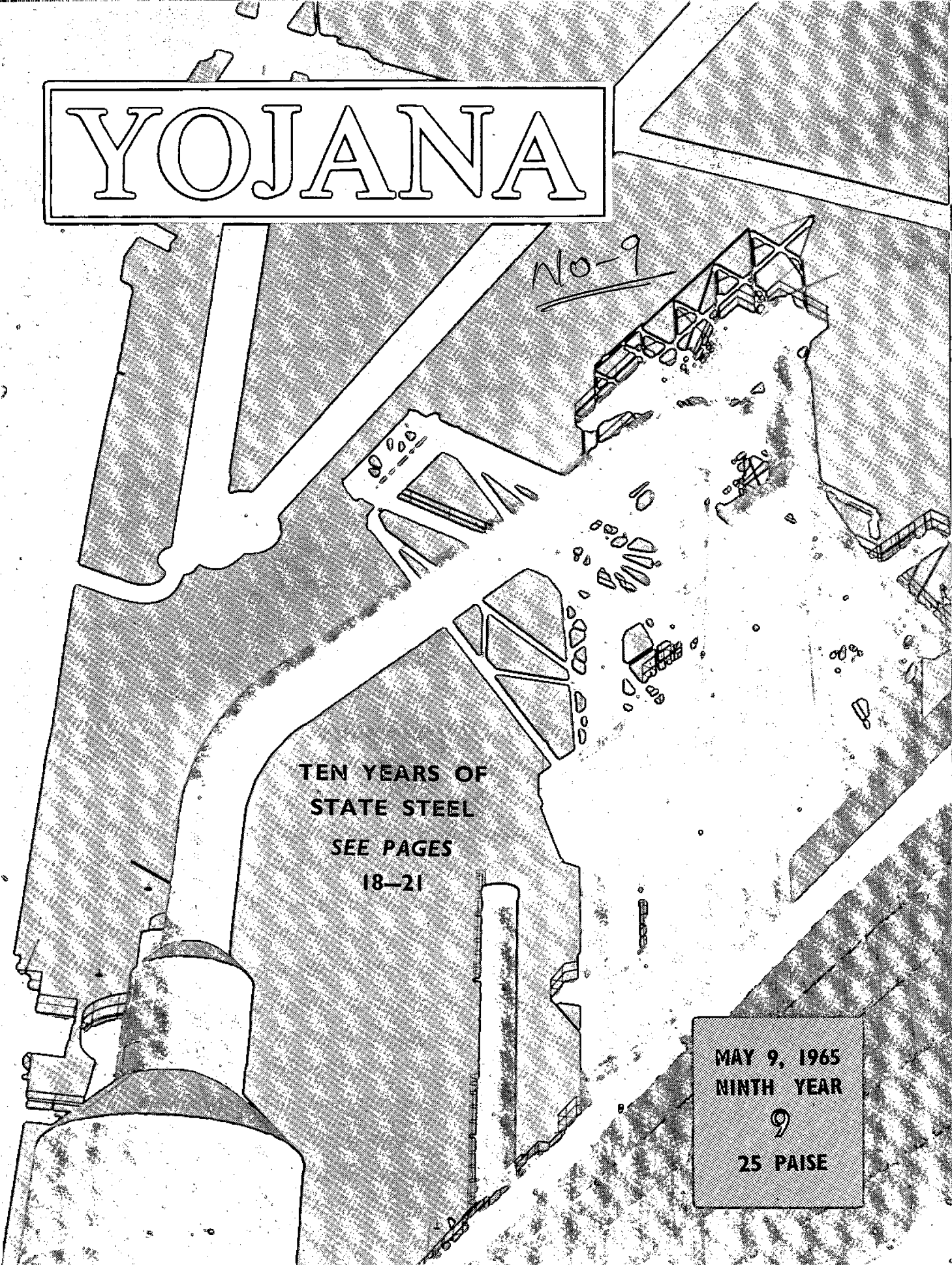


# YOJANA



TEN YEARS OF  
STATE STEEL  
SEE PAGES  
18-21

MAY 9, 1965  
NINTH YEAR

9

25 PAISE

## ABOUT YOJANA

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

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

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## NEXT FORTNIGHT

### SPECIAL ARTICLES ON NEHRU

### ANDHRA'S AGRICULTURAL UNIVERSITY

### PROGRESS REPORTING ON STATE PLANS held over from this issue

## Letters

# A Farmer's Tips for Doubling Farm Output

**I**N our country 75 per cent of population depends mainly on agriculture. Most farmers own small land holdings on which they are able to produce food grains enough only for eight months in a year for their own use and that, too, if nature helps; otherwise, at places there is acute scarcity, some being able to sustain only for three to six months. Instead of producing food grains surplus to their requirement they have to buy food from market. Another problem is that the fertility of the land has been constantly going down.

I am a farmer with small holdings. I have been able to solve these problems and to double production from my fields. Even though I am still making experiments with hybrid seeds I have succeeded to a great extent.

My experiment does not involve any special expenditure. If followed by those who are interested, it can help them in doubling the output with their resources and help from the Government. My suggestions are given below:

We can impress the farmers only by trial or demonstration on their own fields. They have no faith in the experiments conducted on Government farms or on farms of other big landlords. They will believe only when production is increased in their own fields. Our agricultural and planning officials have not taken the trouble to demonstrate on their fields the methods of increasing production.

Let us presume that the Government consolidates the land holdings and supplies good quality seeds, fertilisers, and improved tools to the agriculturist and also provides irrigation facilities for turn by turn supply of water to the fields. Can a farmer do intensive cultivation with all these facilities? No, he cannot. Because, where chemical fertilisers are used water also is required immediately and not by turns.

Even if all implements and facilities are provided to the farmer, he will not be able to increase production. Why? Because neither he nor the other Government agricultural or planning officials and social workers around him are trained in the new methods of farming. They do not work on the fields.

The first important thing is that the officials should also be subjected to practical tests periodically, and a suitable method for assessment of increase or decrease in production of crops in farms under their supervision should be evolved. For this purpose, officials should send a biannual return, showing the names of the farmer and the official, food grain cultivated (improved or local), annual progress per acre, name and details of the neighbouring farmer who has benefited by copying the processes together with production figure per acre and particulars about fertilisers, water, etc. All this will indirectly help officials in being trained adequately along with the farmers.

One of the modern, easiest and inexpensive ways of increasing production is the adoption of the methods of cultivation prescribed by the U.S. AID Mission, Rockefeller Foundation and Pusa Institute (I.A. R.I.) and the use of hybrid seeds. The only trouble lies in its implementation.

Those who are interested in increasing production by these methods may visit my farm and see for themselves how I have doubled the production of maize and wheat.

Farmers are not as much interested in seeking monetary assistance as they are in getting more from their fields. Once possibilities of increased production are assured they would themselves try to get machinery, seeds, fertilisers, tubewells, etc.

*Chobla, Meerut* **BIKRAM SINGH**  
(For Mr Bikram Singh's achievements see *Yojana* March 31, 1963—Ed.)

## A MATTER OF ATTITUDE

IF there is one task for the Fourth Plan on which everybody is agreed, it is that of getting Indian agriculture out of its old ruts. This consensus derives from the link that agriculture has with nearly all of the objectives that we seek to obtain through planned development. As events in the past few years have shown, the rate of national income growth is vitally affected by the rate at which agricultural production increases from year to year. Similarly, the picture that obtains every year on the prices front is determined more by the supply of agricultural commodities than by any other one factor. Ten or fifteen years from now, agriculture will still be the sector employing a very large part of the labour force. It is progress in agriculture and related activities that will help raise the standards of living in the rural areas. And even the objective of ensuring viability in our balance of payments depends materially on larger production of agricultural commodities, some of which will substitute for imports while others will enlarge the availabilities for export.

None of these relationships is a recent discovery; and over the years, there has been no dearth of pronouncements, official or otherwise, on the supreme importance of bringing about a revolutionary change in Indian agriculture. Nor has there been any hesitation on the part of policy-makers to seek to remove a variety of obstacles impeding agrarian reformation. On the purely physical side, the basic facilities needed by agriculture, such as irrigation, manures and fertilisers, better seeds and implements, have been greatly enlarged. Credit and extension services have been provided on an increasing scale; land reform policies have been pursued and a multitude of incentives offered. All of these have indeed had the effect of enabling Indian agriculture to grow in the last fifteen years at a rate much faster than in the decades before independence. And yet, there has for long been the feeling that the break-through in this sector is yet to come. Most serious students of Indian agriculture have pointed out the potential that exists for increasing the productivity of land and man through improvements in agricultural techniques and practices. There are areas in which the growth in agricultural production during the last ten years or more has been much above the national average. Why then should the experience of such progress be confined only to some areas?

Many experts will doubtless spend years answering this question. But the studies that have already been made indicate sufficiently clearly that more water, more fertilisers and so on have to be utilised for better agriculture. Equally, it is also clear that modern technology and more enterprise have to be injected into agricultural operations, if all these new inputs are to give

the results they are capable of giving. It is here that intangibles come into their own—for what this means is a complete change in attitudes towards agriculture, not merely of those who are tied to land by tradition or poverty but of others as well.

The picture which most of us have of the typical Indian farmer is that of a poor superstitious toiler, groaning under a heavy load of debt and unable to free himself from the vagaries of the monsoon or the rapacity of rentiers. Over a large part of the country, this may still be the picture that is relevant. But, unknown to the city dwellers and unadvertised by the press, a new class of cultivators is rapidly coming into existence, a class different from the farmers of old.

These new-comers are different in the sense that they bring to bear on agriculture the attitudes of a businessman. They recognise the risks of producing for a market and weigh the risks against possible gains. They draw on science and technology in improving the yield from their land and their labour. They are untrammelled by the inhibitions associated with custom or caste in doing other things besides pure and simple cultivation on land. And, if tractors are more economical than bullocks, they go for tractors. Above all, they have got over the feeling that Indian agriculture has no place for the educated or the profit-seekers. And because of this psychological release, they find not only satisfaction but excitement in applying their labour and their knowledge to the production of grain or flowers or pigs or chickens—as long as they can find a way of marketing them gainfully.

It is this outlook that moves young men like Srinivasan of Padappai, whose achievements we report elsewhere in this issue. There are thousands of such young men in Madras, Maharashtra, Punjab, Gujarat and elsewhere. In the villages in which they work and prosper, they become the transmitters of a new spirit to agriculture and allied occupations; and to those with whom they come into contact in the urban areas, they carry the hope for a brighter future. They bring out more vividly than any statistics can, the effect which general education and technical skills can have on agricultural development.

What Indian agriculture needs is not one but millions of Srinivasans. And the way to get them is to stop looking at Indian agriculture as a poor relative or at expenditures on providing education to the rural classes as a welfare activity. The mental adjustment needed to recognise these things may not be much; but much of importance to the future of the country depends on our willingness to make that adjustment.

# This Brahmin



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**Yojana Report by  
KALI BISWAS**

**Photographs by  
T. S. NAGARAJAN**

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Srinivasan (left) and Raju get their bullocks ready for work. Left: At the water pump. Right: Some fruits of farming. Their orchard has mango, sapota and guava trees also.

# Rears Sheep

**S**SRINIVASAN is a paddy-grower, vegetable-cultivator, fruit-and-flower farmer, sheep rearer and a poultry keeper. His farm at Padappai, 35 kilometres from Madras is a place to visit and when there I encountered many things unexpected and unbelievable.

First of all, Srinivasan isn't a born farmer. He has made himself into one. Also, although his sheep and birds have earned a name he hasn't departed from the orthodox Brahmin tradition of vegetarianism.

I spent a day on his 30-acre farm on the Valandur-Kanchipuram road and saw him do a variety of jobs: plough the field, feed the young chicks, supervise work on a paddy field and check the flow of irrigation channels. The way he did all this showed that "Papa" knew his job well. That is the name by which the 28-year-old Srinivasan is called at home, and in Tamil "Papa" means child.

"Papa" is the youngest of five brothers, two of whom are journalists and two others are bank-workers. Their father, Mr S. Narayanan works in *The Hindu* newspaper. Why Srinivasan did not choose the con-

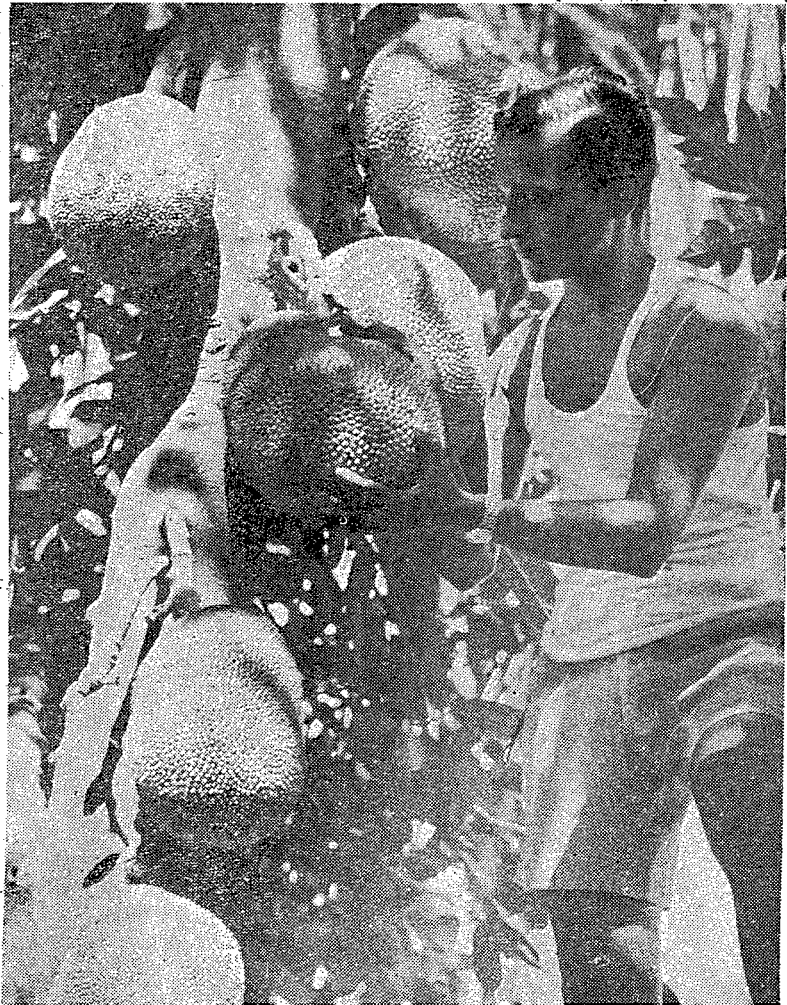
ventional white-collar callings is a mystery.

I asked him, and he narrated the circumstances. "In 1949 my father bought a 10-acre plot at Padappai", he said. "The land was barren. With the help of local labour he planted some citrus plants and mango trees. I felt drawn to farming. After passing the High School examination in 1957 I went to the village to try my hand".

It was a difficult job. The land was dry and water was the main problem. Srinivasan thought of irrigation by power. He applied to the State Government for a loan to sink a well. He got the well dug and installed a 5-horse-power pump. The problem of irrigation solved, he started growing *ragi* and chillies.

By 1959 father bought another four acres of land. This stretch

Padappai's  
Srinivasan  
Shows  
What  
A Young  
Farmer  
Can Do





too was faced with the same problem of irrigation. A tree that does not demand much water in the first few months, but which is in great demand is casuarina, favoured for its fuel. So Srinivasan put these four acres under casuarina. At the same time he was not satisfied with the citrus and mango that covered a vast area. He wanted to go in for food grains. In 1960 he built another well and fixed a 3-horse-power pump. Clearing some land of citrus plants, he sowed paddy for the first time.

**A**LL these years Srinivasan managed everything single-handed. He worked a full day on the land, supervised labour, and cooked his own food. When work increased, and required more time and attention, he engaged a cook. "But soon I discovered", went on Srinivasan, "that Raju was more than a mere cook. He also had an interest in farming and was used to hard work. He has been helping me ever since and it is because of his enthusiasm that I have been able to expand my farm". In 1961, five more acres of land were acquired, and by 1964 some 11 acres more had been added. This last addition was in two separate plots in two neighbouring villages. Half of these new sixteen acres were put under casuarina and the rest was



**Top: The way he ploughs his field, Srinivasan looks an expert farmer. Left: Time to play with the pets and right, above, with his sturdy rams. Alongside: Srinivasan supervises paddy weeding by women.**

left for grazing. Srinivasan also pulled out all the citrus plants and brought four acres of land near the wells under paddy. He now thought of a new plan. Why not start a flower garden, especially when there was such great demand for flowers in Madras? The garden now has 3,000 rose plants and 100 of jasmine.

A little distance away grow vegetables like radish and lady's fingers.

For Brahmins to turn farmers isn't so strange but I wondered how the son of so orthodox a family had been able to start a poultry farm. "That is an interesting story", said Srinivasan. Since coming to the village he had begun keeping some



country birds. When his father, because of his ultra-conservative background, had expressed disapproval, they had come to a compromise. So Srinivasan did not sell the birds to "consumers" but to the local B.D.O. who distributed them among other breeders. "But they end up on the table anyhow?" I said. "That's true", said Srinivasan, "but perhaps the consolation is that we are not directly responsible—at least that's how my father feels."

But even this grudging permission would not have been given but for the visit of a person from Bombay to the farm. He had strongly urged the starting of a poultry farm. On his insistence Mr Narayanan had allowed Srinivasan to go to Bombay and have 20 days' training on a poultry farm. On return from Bombay Srinivasan got a subsidy of Rs 2,000 from the State Government and bought 172 chicks for Rs 600 and had the pens erected. At present he has more than 250 birds including 100 layers. He also has a kerosene-driven incubator that can hatch 100 eggs. He himself runs

it and adjusts the temperature.

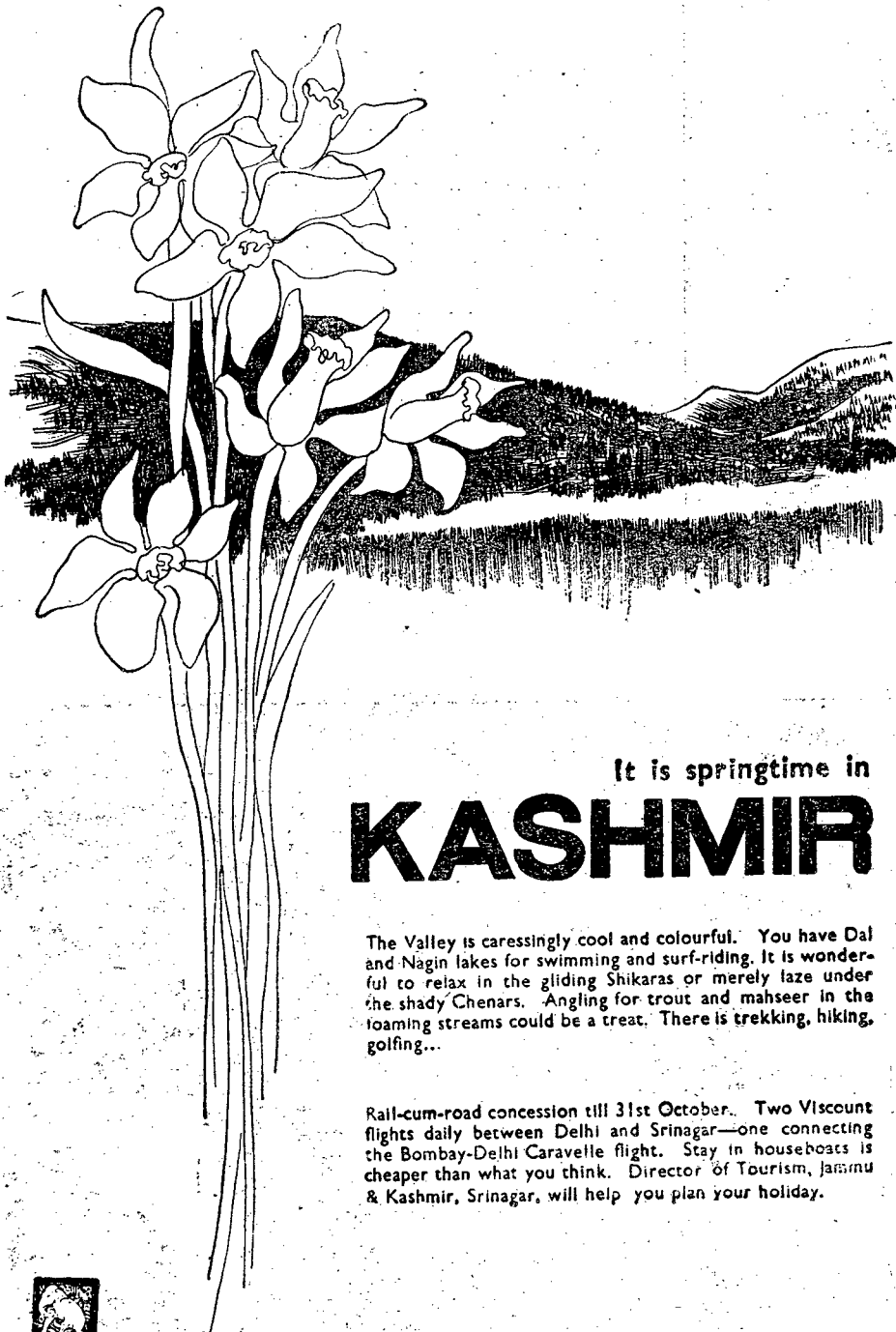
The idea of rearing sheep had come to him even earlier. With the help of the B.D.O. he got three high-breed rams. In all he has now 75 sheep. Srinivasan is fond of his flock of sheep as he is of his birds. He spends a lot of his time over them.

**H**AD the investment become paying? "We now make Rs 450 to Rs 500 after meeting all expenses," replied Srinivasan. Until 1961 there had been no regular income. But in the past four years Srinivasan had been able to pay the wages and charges without dipping into the father's purse.

"The major part of the income came from casuarina", Srinivasan explained. An acre of full-grown casuarina brings in Rs 1,500 to Rs 1,700, besides the twigs which can be sold earlier for Rs 25 to Rs 30. He also gets eight bags of paddy per acre which he keeps for the family. Besides, from the orchard which has been given on lease he gets more

*(Continued on Page 26)*





It is springtime in  
**KASHMIR**

The Valley is caressingly cool and colourful. You have Dal and Nagin lakes for swimming and surf-riding. It is wonderful to relax in the gliding Shikaras or merely laze under the shady Chenars. Angling for trout and mahseer in the foaming streams could be a treat. There is trekking, hiking, golfing...

Rail-cum-road concession till 31st October. Two Viscount flights daily between Delhi and Srinagar—one connecting the Bombay-Delhi Caravelle flight. Stay in houseboats is cheaper than what you think. Director of Tourism, Jammu & Kashmir, Srinagar, will help you plan your holiday.



DEPARTMENT OF TOURISM, GOVERNMENT OF INDIA

DA 62/18

INDIA ALSO PRODUCES

# TITANIUM DIOXIDE

**W**HAT is the whitest thing you have seen? A white-washed or a marble structure like the beautiful Taj Mahal is about the whitest thing that many people know. The supreme white that our grandfathers had known is white lead used in linseed oil and the finest white was that made from zinc oxide. In nature no such thing as the purest white exists. Today we produce an entirely new pigment—a superlative among superlatives in whiteness. Its name is titanium dioxide, and you will find it difficult to believe that it is produced from a mineral that is blacker than anything you have seen. This white pigment is far more stable than anything of its kind known and is entirely unaffected by acids or alkalis that destroy or dissolve other whites. It can remain stable at a

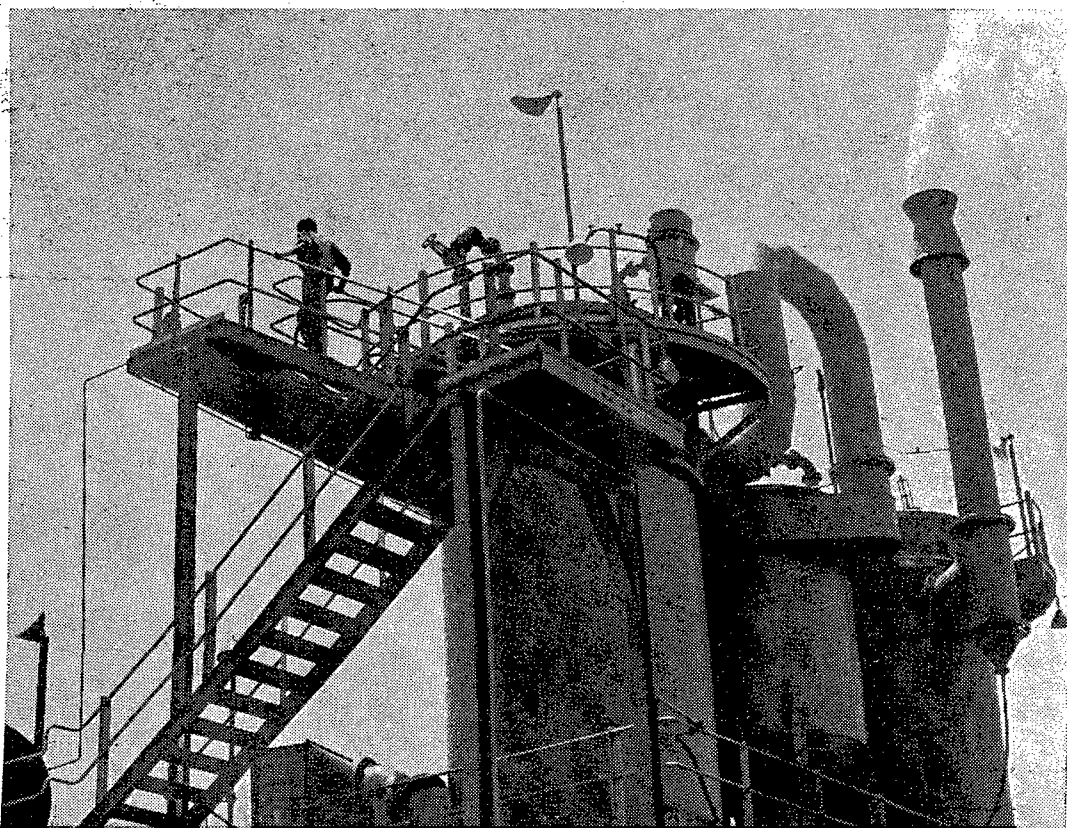
**WHITEST  
THING  
UNDER  
THE SUN**

temperature of almost 1,800 centigrade! Almost every white thing that is produced to day contains titanium dioxide. There is only one factory in India which produces this versatile and valuable pigment—the Travancore Titanium Products Limited.

Way back in 1945 the Planning and Development Department of the Government of India had recommended the establishment of a titanium dioxide factory in view of the country's inexhaustible resources in ilmenite and the paucity of zinc minerals. The Travancore Government showed keen interest in the project in view of the availability of ilmenite in the State and the possibility of producing sulphuric acid, another important raw material at an economic cost. The Travancore Titanium Products thus came into existence in 1946 for processing the locally available ilmenite and a plant was set up in 1951 with a capacity of 5 tonnes of titanium dioxide per day.

The beach sands at Chavara and Manavalakurichi in Kerala (formerly the princely State of Travancore) are famous for the rare minerals they contain. Of these, ilmenite is an important one. In the years preceding Independence there were four mineral concerns, mostly under foreign control, engaged in the physical separation and export of the various constituents of this beach sand and many of the world producers of titanium dioxide were dependent on India for their supply of ilmenite.

Absorption and drying towers of the sulphuric acid plant of the titanium factory at Trivandrum



The Travancore Titanium Products Ltd. was formed in 1946 with the Travancore Government as major shareholders and the British Titan Products Co., Ltd., as technical collaborators. Kochu Veli, a suburb of Trivandrum was chosen as the site for the factory in view of its proximity to the source of ilmenite as well as plentiful water.

### *Teething Troubles*

Although the factory went into production in 1951, it had many teething troubles and for a time its progress was discouragingly low. For nearly 18 months all work in the factory had to be suspended because the cost of production was extremely high and its products could not be sold. Production was restarted in 1954 with a loan from the Industrial Finance Corporation and the health of the factory bucked up when the Government of India accorded tariff protection to the industry. Thereafter the Company has been making steady progress. From 1957 onwards the Company has been paying dividends up to five per cent on its capital.

As the demand for indigenous titanium dioxide increased, the capacity of the plant for better performance also improved. In 1960 the Company put up its own sulphuric acid plant with capacity to produce 50 tons of acid per day. The production of titanium dioxide went up to 10 tonnes in 1961 and in 1962 the Company started making the 'rutile' grade of titanium dioxide also. It is significant that a major portion of the additional investment needed for the purpose was found from the Company's own resources.

Now the factory produces 18 tonnes of titanium dioxide per day, bringing the annual production to over 6,000 tonnes. The quality of the indigenous pigment, now certified by the Indian Standards Institute compares favourably with some of the best products produced elsewhere.

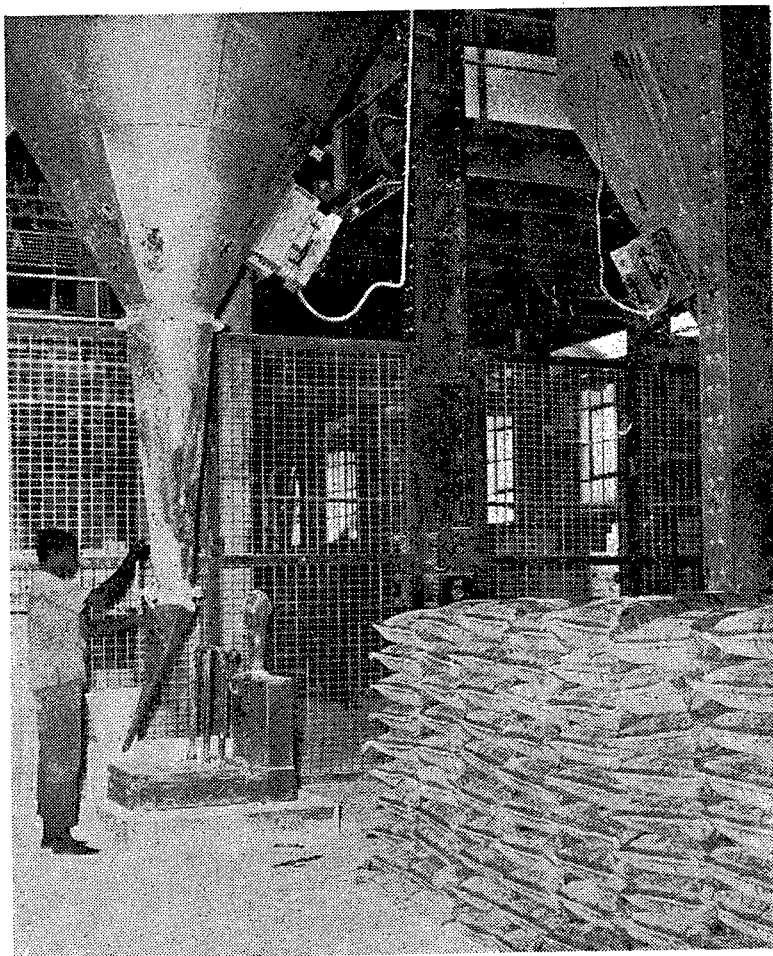
### *What Is This White Stuff?*

It was in 1789 that Rev. William Gregor stumbled on a new element when he was investigating a black sand found in Cornwall, England. Some years later a German scientist, M.A. Kalapoth by name, recognised the same element while study-

ing the mineral rutile, and he called it titanium.

The primary raw material that goes into the manufacture of titanium dioxide, the whitest of all pigments, is ilmenite which in its natural state is, interestingly enough, blacker than coal. The other principal raw materials required for the manufacture of this versatile pigment are sulphuric acid and scrap iron.

in specially designed brick-lined reinforced concrete tanks under high but controlled temperature. The resultant product, a brownish green mass, further undergoes a series of processing stages and at each stage its impurities are eliminated until a concentrated solution of titanium, acid and iron emerges. This concentrated solution is then transferred to closed tanks where it is precipi-



There are, too, other auxiliary chemicals used in small quantities such as titanium tetra-chloride, antimony oxide and zinc dust all of which have to be imported.

The beach sands of Kerala are considered to be among the world's richest and best deposits of ilmenite. First of all, the dry ilmenite received from the mineral factories is ground to a fine powder in a ball mill having a closed air circulatory system, an air classifier and dust collector. Then this finely ground powder is "digested" with concentrated sulphuric acid

tated at boiling point under carefully controlled conditions. The precipitated pulp is then diluted and continuously pumped into a "pulp thickener" and thereafter begins the final process in which ferrous sulphate and traces of iron are all removed. Certain chemicals which develop the pigmentary properties are then added to the purified pulp, dewatered, and then passed into the calciner to be dried and calcined at a temperature of about 1,100°C and all traces of moisture and sulphuric acid are removed.

The material is finally converted to a crystalline structure possessing properties like high refractive index, whiteness, etc. The pigment aggregates are then ground into fine particles, weighed and packed for the market.

The actual manufacture of titanium dioxide is a highly skilled operation and persons specially trained for the purpose take care to see that its pigmentary properties are of the purest standards. A few parts per million of an impurity or variations at the precipitation or calcination stage will render the pigment unsaleable. The milled pigment undergoes thorough examination in the control laboratories to make sure that it conforms to the ISI specifications.

Among the white pigments titanium dioxide occupies a supreme position because of its brilliant whiteness, high capacity, chemical stability and non-toxicity. Manufacturers prefer the rutile varieties of titanium dioxide because of its higher covering power. The uses to which this wonderful industrial product is put are amazing. So varied are they.

The bulk of it is consumed by the paint and other surface coating industries. Every good paint in the market, white or tinted, contains this white pigment. Its inertness makes it ideal for surface coating in factories where protection against ravages of climate and atmosphere pollution by industrial gases is imperative.

The rubber industry is an important consumer of this pigment. Titanium dioxide has been found to be highly compatible with both natural and synthetic rubber and it promotes greater strength in the mixes. One of the most common uses is for the whitewall tyres. The other uses are in tinting balloons, paper weights, tumbler rests, electric table lamp stands, rubber tiles, floor matting, waterproof shoes, slippers, heels and soles, cushions and mattresses. In the rayon industry titanium dioxide is used for internal delustering, and the pigment is an important ingredient of vitreous enamels used for cooking vessels, table tops, and stoves. In the manufacture of plastics, printing inks, soaps and certain cosmetics the pigment is commonly used. Its high hiding power has

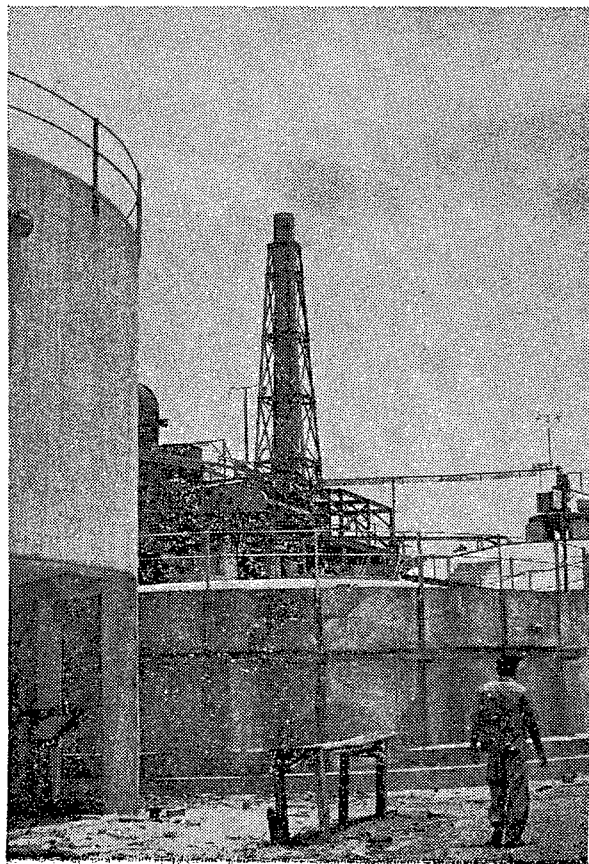
made this pigment very useful in textile printing and paper manufacture. Lower grades of paper pulp are up-graded by using titanium dioxide. In some medicinal preparations like anti-dermatitis creams and barrier creams, too, titanium dioxide is used in small quantities.

### *Quality Control*

The Trivandrum factory was one of the earliest in establishing quality control in the manufacturing process. Quality is of fundamental importance because it is closely linked with the ultimate use of the product. Quality control entails specification of standards and strict adherence to them both in the selection of raw materials and the manufacture of the end product before it is sent for sale. In the manufacture of titanium dioxide quality control starts with the raw materials, and is carried through every step of the process until the finished product is packed ready for despatch.

Significant improvements have been effected in the titanium dioxide industry all over the world, and new processes are being tried in the laboratories all the time. The sulphuric acid process is being slowly replaced by the chloride process and it is claimed that the pigments so produced have superior qualities. India's resources in sulphur are very limited and any modifications of the process which avoid the use of sulphur are extremely welcome. In the Kerala State where hydroelectric power is relatively cheap, the chloride process would be ideally suited. This may eventually also lead the way for production of titanium metal.

The potentialities of the titanium dioxide industry are really great and the demand for this product has been growing fairly fast. The Travancore Titanium Products Ltd., enjoy some rare advantages like proximity to and abundant supply of ilmenite resources. Highly skilled and intelligent young men with substantial experience have come up ever since the factory was started 14 years ago and we may be said to have attained considerable self-sufficiency in technical know-how. The Company's existing capacity of 18 tonnes per day can be expanded to its maximum licensed capacity of 50 tonnes by stages. This is an industry in which we can not only be self-sufficient before long but export sizeable quantities.



A section of the Trivandrum factory. Left: The pigment packed in jute bags lined with polythene is ready to leave the factory

Not a captive but  
always a captain

# Human Skill Can Enlarge Natural Resources

A. K. DEY

WHAT do we mean when we refer to a country's natural resources? First of all, and most obviously, its resources in land and water.

Land resources are of various kinds: land that can be cultivated and used to grow a variety of crops; land that supports forests of many kinds; land that contains a wide range of minerals.

If the products of agriculture form an important group of natural resources, forests constitute another group. They provide timber and resin and medicinal plants. The wild animals inhabiting forests are also a natural resource. So are the domesticated animals reared by man.

All these, together with water resources, are classified as *reproducible* resources. As against these are *non-reproducible* resources, such as minerals. Once minerals are dug out they are gone. You will not find them again in the same place. But reproducible resources can be upon again and again. If a tree is cut in a forest, another can be grown in its place. Remove a great quantity of water from a river; you can still get water—if not the same year, at least the next year. Until recently the approach to resources has been conventional. It has been thought to consist of land and water plus mineral, vegetable and animal wealth. Of late economists have begun stressing that no less important are *human resources*.

The economists have only begun emphasising what people have long recognised. From the pre-historical times, children have been regarded

as wealth. The more, the better for the family or the tribe or the kingdom. (In fact one of our problems is to re-educate our people into realising that it is not the number but the quality of our children that really matters. Fewer and better is now the watchword).

Human resources act on the physical resources to enlarge them. That is where education and technology come in. The mineral wealth and agricultural potential of the American land mass were the same before the Iberian navigators discovered the New World—but it needed the skilled and enterprising immigrants from Europe to know, to exploit, to develop and to utilise this potential and thus make the United States a powerful and prosperous country. In our own country, petroleum has been in Gujarat for millions of years but we had to wait until Independence and the development of Indian scientific skills to find it. The traditional farmer can lift a few hundred litres of water every day, but it needs a high degree of engineering skill to build dams and canals.

Human resources thus are often worth more than all other resources combined. Existence of even a small number of enterprising individuals who work for better food supply, more abundant raw materials, etc., counts for a great deal.

## Water Resources

OF the physical resources, we have already mentioned water, soil and minerals. Water is perhaps the most important of these physical resources because it is essential to all forms of life, an essential raw material in many industries, an important source of power and a relatively cheap means of transportation. All the waters we have in the world are the result of the condensa-

tion of atmospheric moisture derived from and eventually returned to the oceans. Water resources are of two kinds: (1) *surface water* or runoff, which is the surplus water derived from precipitation and returned to the sea through rivers and their distributaries, and (2) *ground water* which is a portion of atmospheric water which sinks into the soils getting stored beneath the surface from where it can be tapped for use through dug wells, tube wells, etc.

The surface water reserves of India have been estimated at about 1,356 million acre feet. Only a third of this, or about 450 million acre feet, is estimated to be available for utilisation, the remaining two-thirds being unavailable owing to geological, climatic and other conditions. Only 27 per cent of the usable flow or 8.9 per cent of the total flow was being utilised in 1961, roughly 72 million acres having been brought under irrigation. Against this, the ultimate irrigation potential of the country through major, medium and minor irrigation schemes has been assessed at about 175 million acres. Even after development of this potential there will still remain a surplus.

The availability of groundwater is determined not only by local rainfall or snowfall but also by geological factors, which show wide variation from place to place. Adequate ground water can generally be tapped on a large scale from the alluvial Gangetic plain and certain sedimentary basins through tubewells. A systematic study of ground water is one of the pressing needs of India, as in most other tropical countries. Existing wells have to be studied, and many new ones drilled, before we can hope to know enough to locate others with the assurance that supplies will be adequate in both quantity and quality,

Dr Dey, formerly of the Geological Survey of India and the Utkal University, is now senior scientific specialist in the Planning Commission.

or to rule out in a given area the possibility of getting such supplies of ground water. The Geological Survey of India since its inception, has been carrying out ground water investigations as part of its many activities. Perhaps its most significant achievement in recent years is the location of a large ground water resource in the semi-desert Jaisalmer area of Rajasthan. Today many agencies including the Exploratory Tubewells Organisation are engaged in the study of our ground water resources, each having particular objectives or spheres of study.

The number of open wells was estimated at about 5 million at the beginning of 1951-52. It is expected that this number will ultimately increase to over 7 million. The number of tubewells operating for irrigation purposes was over 3,000 at the beginning of the First Five Year Plan. The average discharge from these wells is 20,000 gallons (imperial) per hour. The number of tubewells at the end of the Second Plan (1960-61) was over 10,000 and it is expected that ultimately this may rise to about 40,000. The area under irrigation from ground water sources was about 15 million acres in 1951, and is expected to be about 35 million acres ultimately.

Rain is an aspect of climate. Two other aspects are heat or sunshine and air. It is only because of our conventional outlook that we have not yet learnt to regard sunshine and air also as our natural resources. Technological progress may soon help us to derive energy for use from sunshine and wind. And let us not forget that the air around us is also a great storehouse of chemicals. Man has already begun emulating the trees in getting sustenance from sunshine and air.

### Importance of Air

A country which has suitable natural features and rainfall for the generation of cheap hydro-electric power, or sufficient coal resources for large thermal stations, can also regard the air above it as a valuable raw material for the manufacture of nitrogenous fertilisers and explosives by taking nitrogen from the atmosphere by a process known as fixation of nitrogen. Norway, deficient in cultivable

land of her own, can yet help others to grow an exportable surplus of foodstuffs by this means.

India has yet to attain self-sufficiency in nitrogenous fertilisers, but should aim (like Norway) at an ultimate export surplus, to be exchanged with her neighbours for the materials she lacks.

Another natural source of energy is tides. While significant use of solar energy seems to be assured in the distant future, clouds may soon become a more important natural raw material when the cloud-seeding techniques advance to produce artificial rains economically.

### Different Varieties of Soils

The soils which cover much of the solid surface of the earth, support its natural vegetation and supply the food for the crops planted by man, owe their origin to the interaction of rainfall, temperature, and organisms with the weathered surface rock materials.

In the great Gangetic plain, India has one of the most fertile plains in the world. The flatness of the plain causes the rivers to flow slowly, providing easy waterways and irrigation channels, while the productivity of the greater part of its soil is periodically renewed by floods which deposits fertile silt on the surrounding countryside. The building of dams to control flooding, and to provide water for irrigation and for power will, however, prevent replenishment of fertility by flooding.

IN Peninsular India, excluding the north-western part and in the valleys and deltas, the soils are relatively poor. They overlie hard crystalline rocks, sandstones and shales and being soaked by rains over long time and also because of intensive cultivation, they have, in many cases, lost most of their original plant nutrients and become acidic, requiring treatment with lime, etc. In parts of Maharashtra and adjoining areas of Gujarat and Madhya Pradesh is found another fertile soil called the black cotton soil. This soil rests on basaltic lavas called the Deccan Traps. It retains moisture for a long time and is eminently suitable for the cultivation of staple cotton. Various millets and pulses are also grown,

and the latter help to capture nitrogen from the atmosphere and deposit in the soil, thus maintaining its fertility.

Because of the variety of natural features and climatic conditions, there is a great variety in the soils of India. Because of this triple variety our country grows a large variety of crops and trees.

With a growing population we need to raise more grains and other agricultural commodities, but both for the protection of our soil and climate and for expansion of industry we need to take care of our forests also.

One hundred and fifty years ago immense tracts of the country were covered with forests and the hill slopes were clad with timber. Most of the forest plains and hill slopes have since been cleared for cultivation and the trees cut down for fuel. Owing to the deforestation of large areas, rainfall quickly runs off the surface into streams and is lost. Widespread soil erosion has often resulted in severe gullying and loss of ground water reserves. This is a serious problem which can only be solved by the widest planning in which engineers must co-operate with geologists.

Thought has of late been given to this problem. Land management, water management, forestry, mineral exploitation, and even cattle wealth management are all being approached on a systematic manner. But one other resource, namely the sea around us, continues to be badly neglected. We have a coastline of 5,600 kilometres. This should give an indication of the volume of fishing we can take up in order to enlarge our food resources. Exploitation of the unexploited food from the sea will relieve pressure on our land.

The foregoing observations, by no means exhaustive, ought to give an idea of our physical resources in relation to our human resources. The sum total of our natural resources ought not to be regarded as something given and unalterable. As our technological skills and organisational ability improves we not only can utilise known conventional resources to our greater benefit and without wasting them but can also find more and newer resources and capture wealth from hitherto unsuspected sources.

# Examining Specific Problems Of Fourth Plan

## National Planning Council Sets up 12 Study Groups

THE National Planning Council held its first meeting at Yojana Bhavan on April 21-22. Mr Asoka Mehta, Deputy Chairman, Planning Commission, was in the chair. The Council set up 12 study groups for detailed consideration of selected problems relating to the main sectors of development in the Fourth Five Year Plan.

The Deputy Chairman indicated the scope and directions in which the work of the Council was to be conducted and said that it would be different from that of the previous advisory committees or panels of the Planning Commission. He suggested that the Council should concentrate on specific issues and go into them thoroughly, so that the formulation of the Plan would be much more "tested" than before. He said that such detailed studies of selected problems could be undertaken by the groups with which outside consultants could also be associated.

Professor M.S. Thacker, Member, Planning Commission, pointed out that while formulating a detailed plan for a short period it was also necessary to draw up a perspective plan for a longer period, and members of the Council could consider preparation of the projections for this purpose.

Professor V. K. R. V. Rao, Member, Planning Commission observed that there was no sector of economic development where more light and newer ideas were needed than in agriculture. There was need for special studies for soil conservation and improvement in

economic conditions of non-viable or small landholders. Professor Rao also said that in the field of education one of the main problems related to wastage. This required detailed studies.

Mr S. G. Barve, Member, Planning Commission, referred to the issues which were to be mapped out and identified by the groups of the Council. He observed that matters like dispersal of industries required detailed studies.

It was suggested at the meeting that some universities in the country should undertake studies on conservation of natural resources. As for manpower planning, it was pointed out that the question of emoluments for different categories of personnel particularly technical personnel in the fields like agriculture and veterinary science, in the country, had not so far received proper attention.

It was also felt that in a socialist society we could not have an out-moded structure of salaries, and this should therefore be considered at the highest level. Referring to family planning, it was felt that the organisational aspect should be strengthened.

The Council considered the programme of work of the study groups, and it was agreed that the groups should meet on last Friday and Saturday of each month. Joint meetings of groups would also be convened whenever necessary.

### STUDY GROUPS

The study groups constituted by the Council are given below:

(1) *Irrigation and Power:* Professor M.S. Thacker, Mr H.R. Bhatia, Mr M.Y. Ghorpade, Mr N. D. Gulhati and Professor N. V. Sovani.

(2) *Management:* Mr Tarlok Singh, Mr K. T. Chandy, Mr T.S. Krishna, Dr M. D. Parekh and Dr V. A. Sarabhai.

(3) *Agriculture and Land Reforms:* Professor V.K.R.V. Rao, Mr M.Y. Ghorpade and Dr. J. S. Patel.

(4) *Education:* Professor V.K.R.V. Rao, Dr D. S. Kothari, Dr A. C. Joshi, Dr V. A. Sarabhai and Dr S. R. Sen Gupta.

(5) *Scientific Research:* Professor P.C. Mahalanobis, Dr D. S. Kothari, Dr A. C. Joshi and Dr V. A. Sarabhai.

(6) *Industry and Minerals:* Mr S. G. Barve, Mr K. T. Chandy, Professor P. N. Dhar, Mr S. Moolgaokar, Dr M. D. Parekh and Dr V. A. Sarabhai.

(7) *Labour, Employment and Social Welfare:* Mr Tarlok Singh, Dr M. S. Gore and Mr S. R. Vasavada.

(8) *Transport:* Mr Tarlok Singh, Mr K. T. Chandy, Mr T. S. Krishna, Mr S. Moolgaokar and Mr G. Pande.

(9) *Family Planning:* Professor M. S. Thacker, Mr K. T. Chandy and Dr V. A. Sarabhai.

(10) *Manpower Planning:* Professor V.K.R.V. Rao, Dr D. S. Kothari, Dr A. C. Joshi, Dr V. A. Sarabhai, Mr K. T. Chandy and Mr S. Moolgaokar.

(11) *International Trade:* Professor V.K.R.V. Rao, Mr T. S. Krishna, Dr V. A. Sarabhai and Mr M. Y. Ghorpade.

(12) *Natural Resources:* Professor M. S. Thacker, Mr N. D. Gulhati, Mr K. T. Chandy, Professor N. V. Sovani, Dr A. C. Joshi, Dr V. A. Sarabhai and Dr D. S. Kothari.

The meeting was attended, among others, by all members of the Council except Mr Tarlok Singh, Member, Planning Commission, who was indisposed, and Dr J.S. Patel, Vice-Chancellor, Nehru Agricultural University, Jabalpur who was out of India. Mr G. R. Kamat, Secretary, Mr K. A. P. Stevenson, Joint Secretary, who is also Secretary of the Council, and senior officers of the Planning Commission, were also present.

The National Planning Council was constituted in accordance with the decision taken by the National Development Council meetings held on October 27 and 28, 1964.

## FROG IN THE MOUTH

THE season of calendars isn't over. A most interesting—rather than decorative—calendar we came across is that of a drug company. It has six pictures illustrating six old remedies for sore throats.

These are the six:

Toad's bones, rabbit's gall, cattle urine...and some swallows' nests boiled in milk, poured in a stocking and tied round sufferer's throat—an *old German remedy*.

Draw a snake nine times across the patient's neck—an *old English remedy*.

A hen's egg swallowed whole—an *ancient Egyptian remedy*.

The skin of a black cat wrapped round the throat—an *old American remedy*.

Place a frog seven times in the mouth—*old English remedy for sore mouth*.

Salt herrings applied to the feet—an *old Irish remedy*.

## Dry Jog

"A hundred worries are we given—and to forget them we are also given the Jog Fall". So runs a folk song of Malnad.

For the materialists and modernists waterfalls mean power. For others they mean beauty. Jog is not the tallest or the broadest or the thickest waterfall in the world; it is certainly one of the most graceful.

In April Jog was reported dry. It might have been dry before, for the Sharavathy is a monsoon river. The catchment area has in places as high rainfall as 500 centimetres; but in summer it is dry (even as Cherrapunji, until recently the world's rainiest spot, is said to run for water in the hot dry months). But this time the drought is of technical origin. The power engineers who divert the Sharavathy waters feed the fall through a channel, and the channel is said to have collapsed.

Let's hope beauty will soon hold its own against mere utility.

## Ferment Hope

A JUDGE of the Andhra High Court has held that toddy is food. He has upheld the prosecution, on grounds of food adulteration, of a toddy vendor who had mixed a chemical in the brew he sold.

In coming to the conclusion, the judge quoted a booklet of the Haffkine Institute of Bombay.

But this is nothing new. Anti-prohibitionists have always put forward the plea that palm toddy is nutritious, and some have even contended that far from being banned, toddy should be made compulsory in poor people's diets because it is so rich in vitamin B.

Therefore the difference between 'neera' and toddy boils down to one of morality, like the difference between a straight widow and a slipped widow.

## SHAMBU by Malinda Topa



## IGNORAMAN

Wants to Know

if it isn't  
colour prejudice  
to call  
black money  
by that name.

So earnest an authority on intoxicants as Mr Justice Tek Chand has to some extent recognised this conflict between nutrition and virtue in recommending softer laws in regard to the milder drinks.

Who knows a time may come when beer will be acclaimed as being superior to milk on the ground that the first is vegetarian whereas the second is not.

## Magnetic Scales

A DULTERATION is not the only weapon used by unscrupulous traders to cheat the innocent consumers. There are many more the consumers have to guard against. During a raid organised some time back by the Controller of Weights and Measures in an area in Delhi several ingenious methods of cheating by shopkeepers came to light.

Shopkeepers selling lemons and ginger had magnets placed beneath the pans of scale to pull them down to their advantage.

In some cases the hollow beams of the scales had mercury in them so that the heavy liquid tilted the beam when required.

For milk and oil uncertified measures were used. Even where the measures were certified, they were dented at the bottom to deliver less in volume.

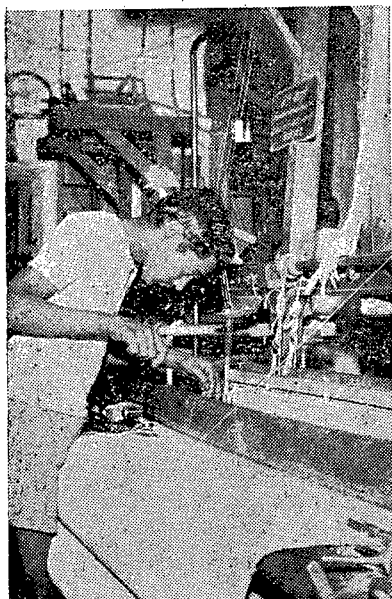
# 4th PLAN OUTLINES OF STATES 4

## MAHARASHTRA AIMS AT REGIONAL DISPARITY

further to Rs 2,500 crore in 1970-71. This involves an average growth rate of about 7.5 per cent per annum.

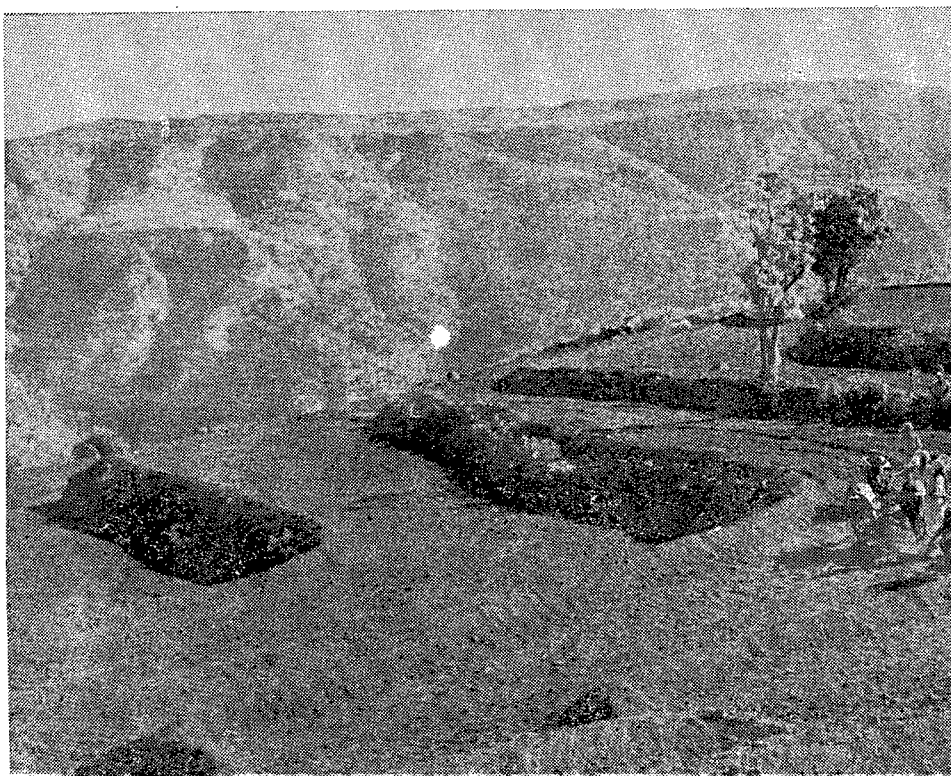
On the basis of studies undertaken in respect of investment in different sectors of development during the Second Plan and the first two years of the Third Plan and the consequential increase in the State income, it is considered that an outlay of Rs 2,200 to Rs 2,300 crore, including public and private sectors, is the minimum necessary in the Fourth Plan if the targeted increase in State income is to be achieved. The various study groups appointed for the Fourth Plan recommended an aggregate outlay in the public sector amounting to Rs 1,600 crore for the various sectoral programmes. Considering the size of the national plan and the assessed capacity of the State to mobilise necessary financial resources, the programmes had to be pruned further and an

*Vidarbha,  
Marathwada,  
Maval to Get  
More in  
Fourth Plan*



MAHARASHTRA is the third largest State in the Indian Union, with 9.4 per cent of the country's area and 9.05 per cent of the country's population. The urban population is 28.2 per cent of its total population compared to 18 per cent for the country. The high degree of urbanisation has placed on this State greater responsibilities for providing amenities such as water supply, housing, communications and slum clearance, for these areas, and conditions have to be maintained at considerable cost in which industry and commerce can maintain the projected growth.

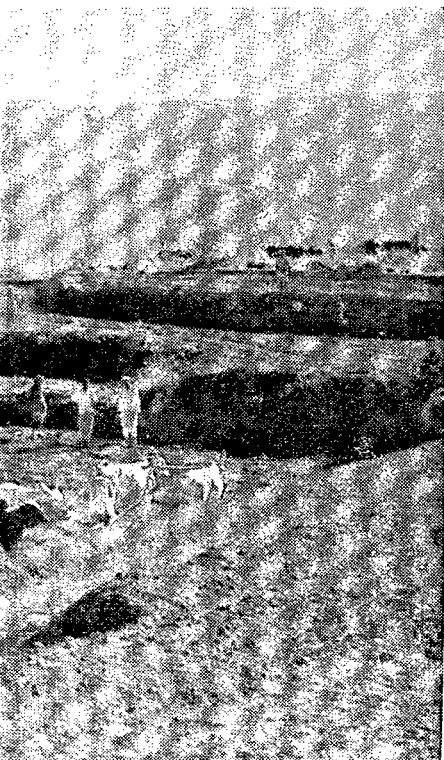
The State income which was Rs 1,532 crore in 1960-61 is expected to increase to Rs 1,814 crore (estimated) in 1965-66. The State's Fourth Five Year Plan aims at increasing it



# REDUCING



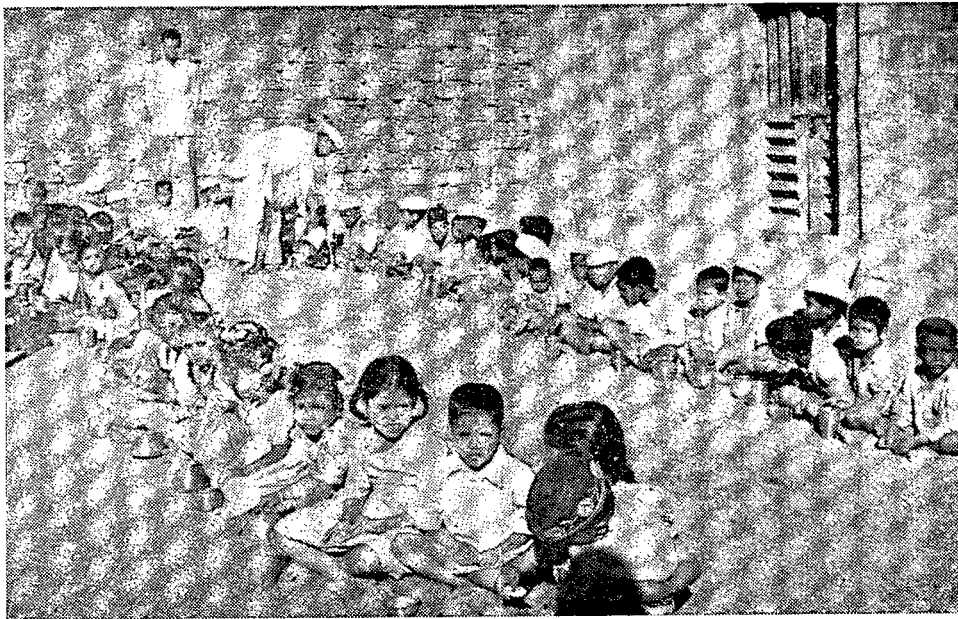
**Pictures: Courtesy Maharashtra Information Centre, New Delhi**



outlay of Rs 1,185.81 crore was finally approved for the public sector. Taking into consideration the estimates regarding investment in private sector and the experience of the Third Plan, it is estimated that investment in the private sector and the complementary sectors such as co-operative and central public sector would be approximately Rs 1,000 to Rs 1,100 crore.

The national objectives and the goals set out in the Memorandum on the Fourth Plan as well as the special features of Maharashtra's

A striking feature of Maharashtra's economy is the agricultural backwardness of its hinterland. Agriculture and other allied activities contribute about 38 per cent of the State's income, as against 45 per cent for the country as a whole. The productivity per acre is lower on account of certain handicaps such as the relatively inferior quality of the soil, large areas of uncertain rainfall and lower level of irrigation development. With a large urban and industrial



**AGRICULTURE** comes first in Maharashtra's Fourth Plan. Contour bunding (left) is one of the measures to increase output. Left above: Harvest smile.

**CO-OPERATION** is another field in which the State has done an outstanding work. The extreme left picture shows a worker in the Handloom Weavers' Co-operative Society's factory at Ichalkaranji. Above: Midday meals for school children.

economy have been kept in view while formulating the size and patterns of investment for the Fourth Five Year Plan of the State. "Agro-Industrial development", which is an important objective of the State plan, is designed to meet the special requirements of the economy of the State, while at the same time it will contribute to the achievement of national objectives also.

population, food deficit imposes a severe strain on the administration.

Agriculture would, therefore, continue to receive the highest priority in the Fourth Plan and the necessary resources—financial, material and technical—would be earmarked for this sector to achieve the goal of projected growth. It is proposed to spend Rs 246 crore on agricultural projects as compared to Rs 70 crore sanctioned for the Third Plan. State income from agriculture is expected to increase by about 30 per cent during the Fourth Plan.

In view of the low income per acre, ancillary programmes such as dairy, fisheries and animal husbandry have been substantially stepped up to provide a level of income to the cultivator commensurate with the all-India level. Higher incomes to farmers will stimulate further invest-

ment in improved techniques of agriculture, as well as provide a large market for consumption goods and thereby help the growth of industry in the State.

The level of food grains production reached at the end of the Second Plan was 63.8 lakh tons. By the end of the Third Plan this level is expected to go up to 77 lakh tons. The target for the Fourth Plan to be reached by 1970-71 is proposed to be fixed at 99 lakh tons.

## IRRIGATION

Only about 6 per cent of the cropped area in the State has irrigation facilities as compared to 20 per cent for the country. The programme of improvement of agricultural productivity in the State will have to depend largely on extension of irrigation facilities in the State. The State Irrigation Commission has recommended that irrigation programme of Rs 1,400 crore should be undertaken within the next 15 years so as to bring about 30 per cent of the cropped area under irrigation ultimately. In formulating the irrigation programmes for the Fourth Plan, the experience of the Third Plan, the stage of development expected to be reached at the end of the Third Plan and the recommendation of the Irrigation Commission have been kept in view.

Out of a total allocation of about Rs 200 crore for major and medium irrigation works during the Fourth Plan, Rs 148 crore have been earmarked for spillover schemes and Rs 49 crore for new projects. As a result of these measures, it is expected that an additional irrigation potential of 11 lakh acres would be created during the Plan. The corresponding target of utilisation of irrigation facilities is proposed to be fixed at 9 lakh acres.

## INDUSTRY AND MINING

Although Maharashtra contributes 24 per cent to India's factory output, the industrialisation of the State is concentrated in the Bombay-Thana area and the Poona-Pimpri complex and the spread effects of these industrial complexes have not been transmitted to any appreciable extent to other areas of the State in spite of the measures taken during the Third Plan. Bolder measures

are proposed to be undertaken in the subsequent plans to carry out effectively the policy for dispersal of industries in other parts of the State.

Growth in this sector depends to a large extent on the policies and programmes of the Central Government. At the State level, however, the programmes of industrialisation have been formulated in the context of the basic objective of agro-industrial development and a provision of Rs 49 crore has been made for them as against Rs 16 crore in the Third Plan. Emphasis in the Fourth Plan has been laid on development

ranks as low as eleventh among the States in road length per unit of population. Even the Nagpur Plan targets, which have been exceeded in many other States, have not been reached in this State at the end of the Third Plan. A high priority for communications programme is indicated in the future plans and a provision of Rs 100 crore is proposed to be made for them in the Fourth Plan as against Rs 37 crore in the Third Plan. Systematic studies are in progress to assess transport needs of the economy on a long term basis and to prepare a long term transport plan. As a result of these studies it is proposed to plan for a composite



of the processing industry through co-operative agency so that increasing prices of agricultural commodities and profits of processing them are ploughed back to agriculture. Bolder programmes for dispersal of industry to rural areas through direct equity participation and cash incentives by Government have been planned. Government proposes to start in the public sector certain essential industries which are of vital importance to the growth of the economy of the State. In locating the public sector and joint sector enterprises weightage would be given, amongst other factors, to the need for balanced development of different regions in the State.

## TRANSPORT

Absence of adequate transportation facilities has been a serious impediment in the growth of the economy in rural areas. The State

Agro-industries are the mainstay of the Maharashtra's industrial programme, and processing industries are being developed mainly in the co-operative sector. Above : Women workers grading cashewnuts in a processing unit at Venguria. Right: A section of a groundnut oil mill near Sangli.

network of transport services. The programme for road development has been stepped up substantially and a high priority has been accorded for road links between markets and villages.

Another feature of the State economy which deserves attention is the disparities in the level of development in different regions and areas of the State. As a result of lower plan allocations to regions like Vidarbha and Marathwada in the earlier plans, these areas have lagged behind the rest of the State in some of the important sectors of development. The Konkan area and the tract broadly known as the

'Maval' area, meaning thereby the area along the top of the Sahyadri range stretching from the Gadhin-glaj Taluka of Kolhapur District in the south to Satana in Nasik District in the north, are also areas to which the benefits of planned development have not accrued in any significant measure. Large areas of the State suffer from chronic scarcity conditions owing to inadequate rainfall. The protection of these areas and the provision of additional investment to reduce disparity in level of development of these areas constitutes one of the most important tasks of the Fourth Plan of the State.

While the planned programmes implemented during the previous plans have set in motion expansionary forces for stimulating the economy, the rate of growth has to be faster to make an appreciable impact on the standard of living of the people

sequent plans by providing for larger investments in rural areas. The national directive of free and compulsory education will be fulfilled throughout the State by the end of the Fourth Plan.

Programmes for health and planned growth of population are important features of a human resource development programme. Many of the gains of the Third Plan were eroded by rapid expansion of population, which in turn was a result of improvements in health facilities throughout the State. In the Fourth Plan, family planning programme will be taken up on a larger scale and will be integrated with schemes in the health sector.

Three Plans have settled firmly the course of economic development of the country. But in the past few years, the urgency of concretising the benefits of a planned economy for the poor in terms of real consumption has been increasingly felt. Planning Commission's Fourth Plan memorandum bears ample witness to the awareness of this urgency. The State's Plan is therefore being formulated within the framework of the national Plan and has also to follow broadly the basic objectives set for the nation.

*This article is based on the Memorandum on the Fourth Five Year Plan, Maharashtra State.*

## QUOTATION BOX

The first aid for those on hand when some one is bitten by a snake: First, convince the victim he is not going to die.

—From an article in "The Statesman"

I am not a puppet, but I do enjoy puppet shows.

—Mr V.K. Krishna Menon

In medical research there has always been a forbidden territory. Once it was the brain, then it was the heart. Today, the forbidden territory is sex.

—Dr William H. Masters, Washington University

If a man wants to present a Fiat car at the time of his daughter's marriage, he will have to register as soon as she is born.

—Mr Hukam Singh

He (Gulzarilal Nanda) is known for his saintliness—but he has a lean and hungry look like me.

—Acharya Kripalani

Hindi is a rope with a knife edge all along its length. It will cut India into two, while people imagine they are tying up India with a rope, not knowing that the tighter the rope is pulled, the sharper it cuts into what is being sought to be bound.

—Mr C. Rajagopalachari

We wholeheartedly welcome the idea of Brahmacharya and we would like people to follow that method to the maximum extent possible.

—Union Health Minister Kumari Sushila Nayyar

Industry is a delicate plant and requires careful nurture. It flourishes

only where the soil and climate are conducive to growth.

—Mr P.L. Tandon, Chairman of Hindustan Lever

It is said that to bring the most soulful look to the eyes of beautiful women, and the tenderest expression to their faces, American glamour photographers ask their subjects to think of the things they most like to eat.

—Mr M. Krishnan

There ain't no such word as "escalate"...what purists hold against it is that the word is unnecessary. What's wrong with a sound, old-fashioned word like "develop"?

—James Cowley in "The Statesman"

All India Radio, said Mrs Gandhi in Parliament last week, had been instructed to treat Ministers' speeches strictly on their news value; the speech that contained this announcement was reported in great length in AIR news bulletins the same evening and the following morning.

—"Now" magazine

The Frenchman feels mentally if not physically more comfortable if he sleeps on his wealth.

—E. B. Brook in "The Statesman"

Ministerial slipperiness is greater in the Indian Parliament than ever before. Cabinet members are found like well-oiled wrestlers.

—P. J. in "Swarajya"

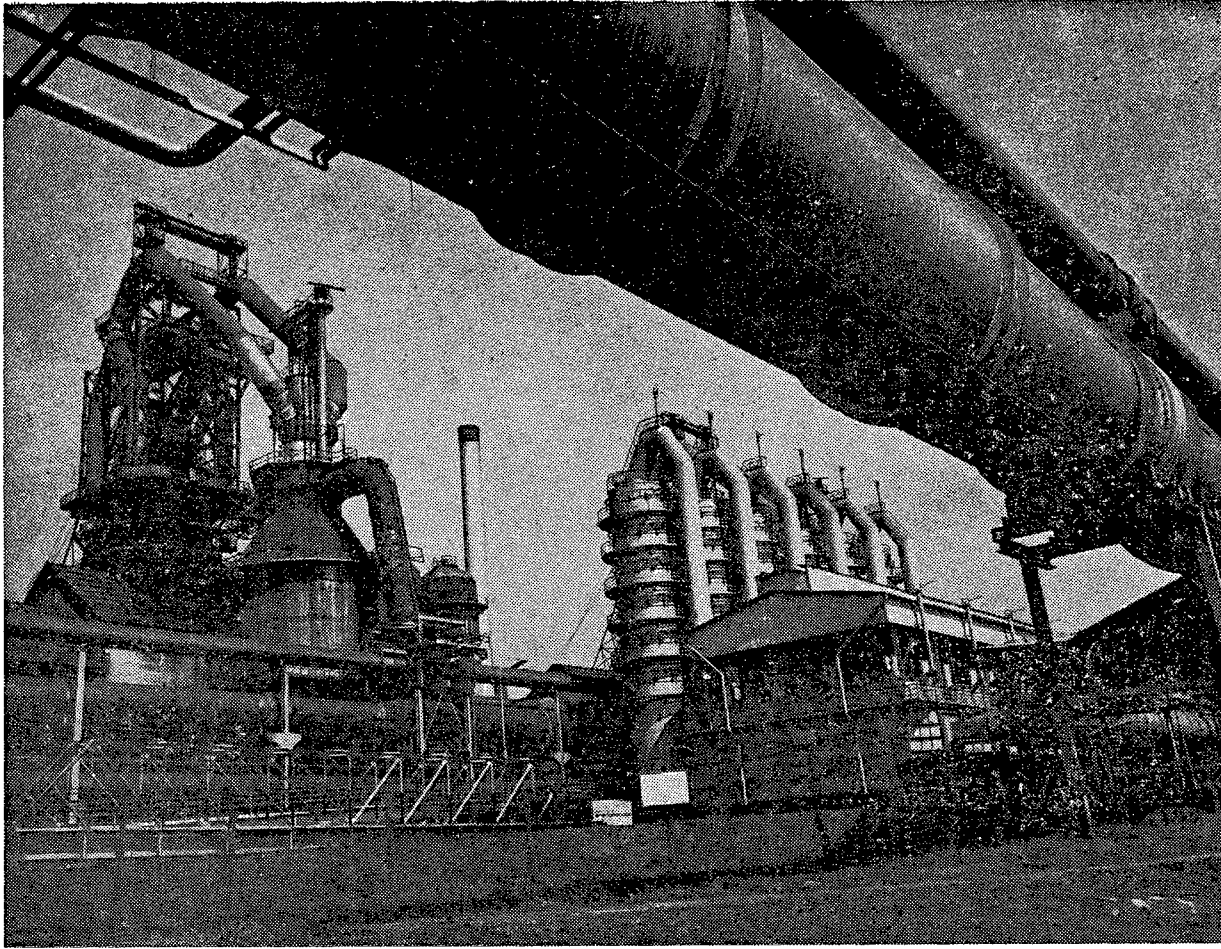
Everyone in India and abroad has been anxious and busy to educate the modest and mild-mannered successor of Jawaharlal Nehru.

—K. A. Abbas in "Blitz"

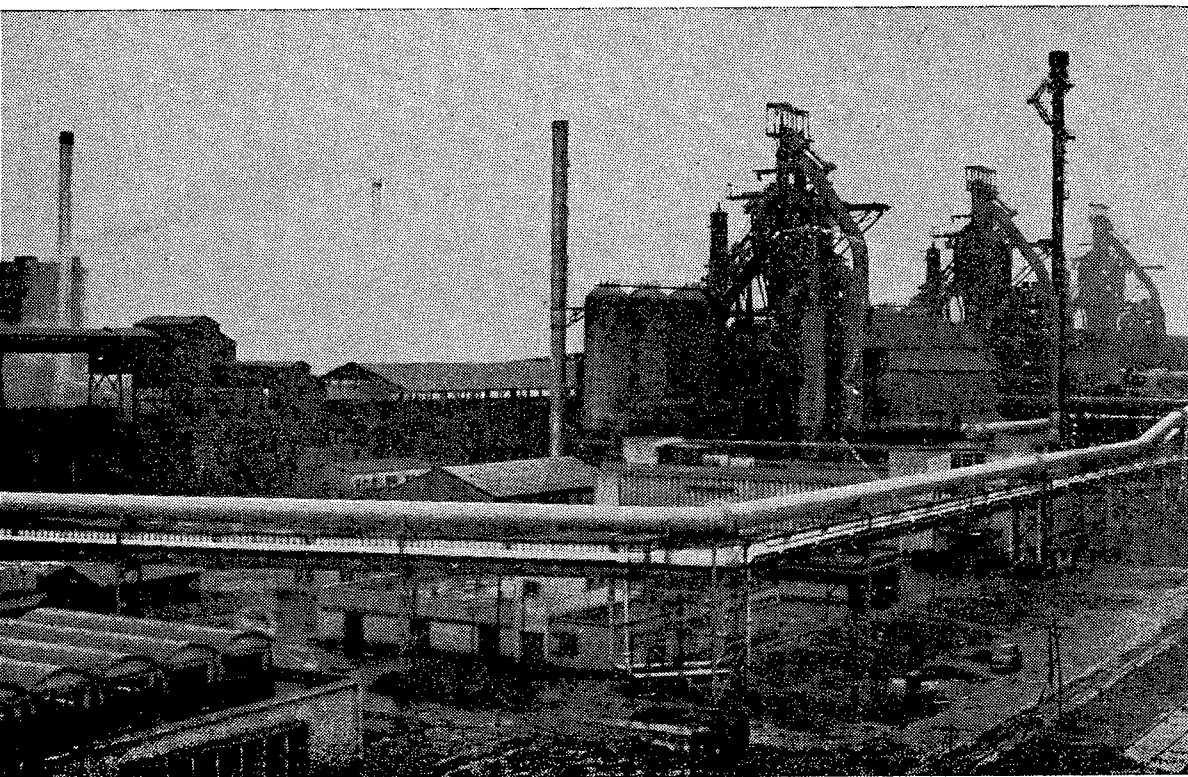


and to carry the benefits of planning to weaker sections of the society.

Apart from disparities in the development of different regions, the rural areas of the State suffer in comparison to the urban areas in respect of such amenities as communications, water supply, medical and health facilities, etc. These disparities also are sought to be removed in the Fourth Plan and the sub-



**Above : Blast furnace and gas cleaning plant of the Rourkela steelworks**



**A view of Durgapur steel plant.  
Right : Finished steel at Bhilai**

# New Skills and Confidence Gained in

## TEN YEARS OF STATE STEEL

### Three Giant Plants Working to Capacity;

### Fourth in Sight

**S**TATE steel has just completed ten years.

The performance of the steel industry in the public sector in its tenth year (1964-65) has been heartening. The Steel Ministry's annual report has shown that production was 3.15 million tonnes of steel ingots, from the three public sector plants.

India has had a tradition of iron and steel making. But modern manufacture of steel is only about sixty years old, and dates back to the time when Jameshedji N. Tata set up his first steel mill in Bihar. The first steel mill in the public sector was the small one in Bhadravati which was pioneered by Dr. M. Visvesvaraya in the twenties.

The country turned its thoughts to steel in a big way only after the achievement of independence. When under the Five Year Plan the country aimed at having three major steel plants, Mr Nehru said: "People say we have been over-ambitious in attempting three such undertakings simultaneously. But I tell the critics that we propose to be over-ambitious every time in such matters."

For decades India has been an importer of steel. With growing industrialisation the appetite for steel has increased. The consumption of steel rose from one million tonnes annually in 1951 to 3.7 million tonnes in 1957 and 7 million tonnes in 1962 when all the three public sector plants were in full production. Our requirement of steel is estimated to touch 18 million tonnes by 1971.

A developing country eats steel. Steel builds a nation's bones as milk builds a child's. For real development this steel must be made within the country. Bought steel is less strong than the steel we make. Dependence for such a strategic material on foreign countries is not only expensive in terms of foreign exchange; it might also cause a collapse of our economy in times of emergency.

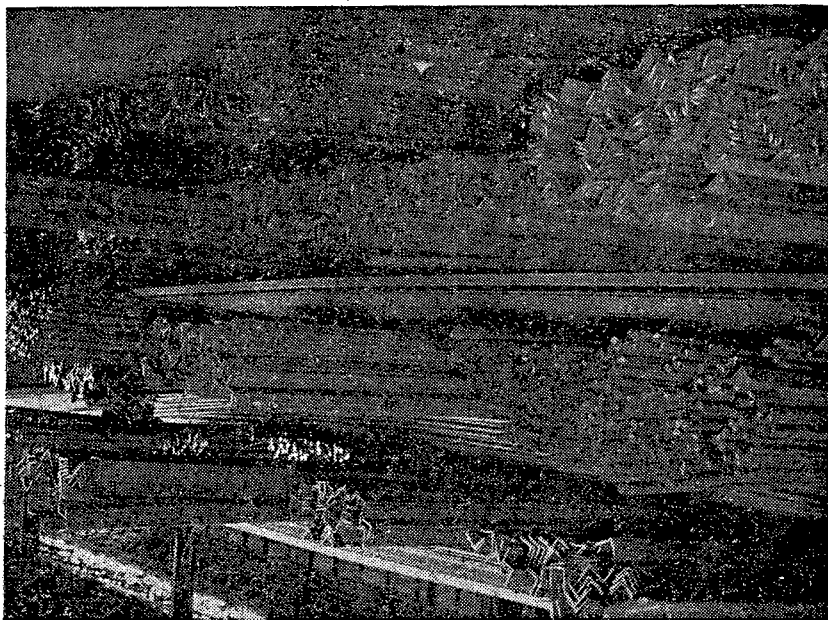
The First Five Year Plan drew attention to the importance of iron and steel as a basic industry to build our economy although the emphasis in the Plan was on the development of agriculture and of irrigation. It said: "*In an underdeveloped economy with low yields in agriculture, there is of course no real conflict between agricultural and industrial development. One cannot go far without the other; the two are complementary*".

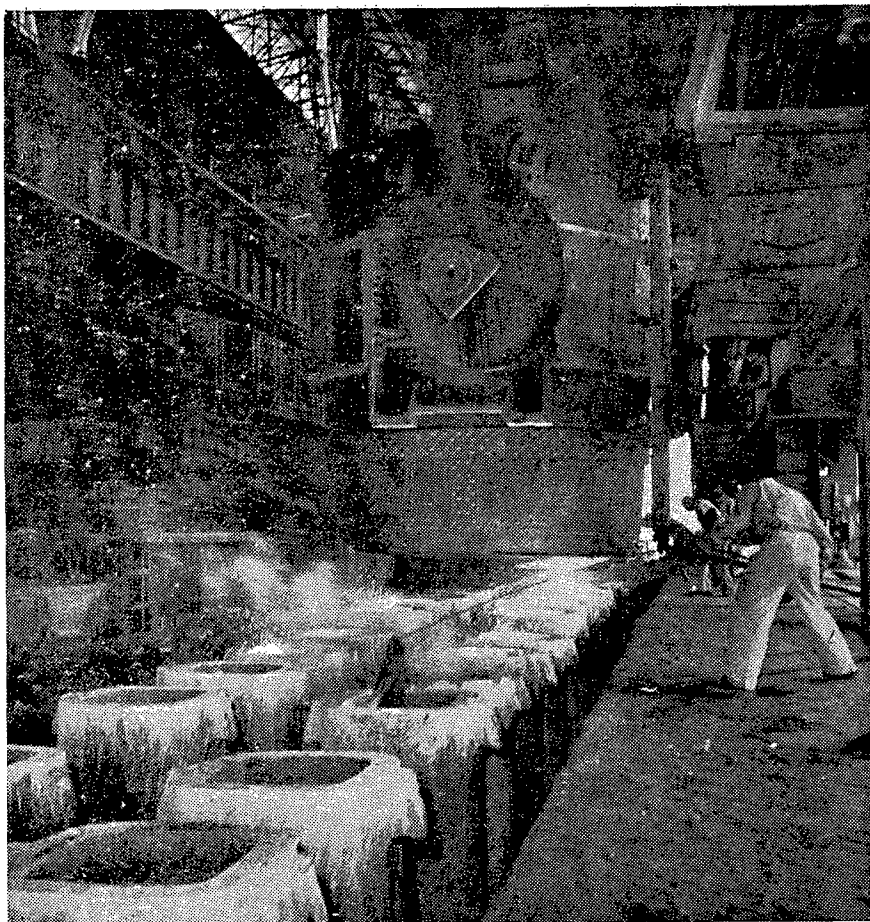
With this view, the First Plan provided Rs 30 crore for a new iron and steel project in the public sector estimated to cost Rs 80

crore over a period of six years. "The estimated capacity of this project will be about 800,000 tons of pig iron, while the steel capacity will be a minimum of 350,000 tons, with further additions if necessary in the light of the availability of pig iron supplies from the expanded capacity in the private sector in the next few years. By 1955-56, this project, it is expected, will be producing about 350,000 tons of pig iron. The completion of this project by 1958 as well as the projects for expansion in the private sector will raise the availability of pig iron and steel from domestic sources by about 100 per cent." (Page 428).

This is enough to indicate that although the importance of steel production was pointed out by the First Plan, the target set for the steel industry at the beginning of the First Plan was very modest.

However, in the course of the First Plan, the need for strong steel industry as the base for the industrial development of the country became pressing.





At the Bhilai steel plant. Bhilai exceeded its rated capacity by 20 per cent during the last year

*The last year of the First Plan 1955, marked the beginning of the steel era, as the work on three gigantic public sector steel works was started in that year. Bhilai was the first on which work was begun, although Rourkela was conceived first in 1953.*

The three steel projects in the public sector formed the main theme of the Second Plan, which also provided for massive expansion of the existing units in the private sector. The Second Plan laid down "rapid industrialisation with particular emphasis on the development of basic and heavy industries" as one of its objectives. It said: "The expansion of the iron and steel industry has obviously the highest priority since, more than any other industrial product, the levels of production of these materials determine the tempo of progress of the economy as a whole." (Page 394).

Thus the Second Plan took us well into the steel era. Surmounting many difficulties, the plants at

Bhilai (Madhya Pradesh), Rourkela (Orissa) and Durgapur (West Bengal) were completed, and they went into production one by one in 1959.

### *The Three Plants*

The Bhilai plant has been built with the assistance of the Soviet Union. An agreement for technical and economic collaboration was signed with the Soviet Union on February 2, 1955. This was also the beginning of Indo-Soviet co-operation in India's development. *During the past decade, the Soviet Union has been co-operating in 40 industrial and other projects which provide employment to two lakh workers and engineers.*

Bhilai has established a number of records since the first sod was turned. The foundation stone of its first blast furnace was laid in May 1957 and the works went into production on February 4, 1959. The plant has been breaking its own production records in the different

sectors and for the past one year it has been producing 20 per cent more than its rated capacity of one million tonnes of steel ingots.

Simultaneously it has undertaken a programme of expanding its capacity to 2.5 million tonnes since February 1962 and a blast furnace, a coke oven battery and an open hearth furnace under the expansion programme have already been commissioned. The expansion programme will be completed this year.

*Bhilai is to be expanded further to a capacity of 3.5 to 4 million tonnes during the Fourth Plan period. The plant has adopted the latest technical methods to improve efficiency and reduce production costs. The use of isotopes to control smelting process is an example.*

Bhilai has been exporting some of its products and it earned a net profit of Rs 1.5 crore in 1963-64 when the other two projects were still running at loss.

The Rourkela steel works has been built in collaboration with West Germany. Work began only in 1956 and the plant went into production at the end of 1959.

Rourkela has reached its rated capacity of one million tonnes after some teething troubles. A programme to expand it is already in hand and its capacity will be raised to 1.8 million tonnes by 1966, and further to 2.5 million tonnes in the Fourth Plan.

The Durgapur steel works was built with the assistance of the United Kingdom. Work was completed in 1962. However, production had begun even in 1959. The plant has been working at its rated capacity of one million tonnes since February 1963.

The Durgapur plant is also being expanded to a capacity of 1.6 million tonnes. Further expansion of the works to a capacity of 3 to 3.5 million tonnes is expected to be done during the Fourth Plan period.

The three public sector plants together have now a rated capacity of three million tonnes which will rise to 5.9 million tonnes after the completion of the first expansion programmes now in hand and further to about 10 million tonnes after

the second expansion during the Fourth Plan period.

Besides these three plants in the public sector, large expansion has been carried out at the Tata Iron and Steel Works, Jamshedpur, the Indian Iron and Steel Works, Burnpur, and the Mysore Iron and Steel Works, Bhadravati. A target of 10 million tonnes production was originally fixed for the Third Plan. It is now expected that the production rate will touch 7.5-8 million tonnes when the Third Plan draws to a close next year. The capacity was only 1.5 million tonnes in 1955. The rise in capacity during the ten years will thus be more than five times.

#### *Fourth Plan Programme*

For the Fourth Plan, the target of annual steel production has been tentatively fixed at 16.5 million tonnes of steel ingots and 4 million tonnes of pig iron. It will be achieved by the expansion of the existing units and the setting up of new units in the public as well as private sector.

The major project in the Fourth Plan is the Bokaro plant, the fourth and the largest in the public sector, on which preliminary work has already begun. It will have an initial capacity of 1.5-2 million tonnes, to be expanded later to 4 million tonnes. The Soviet Union has recently agreed to help India in setting up this plant. Preparatory work has begun on a fifth plant to be located in the south. Two plants with a capacity of 1.5 million tonnes each and a third with 0.5 million tonnes will be located in the south. Besides a number of medium steel works with capacities in the lakh tonnes range are being contemplated.

To build and run a steel plant, one must also build and run numerous other industrial enterprises, such as the mining of coal, iron ore, dolomite and other minerals. Great is the appetite of steel. The expansion of mineral production has to go hand in hand with the development of steel works. The by-products of the industry also promote several subsidiary industries. *Thus the Rourkela works has a large fertiliser factory and a pipe plant; and the Bhilai works has a slag granulation plant.*

A big cement factory with an annual capacity to produce 0.6 million tonnes of cement is proposed

to be built at Bhilai, to be further doubled to 1.2 million tonnes. The cement factory will utilise granulated slag, a waste product of the Bhilai works.

A steel plant with a capacity of one million tonnes consumes about 350 million units of electric power every year; thus promoting generation of power on a big scale. Coal washing is another adjunct of a steel works and four coal washeries have thus far been set up at Durgapur, Dugda, Bhojdih and Patherdih, the last three being in Bihar.

The main advantage, however, of the steel works set up during the past decade has been that India has been able to undertake a programme of building several basic industries including heavy machinery, heavy machine tools, heavy electricals, heavy foundry forges, and locomotives for which a large quantity of steel is the primary requirement.

#### *Alloy and Special Steels*

With the experience of several decades in steel-making, India has taken a step further to meet its needs of alloy and special steels. An alloy and special steels project is taking shape at Durgapur. Canadian and Japanese firms are assisting in setting up the plant which will have a capacity of one lakh tonnes of ingots, to be further expanded to 3 lakh tonnes in the Fourth Plan. The project will be completed in 1967, but its melting shop has already gone into production.

The Mysore Iron and Steel Works, Bhadravati, is also being converted to produce 70,000 tonnes of alloy and special steels annually.

The steel plants in the public sector are managed by Hindustan Steel Limited. In addition Hindustan Steel has the overall control of the subsidiary units, including the fertiliser plant and the pipe plant at Rourkela and the four coal washeries.

A separate company, the Bokaro Steel Limited, was formed in January 1964 for the management of the Bokaro plant. The construction of the Bokaro plant and other steel works will be done by the Hindustan Steelworks Construction Limited which was formed in June 1964.

India is now poised for further achievements in steel-making. Several new industries, subsidiary,

ancillary and those which use iron and steel as basic material, are cropping up.

What, however, is the most valuable advantage of fifty years of steel-making and ten years of state activity in the field is the experience and skill gained, which have made our Indian engineers confident and self-reliant in the matter of designing, constructing and running our own steel plants.

Ten years ago, it was impossible to think of constructing a steel plant by our own. Today, a project report for Bokaro could be prepared by an Indian firm of engineers. The alloy and special steels plant at Durgapur has been designed by the engineers of the Hindustan Steel Limited. The Union Minister of Steel has already announced that in the Fifth Plan at least two steel projects will be entirely designed and constructed by Indian engineers without outside help.

In 1959, Hindustan Steel Limited set up a Central Engineering and Design Bureau at Rourkela which has now grown into a big organisation. This Bureau prepared detailed project reports for the expansion of Durgapur and Rourkela plants. A similar Design Cell has been functioning at Bhilai since 1961, and it designed the expansion works of the Bhilai plant.

Our steel engineers acquired their skill from the best steel-makers in the world, Germans, Britons, Russians and Americans. They have worked in the leading steel factories of the advanced countries. The steel plants have also set up their technical training schools to train hundreds of skilled workers required for running our steel plants.

We need many more steel plants to meet the growing needs of our industries. The target of 30 million tonnes, which we hope to reach by the end of the Fifth Plan, is not so astonishing when we remember the vast size of India; 30 million tonnes is the capacity of Japan today. For our future plants we have to raise an army of skilled personnel. The confidence and skill that we have gained specially during the past ten years of state steel has enabled us to undertake a gigantic project like Bokaro and it will prove the testing ground for our future plants.

# Books

## *The Missing Spirit*

G. N. Acharya

"A SOCIALIST Society", said the Second Five-Year Plan, "is built up not solely on monetary incentives, but on ideas of service to society and the willingness on the part of the latter to recognise such service. It is necessary in this context that the worker should be made to feel that, in his own way, he is helping to build a progressive State. The creation of industrial democracy, therefore, is a prerequisite to the establishment of a socialist society".

That is, in effect, the source and origin of the title of a book—*Experiments in Industrial Democracy* by Dr Nabagopal Das\*, which examines what has been done in pursuance of the idea set out in the Second Plan. Dr Das knows all there is to know about the subject, and has provided a competent summary. It is not his fault that the story is short; nor is it particularly bright.

It began in the usual way, in April 1957, with the setting up of a Study Group, followed by the usual and elaborate processes of discussion at seminars, consultations at the Labour Conference, committees for recommendation, implementation, review and revision. By mid-1963, Joint Councils of Management had been introduced in 16 public sector and 40 private sector undertakings. Conditions, anaemic; prognosis, not good.

There is so little that is worth the telling that in this book of 175 pages, the Indian story (including comments and summing up), from the earliest beginnings, takes up just 38 pages spread over three chapters. The first 21 pages are devoted to a discussion of principles. Much more

than half the volume (99 pages) is devoted to what has happened in the United Kingdom, the United States, France, Germany, Sweden and Yugoslavia—the last having the best record to show.

The information, culled by wide reading, is useful for academic study. But as the socio-economic backgrounds of the different countries are so varied, no immediate and practical lessons can be drawn. The truth is not difficult to find. As long ago as 1931, the Royal Commission on Labour in India described joint machinery and consultation as "a matter where the spirit is all important and the form entirely secondary." The spirit has always been lacking, and is still in short supply. All the "experiments" set out by Dr Das are in the forms, the machinery.

Of these there has been no shortage. First, the Trade Unions, with their uneven history. Then there are the Works Committees under the Factories Act, defunct or moribund. And now the non-statutory Joint Councils. The structure of ownership is not relevant to employer-employee relations. Employers in the private sector are allergic to deal with the workers or their representatives on a footing of frankness and equality. Notable exceptions like the Jamshedpur Steel Works and Ahmedabad Textile Mills only go to prove the general rule.

The Managers in the public sector are worse, though in theory the position is different. The private employers are pragmatic and when it comes to a conflict between prestige and profits, they are more likely to choose profits. The bureaucrats at the top of public sector establishments are so used to sitting behind their files, cold and aloof, and the hierarchic system of respect so ingrained in official routine, that they find it hard to get over the habits of a life time.

For the workers, their primary interest is in wages, then working and living conditions. These are still so much in the realm of unfulfilled wishes that it is hard to enthuse the workers about participation in management. They do not have the surplus worrying energy to spare for management problems. The division of interest—Trade Unions to deal with wages and fringe benefits, the Works Committees with working and living conditions, and the Joint Management Councils with a lot of other unfamiliar problems—is also not calculated to make things easier for them.

Dr Das is aware of all these problems, and has discussed them in the staid manner which is the accepted norm for books meant to be taken seriously. But the cover blurb claims that apart from his books on industry and labour, he is also the author of five novels, four collections of short stories and a book of memoirs in Bengali. From one so endowed, it is permissible to wish for a livelier presentation. The conformity to academic fashion and the heavy price must unfortunately limit the book's readership.

## SURVEY OF RETAIL TRADE

*Retailing in Metropolitan India* by Ranjit Gupta. Indian Co-operative Union, New Delhi. 90 pages. Rs.10.

R. K. Parashar

THIS is a welcome book which has probed into an almost virgin field of retailing. It gives an idea of nature and composition and the range and volume of consumer goods sold in the different markets studied, factors affecting retailing practices, pattern of investment in fixed and working capital, size of annual sales, selling costs and retail margins in different trades, factors determining rate of margin and gross and net profits and sale practices followed.

About the consumers it gives the pattern of their family income and consumption, their shopping practices and the frequency of purchases by them. The period of reference is 1961-62. There are some revealing

\* Asia Publishing House. 175 pages. Rs 16.

observations. For example:

"Whereas the sweetmeat dealers rotated their working capital in a year more than twelve times the jewellers could not do it even once"....

"Contrary to the generally held notion that in Delhi women do most of the shopping, the results of the survey show that the bulk of the purchases, irrespective of the nature of goods bought, was made by men in the family. Except for vegetables, all other articles of consumption were mostly purchased by them."

As the random selection of some observations quoted above show, the book is full of engrossing details and interesting analysis. Instead of sticking to his own narrative and lucid analysis the author has, however, chosen in the chapter 'Retail practices and factors affecting retailing' to cite others to explain certain phenomenon and factors of retailing. He could as well keep views of others in the foot-notes.

The author has himself pointed out the extent of reliability and limitation of estimates presented by him. In the opinion of this reviewer, however, these limitations go much further. First, the details of retailing given are of relevance only in normal times. The character of retailing undergoes a metamorphosis once the normality is disturbed for whatever reasons. Secondly, the survey design followed by the author for the selection of his respondent raises many doubts. For example, are the three markets studied representative of the retailing carried on in the metropolitan areas? If not, the entire analysis, despite its revealing findings, would be misleading.

The author's contention that the selected markets are representative of retail distribution centres in the capital and his logic in its support are questionable. The author does not show how "the location of the area in which a predominant number of customers resided was ascertained". Thus, it is not clear how it was done in the case of Lajpat Rai market which is "frequented by more mobile types of customers, belonging to all walks of life but not necessarily having personal contact with the dealers." Similarly, in the case of Shankar market whose "composition is somewhat mixed,

incorporating partly the features of the Sarojini market and partly that of the Lajpat Rai Market". Again, even if the area in which a predominant number of customers resided was ascertained and earmarked, how did it happen that all the approximate 30 per cent households selected at random actually made purchases from a particular market? Finally, the author is silent on the extent of reliance to be put on his findings because of limitations regarding "the bias of the retailer to underestimate certain figures, say, annual sales, margins, etc., and over-estimate some others, such as working expenditure,

cost of distribution, capital needed and the like."

The limitations pointed out above, however, do not in any way undervalue the merits and usefulness of the study and its breaking new grounds in the sphere of retailing.

The book is a refreshing reading and meets a long-felt need in the field of structural economics. The casual reader as well as one interested in the subject can read it with benefit\*\*.

\*Views expressed herein are the reviewer's own and not necessarily of the Directorate of Economics and Statistics, Ministry of Food & Agriculture, Government of India, to which he is attached.

## THOUGHTS AND TALKS OF A GANDHIAN

*Thoughts and Talks of G. Ramachandran. Edited by K.C.R. Raja. Gandhigram. 352 pages. Rs. 4.50.*

SANTINIKETAN and Sabarmati combined to give G. Ramachandran intellectual refinement and devotion to creative work which have found expression in Gandhigram, which comprises many types of educational and constructive work. Ramachandran's has been a life of varied interests but in whatever he has undertaken the motive force has been service of the people and the country.

He left college in 1921 in response to the call of Mahatma Gandhi and later joined Santiniketan. On graduation from there he went to Sabarmati Ashram and flung himself whole-heartedly into the hard Gandhian discipline which shaped the course of his life. In fact, Sabarmati Ashram had beckoned to him much earlier. When he was only 20 years of age, he met Gandhiji and sought to resolve some of his doubts through questions put to the Mahatma. The replies he received convinced him as to where his duty lay.

On leaving Sabarmati he took in his stride village uplift work, Harijan Sevak Sangh activities, development of Khadi industry, educational work, and the struggle for freedom. He has also occupied places of high responsibility as a Minister in the first Thanu Pillai Cabinet in Travancore, as Educational Adviser to the Rajaji Government in Madras

and as Chairman of Basic Education Assessment Committee of the Government of India. He was for nearly four years the Secretary of the Gandhi Smarak Nidhi and he is now the Secretary of the Gandhi Peace Foundation and the Editor of the "Gandhi Marg". In 1955 he was in Europe and in America lecturing at several universities on Gandhiji and his work and teachings. In 1962 he went to Russia along with Mr. U.N. Dhebar to press on Mr. Khrushchev, the then Russian Prime Minister, the urgent need to stop all tests of nuclear devices.

The book under review contains a collection of Ramachandran's writings and lectures and covers a wide range of subjects, from tributes to Gandhi and Tagore to discourses on the future of mankind. Although the collection is somewhat haphazard, it gives an insight into the mind of a man whose life has been rich in experience both on the spiritual and material planes.

The Editor has stated that what has been collected in this book is only a fraction of the material available and it may be possible to bring out one or two volumes more of Ramachandran's writings and lectures. One hopes that in these volumes an attempt will be made to put the material in some sort of order, arranged subjectwise, if possible, for it is certainly material that should prove inspiring to the youth of the country.

H.C.S.

# SMALL CAR, EH?

I AM against cars—all cars, even small cars.

You may say: I know why. The grapes that one does not get are always sour.

It is true I can't afford a Ford or a Fiat or even Dr. Lohia's 2500-rupee car.

But my objection is really on principle; it is an ends test, not a means test.

I am not one who will concede that Urvashi is beautiful only if she will spend an hour with me.

If a flower is pretty why must I pluck it? If a book is good, why must I read it? If another man's wife is attractive, why must I have her? If a bell rings, why must I run?

Don't think I am an antedeluvian either. I am not against science and civilisation. I am not a revivalist, not a go-back-to-the-forest-ite. I am no noble savage.

I am for electric bulbs (—though not tube-lights). I am for radio (—though against TV). I am for high-speed rotary newspapers (—though not horror comics). I am for antibiotics, jet travel and space probes. I am positively for the plastic coil.

Then what have you against automobiles, you might ask. But did I say I was against them? I only said I am against cars. As a matter of fact I am for buses, lorries, taxis, auto-rickshaws and even jeeps (as long as they are not jeeps in lieu of cars).

So you can see that my objection is not on the grounds of noise or

casualties on the streets but something else.

And let me disclose that something: *I am against the car-owning mind.*

The moment a man is behind a steering wheel of his own he thinks he is a creature apart. He thinks there is a halo behind his head and little wings under his armpits. He thinks he is a god and he develops a condescension for mere pedestrians.

It is my pedestrian pride that protests against this attitude. Just because thou ownst four wheels dost thou think thou art an angel?

N.B. My objection is limited to car-owners in India, because cars here make a caste. In Los Angeles, the most car-owning place in the world, I found the pedestrian was lord of the roads. Everything stopped for me as though I were the light.

SHOURI

## Barbers in Conference

CRAFTSMEN in conference do not seem to get the publicity desired or deserved and the convention of barbers in Madras held in the first week of March 1965 excited little attention, even locally. The tonsorial styles described to show that the hairdresser today ranks as an artist in improving personal appearance may not be novel, but the Barbers' Association is convinced that long hair and beards are burdens and the adoption of foreign styles in hair-cutting is to be approved and commended. The hairdressing saloon as a place of public resort is accepted though the barber who visits the regular client by arrangement at home is not less in evidence. The barbers' prayer that the art of cropping and shaving should flourish is not empty one.

The fact that barbers' shops refer to Columbia, Rangoon and Singapore on their signboards may be

due to the infiltration of foreign tools or styles. The indigenous style in whiskers, sideburns, etc., is not prominent in the current exposition of the art and the barbers who show how a good head of hair should be parted refer to the Police Cut as appropriate for Government servants who sport official headgear.

It is curious that hair styles for women who now raise special basket-like coiffures topping the head are outside the ken of Tamil barbers who have been praised for attention to detail in the pursuit of an art that does not encourage talk with customers in the chair.

The secretary has referred to uplift of the community that is deemed backward, though its leaders prefer the suffix Pandit to mark the progressive outlook. The desire for self-help is now reflected in the formation of an association to promote the interests of barbers who depend for credit on chit funds and now hope to organise a credit co-operative society to aid them in buying equipment like revolving chairs. The installation of fans and lights is unavoidable, as comfort is demanded by the conditions of competition in Madras city.

A sideline is available in the preparation of lotions to check baldness or dandruff suggesting that the practice of medicine and surgery in the past has left its impact. Modern influence is easily traced in the emergence of an M.G.M. saloon in the city though a lion is not the trademark adopted to claim the lion's share of casual custom.

M. K. RAMAMURTY

## FARM IMPLEMENTS

The agricultural implements workshop in Jaipur, an undertaking of the Rajasthan Government, will be expanded to produce agricultural implements worth Rs 15 lakhs annually during the Fourth Plan period. Two new similar workshops will be set up at Kotah and Ganganagar and 60 small units at the block level.

The second generating unit of the Sharavati hydro-electric project was commissioned on April 29. The project will have 10 units of 89 MW each.

# LIFT IRRIGATION

## *By Bullocks or by Pumpsets?*

G. R. DAMODARAN

A GOOD paddy is usually in the field from four to five months. Water requirement is low during the first three or four weeks and again during the last three or four weeks. A long-duration paddy crop requires about 75 acre inches or about 1.7 million gallons of water per acre in a period of about 3 to 3½ months during the mid-period of the life cycle of the crop.

Bullock power for irrigation is generally used where the depth of the well is not more than 35 feet. If the depth is greater, the interval between two consecutive drafts of water from mhoite-buckets gets longer. As a result, the total quantity of water drawn in a working day gets reduced to uneconomic levels.

Now, in an eight-hour day, a pair of bullocks can draw about 12,000 to 15,000 gallons of water from a 35-foot deep well. Since the water flows in spurts, there is loss due to seepage of water. For these reasons, a pair of bullocks can be used to irrigate not more than one-third of an acre of paddy. In many cases it would be even less.

An ordinary pair of bullocks costs about Rs 800 in Madras State. Interest on this outlay at 12 per cent per annum works out to Rs 96 per year. An appreciable part of this will have to be charged to the cost of raising the paddy crop. When put to strenuous work such as lifting of water, the bullocks can be usefully employed only for about five years. In other words, the depreciation per year amounts to Rs 160. Here again, a substan-

Farmers in India have been traditionally using bullocks to lift water from wells for irrigation. Bullocks have now a rival in pumpsets. Since a larger initial outlay is required for installing pumpsets, it has given rise to a misconception

in certain quarters that pumpsets are less economical. The author claims that this impression is erroneous and, in fact, lift irrigation with the help of bullocks costs seven times more than irrigation by pumpsets.

tial part of the depreciation is chargeable to paddy cultivation. Besides this, it costs about Rs 4 per day to feed and maintain a pair of bullocks. The expenditure on this account for five months works out to Rs 600 though this may be lesser if fodder raised on the farm itself is used. Besides, the farmer might have to employ some one to work the bullocks in case no member of his family is available to do the work. Thus, the total expenditure on irrigating one-third of an acre of paddy may roughly amount to Rs 750 or Rs 2,250 per acre.

### *Electricity-operated Pumps*

Let us now see how much does it cost if an electricity-operated pump is fitted to the well. It is quite possible that the water in the well may not be adequate for eight-hour pumping per day. Assuming that there is water enough for one-hour pumping in the morning and another hour in the evening, a five-horse-power electric motor coupled with 3"×2½" pump can lift from a 50-foot deep well 160 gallons of water per minute. This is enough to irrigate about one acre of paddy.

The installation of this motor and pumpset will involve an initial outlay of about Rs 1,500 on which the interest charges at 12 per cent per annum will be Rs 180 per year. The lifetime of this unit is about twelve years so that depreciation for five months will work out to Rs 52. A small expenditure on maintenance and repairs may be involved but this is not included here. If the motor works for two hours every day, it will consume 1,125 units of electricity during five months. This involves an expenditure of Rs 93 at 8.25 paise per unit, which is the present

tariff for agricultural pumpsets in Madras State. The total expenditure would, therefore, amount to Rs 325 per acre of paddy.

If a five-horse-power diesel engine and pumpset unit is taken into account, the initial outlay will be Rs 3,000 entailing an interest of Rs 360 per year. Since its lifetime is about ten years, the proportionate depreciation for five months will work out to Rs 125. If the unit works for two hours on an average per day for five months it will consume about 400 litres of fuel oil. At 72 paise per litre, this would cost Rs 288. The total expenditure in this case will work out to Rs 773 per acre.

It may be added that the animals have to be fed during the off-season also, work or no work. But no expenditure will be involved in maintaining the machinery during the the off-season except the payment of minimum charges for supply of electricity. I have not taken into account the cost of shed for housing the bullocks or the engine or the motor.

It is often said that the initial outlay on purchase of the electric motor pumpset or diesel engine pumpset is beyond the means of our farmers. It is for this reason that the State Governments are advancing loans to them which are repayable in easy annual instalments. The farmer has to choose if he likes to suffer a recurring loss of Rs 1,500 to Rs 2,000 per year by using bullock power or avail himself of the Government loans and avert this large recurring loss.

It is sometimes argued that if the use of bullocks is abandoned for

lifting water, the supply of farmyard manure to the fields will suffer. An average pair of bullocks supplies hardly 5 tons of farmyard manure per year valued at Rs 10 per ton. The nutrients in this quantity of farmyard manure can easily be made up by use of green leaves and fertilisers.

Any step taken to encourage use of pumpsets in agriculture is a step in the right direction from every point of view. The use of bullocks for lifting water has to be abandoned in the interest of the agricultural economy of the country. Use of power for lifting water brings in greater prosperity to the farms as is evident in a district like Coimbatore in Madras State, which is quite advanced in agriculture. One out of every three or four wells in the district is fitted with a pump. The remaining wells have not been fitted with pumps only because the underground springs are too poor in the wells and not because the farmers concerned are unaware or live unconvinced of the utility of pumpsets.

## National Income Up by 4.5 per cent

INDIA's national income rose by 4.5 per cent in 1963-64 over 1962-63. The rise was 1.9 per cent in the previous year.

The total national income (at constant prices) in 1963-64 was Rs 13,910 crore, as against Rs 13,310 crore in 1962-63, an increase of Rs 600 crore in a year.

The per capita income for 1963-64 works out at Rs 299.8, as against Rs 293.4 for 1962-63.

During the first three years of the Third Plan, there was a rise of 9.3 per cent in the national income and of 2.3 per cent in per capita income at constant (1948-49) prices.

### A CORRECTION

In our report on High Pressure Boiler factory at Tiruverumbur published in our last issue "the Heavy Machine building" (third line, column two, page 18) should read "the Hyderabad Heavy Power Equipment plant". The error is regretted.

## Madras Farmer's

### Achievements

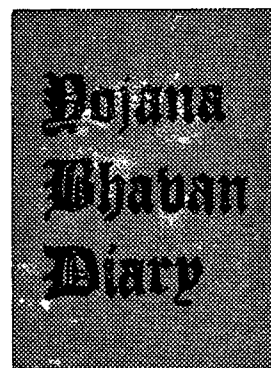
(Continued from Page 5)

than Rs 1,000 a year. He gets 30 to 40 eggs a day which he puts in the incubator, thus adding to the stock of his birds. As for sheep, he can sell each for Rs 30. Then there are flowers and vegetables. "Now that I have an incubator", Srinivasan remarked, "I expect my poultry farm to expand further adding considerably to my income."

Between 1957 to 1965, in a mere eight years, Srinivasan has shown how a man without previous experience can make a success of his job by hard work and imagination. One thing has helped Srinivasan—that he is not too citified in his tastes. He and Raju, who is about the same age, live like true farmers. Though the wage-earners start working on the fields at ten in the morning, Srinivasan's day begins before sunrise. In the evening he indulges in his recreation—listening to the radio. He also goes through the newspapers and is an avid reader of literature (sent by his father) on agriculture and poultry farming. And, of course, there are a pack of pet dogs, Sheela, Blackie, Mani and the like who follow Srinivasan wherever he goes and keep a faithful watch on the farm in the night.

MUCH of Srinivasan's success should of course be traced to the financial support, advice and guidance of his father. I met Mr Narayanan later in Madras. "We have invested a lot of money on the farm. But I have no regrets. It has started paying dividends. Papa is doing well and will do better still."

I could not help bringing up the question of poultry. "Why, you have already been told about it?" Mr Narayanan laughed aloud. "You see, we are old and conservative. It is difficult for us at this stage to change our old beliefs and customs. Papa represents the young and belongs to the modern age. The old order, as you know, must change yielding place to the new."



The first meeting of the National Planning Council was held on April 21 and 22 (see Page 12).

Mr Asoka Mehta, Deputy Chairman, Planning Commission, left for Moscow on May 4 as leader of a delegation consisting of Dr. A. Nagaraja Rao, Adviser, Industry and Minerals, Mr Pitambar Pant, Chief, Perspective Planning, Professor P.C. Mahalanobis, Member, Planning Commission, who was in U.S.A., joined the team at Moscow. The delegation discussed India's development plans with the Soviet authorities.

Mr S. G. Barve assumed office of Member, Planning Commission, on April 21. He will deal with industry, village and small industries and oil and minerals.

Mr G. R. Kamat took over as Secretary, Planning Commission, on April 22.

Mr Asok Mitra took over as Additional Secretary, Planning Commission, on April 22. Until recently he was Registrar-General of India and Census Commissioner.

The National Development Council Committee on Social Services met on April 17 and 18. The Committee on Industry, Power and Transport met on April 23 and 24.

Members of Development Aid Committee of West German Parliament met Mr Asoka Mehta, Deputy Chairman, and members of the Planning Commission on April 24.

## FORUM EVENTS

Reporting the Activities of  
College Planning Forums

# Survey of Slum Area Near Madras

THE Planning Forum of Loyola College, Madras, conducted recently a socio-economic survey of SUSAIPURAM-PUSHPANAGAR, a slum area on the outskirts of the city. The object was to gain practical experience in survey methods.

A sample of 120 families was selected. The area was divided into six regions, and 20 houses from each were selected on random sampling. A questionnaire was prepared to collect data on the various aspects of living conditions, family composition, occupation, housing, health, education, social and recreational activities, and income and expenditure.

An average family in the area consisted of five members. Of the 600 people covered, 250 were men and 350 women. Out of the 250 men, 80 were fathers, of whom 50 had jobs. Ten were retired and 20 unemployed. Eighteen households were found to be managed by the eldest sons of deceased fathers; 12 households belonged to couples who had no children. Of the remaining 170 males, 30 per cent were below five years of age, 55 per cent between five to 15, and 15 per cent between 15 to 20 years. Of the 350 women covered by the survey, 215 were mothers, of whom only 5 per cent had jobs to supplement the family income. Of the remaining 135 women, 53 per cent were less than five years old, 63 per cent were between five and 14, and 4 per cent between 15 and 18 years. Generally girls were married on attaining the age of puberty. This meant that a majority of women had a long child bearing period, resulting in overpopulation of the slum area.

The survey showed that people were usually engaged in manual labour, working as attendants, watchmen, messengers, gardeners, painters, bricklayers, scavengers, street sweepers, rickshaw-pullers and labourers. Of the 600 people, the wage earners numbered 100, the average

wage being Rs 48 per month. The per capita income of the people of the area came to Rs 8 per month or Rs 0.27 per day.

A majority of the local labour was immobile as they could not afford to spend on conveyance to distant places of work. A few labourers had to get up early to reach the work site on foot. Some were found working with their employers for the last 20 to 40 years, though their wages had remained unchanged in the face of soaring cost of living coupled with increasing family responsibilities.

The condition of the labourers was miserable, there being no other source to supplement their income from. Of the 120 families interviewed, not one had an inch of ground for cultivation or gardening. Only 10 per cent of the workers expressed satisfaction with their jobs. Only six out of 115 adult women had jobs.

### Modes of Earning

The Forum found unemployed men were of two categories—those who had never been employed and those who had jobs but were expelled or retrenched. Eleven people had never been employed, ten had retired and 15 were either dismissed or retrenched. Nine had odd casual jobs.

The duration of casual employment varied from two to six months depending on the nature of work. There was no guarantee that when they lost one job another would be available. Few admitted that they sent their children to beg alms. A few went about begging for old newspapers, magazines and rags which they sold to earn a day's meal. Some placed their services at the disposal of small business men, tourists and students, or helped in getting a taxi-cab for passengers. A few were hired by washermen on piece wages.

The Forum found that the huts in which these people lived were unworthy of human habitation. A hut was usually shared by two families. Most huts had one room and were made of mud covered by bamboo, palm leaves and old tin sheets. Five houses had more than one room but none had more than three. A slum dweller's hut was an all-purpose, one-room house. Oil lamps were used to light the huts.

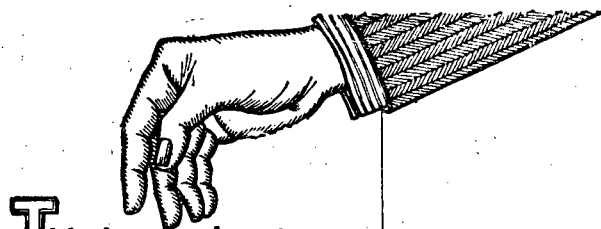
The entire area was dirty, there being no latrine. During the rains the area got flooded and dirty water flowed into the huts. Owing to stagnant muddy water, the slum area was infested with mosquitoes. Of the 250 men, 20 complained of abdominal ulcer, five of tonsillitis, three had mental troubles, and eight had eye troubles. Another 15 had meningitis and more than 30 had undergone operations. Of the boys 70 had been suffering from one disease or another.

As regards education, the Forum found that in most families parents were illiterate, though the children were not. Of the people covered by the survey, only 234, or 39 per cent of the population, were literate.

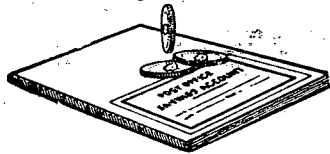
Nine out of 120 heads of families claimed having read up to the fourth standard. Another 15 had left school after the first or second standard. Except three married women who had read up to the third or fourth standard, the rest were illiterate.

The introduction of free primary education and free mid-day meals had lured some boys and girls to attend school. Yet many did not go to school because they preferred to earn a little to support their parents.

The Forum has recommended provision of minimum sanitary facilities, a latrine for each house, and supply of more water through taps. A health centre with a clinic should also be started. The Forum has suggested the setting up of a handicraft training and production centre which would help the womenfolk of the locality to be usefully engaged.



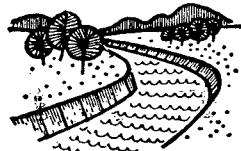
**This is your hand**



**that will save the money**



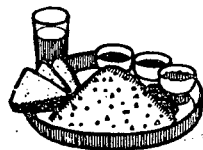
**that will build the dam**



**that will feed the canal**



**that will irrigate the land**



**to provide food in plenty  
for all of us**

**AND YOUR MONEY IS STILL YOURS  
—WITH INTEREST!**

Start a  
**POST OFFICE  
SAVINGS  
BANK  
ACCOUNT**  
Today

**Interest: 4% Tax Free.  
Deposits and withdrawals  
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It's easy to save with  
a Post Office Savings  
Bank Account. All you  
need is Rs. 2/- and a little  
persistence! Even children  
can operate this Account—  
train your children to save  
by making them open one.

Your Savings not only help  
you, they help the nation.  
The money is used in the  
development of vital industries  
and projects. Every little  
paise counts! Your money is  
safe and earns good interest.

Help your country.  
yourself!

Remember,  
BIG SAVINGS WERE  
SMALL SAVINGS ONCE!



**NATIONAL SAVINGS ORGANIZATION**

# KOSI BARRAGE OPENED

THE Kosi, the river of sorrow for Bihar, has been harnessed to yield prosperity to its valley in Bihar and Nepal. A barrage built on the Kosi at Bhimnagar at a cost of Rs 23.63 crore was commissioned by King Mahendra of Nepal on April 24. Work on the excavation on the western Kosi canal also began the same day. The canal will cost Rs 13 crore.

The barrage, about 1,150 metres in length, is the longest in the country. It has been built over six years. Along with the 120 kilometres of embankments on either side of the river, the barrage will check the river from changing its course. It will feed the eastern and western canals, which together will provide irrigation for 26 lakh acres of land in North Bihar and South Nepal.

The barrage is a part of the Rs 54-crore project to benefit Nepal and Bihar. A hydro-electrical powerhouse with a capacity of 20 MW will be built by 1966 and 50 per cent of the power will be supplied to Nepal.

The U.S.A. has given Rs. 36.22 as assistance for the Kosi project.

## SNIPPETS

THE consumers co-operative stores had a turn-over of Rs 128.9 crore in 1964, meeting 9.5 per cent of the consumer needs of the urban people. In 1965, the total sale is likely to reach Rs 300 crore..... The production of rice in 1964-65 is expected to be 38.5 million tonnes, the highest so far.... Seven airfields at various places in India were built in about six months at a cost of Rs 17 crore..... Australia has offered six automatic bakeries (costing 250,000 Australian pounds) as gift to India under the Colombo Plan. They are likely to be located at Calcutta, Madras, Bombay, Delhi, Ahmedabad and Ernakulam..... The U.S.A. will supply India one lakh tonnes of jowar under PL 480 for distribution in Maharashtra and Gujarat..... The Rajasthan Government has spent Rs 3.54 crore during the past thirteen years on the welfare of scheduled tribes..... The Jhunjhunu district was declared for the sixth time as the ideal small savings district of Rajasthan when it collected Rs 55.5 lakh in 1964-65..... Thirty per cent of the rural population had been brought under the co-operative fold in Rajasthan State till December last..... Uttar Pradesh has so far set up 44 industrial estates—big, medium and small—during the three Plans, and 32 more are expected to be opened by December this year.



Bright  
Spot

### MORE SUGAR THIS YEAR

The production of sugar this year is likely to exceed 30 lakh tonnes. It has already been more than 29 lakh tonnes from all the 104 factories working in this season.

The export target of 2.38 lakh tonnes for this year may now be revised upwards.

## BHOPAL'S GIANT TRANSFORMER

THE Heavy Electricals, Bhopal, has undertaken the manufacture of its largest transformer (capacity 250,000 KVA, 21/230 KV). The transformer will be installed at the Rana Pratapsagar atomic power house, near Kotah in Rajasthan. It will weigh 220 tonnes.

The Bhopal factory has so far manufactured transformers ranging from 1000 KVA to 75,000 KVA.

The factory has also completed the manufacture of the first batch of six industrial motors.

### ORTHOPAEDICS INSTITUTE

The Central Institute of Orthopaedics has been housed in a new building on the campus of the All-India Institute of Medical Sciences in New Delhi.

## Rs 489 Crore Aid for Fifth Year

THE Aid India Consortium has pledged an aid of 1,027 million dollars (Rs 488.85 crore) to India for the final year of the Third Plan. Two-thirds of these loans will be in the form of grants and soft loans with a maturity of 25 years or more. About 50 per cent of the loan amount will be given as non-project aid.

The amounts in dollars offered by the different countries in the Consortium (along with the respective amounts for the last year given in brackets) are: U.S.A.—435 (435); World Bank and IDA—245 (245); West Germany—86 (95); U.K.—84 (84); Japan—60 (60); Canada—41 (41); Italy—36 (36); France—20 (20); Austria—5 (1); Belgium—4 (0).

With these amounts, the Aid India Consortium has given total aid of 5,472 million dollars (Rs. 2,604.67 crore) for India's Third Plan.

## BOILER PLANT INAUGURATED

THE High Pressure Boiler Plant at Tiruchirapalli was formally inaugurated by the Vice-President on May 1. Built in collaboration with Czechoslovakia, the plant will produce about a dozen boilers totalling 750 MW every year when in full production in 1971. The value of annual production will be Rs 22 crore. The first boiler, to be installed at the Ennore power house in Madras State, will be ready by 1967.

The project, estimated to cost Rs 18 crore, is one in the chain of heavy power equipment plants being set up by the Bharat Heavy Electricals Limited.

## ENGINEERS LIMITED

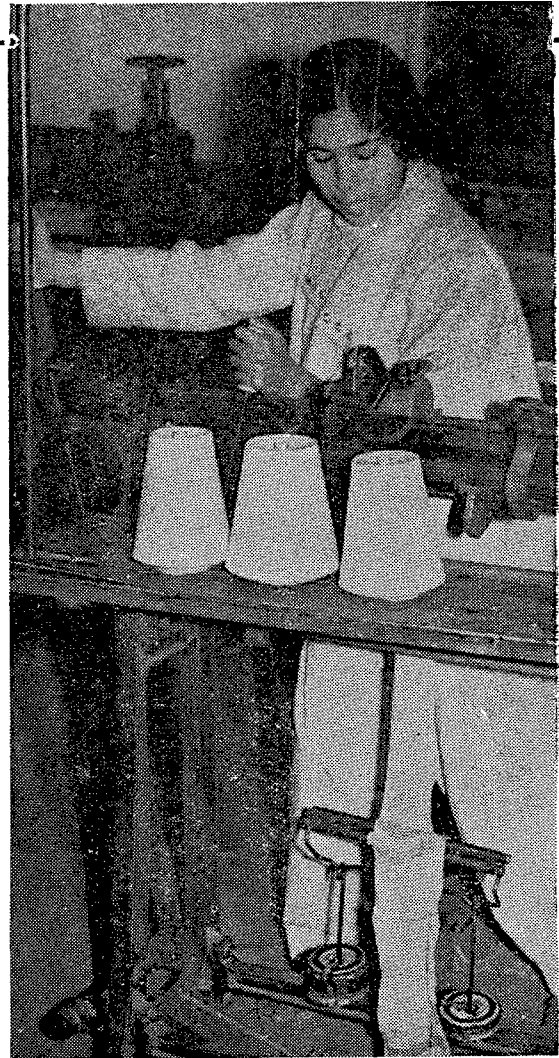
An engineering organisation, Indian Engineers Limited, has been formed in collaboration with the Bechtel International Corporation of U.S.A. The organisation will provide engineering services for the development of petroleum, petrochemical and other industrial programmes in the country. An agreement to set up the organisation was signed in November last.

**T**HERE is a growing keenness among Indian women these days to earn and contribute something to the family purse. More and more women are competing with men in the fields which were, till very recently, reserved exclusively for men. And they need not necessarily neglect their homes. There are 'jobs' which they can do at home by sparing some time from their domestic chores. For all this, they need the requisite training and skill. This they can get at any one of the industrial training institutes for women.

The Industrial Training Institute for Women at Dehra Dun, U.P., is one of such institutions, offering training to women in seven different trades and crafts.

The Institute was set up in 1949 on a modest scale mainly for the benefit of the displaced women. At present there are 268 trainees on its rolls.

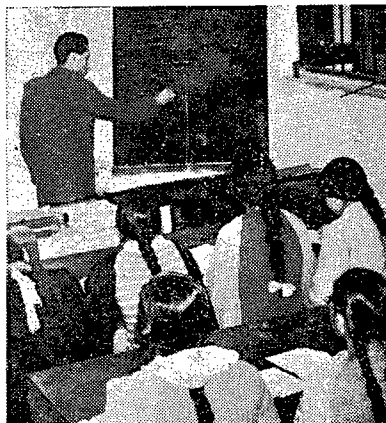
## WHERE WOMEN LEARN



## HOW TO EARN

Seventy per cent of the trainees come from the lower middle class, 25 per cent from the middle income group and five per cent from the well-to-do families. They include widows, destitutes, handicapped and also women from the scheduled castes. Stipends of Rs 25 per month each are given to all the scheduled caste trainees and one-third of other trainees during the period of training.

Tailoring is the most popular trade. Next in popularity is English and Hindi shorthand and typewriting. There are three sections of hand and machine embroidery, two of hosiery, and one each of dyeing and calico printing and hand weaving. The Institute provides raw materials also for all the trades and



makes arrangements for the sale of products in market.

Those who are trained in shorthand, typewriting and weaving are easily absorbed in various local Government offices, business firms and textile mills. Those trained in tailoring and embroidery work mostly at home on wage basis or join development block staff as craft instructors, gram sevikas, etc.

A number of new trades like fruit preservation, draughtsmanship, radio mechanism, etc., are being considered to be added to the Institute's curriculum.

A spacious hostel providing free lodging, medical treatment and other facilities is also there.

The Institute has so far helped more than 5,000 women trainees in eking out a living for themselves or becoming active contributors to their family incomes.

# YOJANA

NINTH YEAR

10

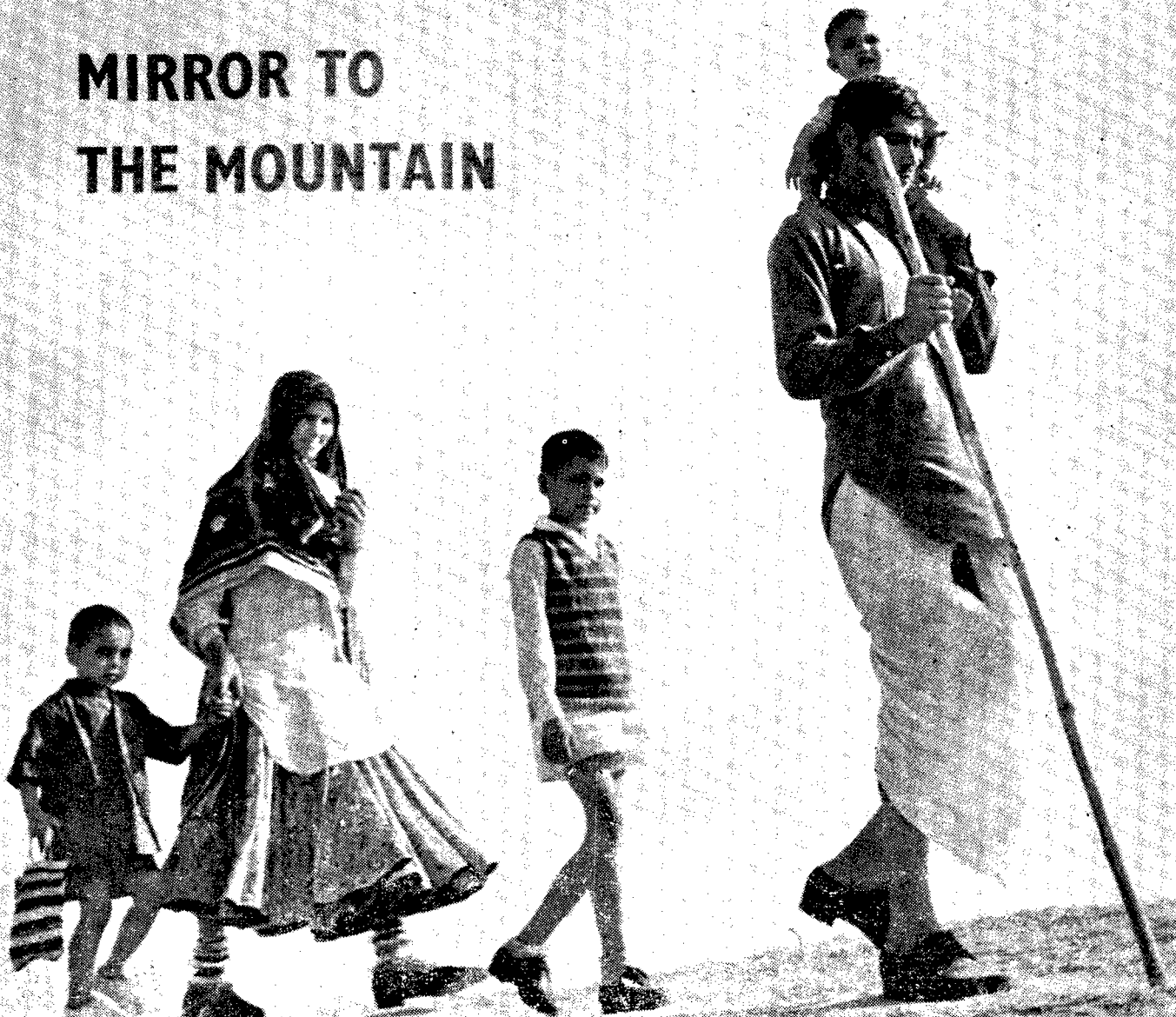
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25 PAISE

No - 10

INSIDE

**A YEAR AGO  
MIRROR TO  
THE MOUNTAIN**



**NEWEST WAY TO CHECK CHILD-BIRTH**

## ABOUT YOJANA

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

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

The Advisory Board of the journal consists of the Minister of Information and Broadcasting, Minister of Community Development and Co-operation, Minister for Agriculture, Mr T. N. Singh, Mr Shriman Narayan, Mr Akshaykumar Jain, the Secretary, Ministry of Information and Broadcasting, and the Secretary, Planning Commission.

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**COVER:** Bhupinder Singh Dhillon's picture of a happy rural family brings out the importance of convincing our rural people that fewer children mean a better life for everyone in the household. See article on page 2.

## QUOTATION BOX

In a democracy the faults of the politicians arise from the defaults of the officials.

—Mr J.M. Lobo Prabhu in  
"Swarajya"

The Divisional Commissioner of Jammu & Kashmir, Mr Anwar Karim, told newsmen that about 4,000 people took out what appeared to be a funeral procession. The "mourners" said it was the funeral of a person killed in yesterday's firing. The police got suspicious and seized the coffin. It contained grass.

—A P.T.I. report

Young Britons will soon be able to train to be parents and get a diploma in parenthood. Britain's Royal Society of Health is to introduce evening classes for parents and young people planning to wed.

—A Reuter report

It seems that our women have an unconsciously formulated aesthetic theory about their *choli* (blouse with the open waist). They are practising an archaism in order to appear charmingly Indian in the eyes of Western men.

—Mr Nirad C. Chaudhuri

The time has come when we should try to call things by their proper names.

—Mr V.K. Krishna Menon

The success of the Fourth Plan depends not on getting aid, foreign exchange and the rest but on putting the right man on the right job.

—Mr T.T. Krishnamachari

He (Mr Lal Bahadur Shastri) read the newspapers first thing in the morning "to find out what are the secrets which have been divulged".

—Report in "The Statesman" of  
the Prime Minister's speech to  
the Press Association

For many years yet, Indian teachers will be teaching examinations, rather than subjects.

—Mr C. Mortimer in "The Hindu"

Sariputta Consumers Co-operative Society Inaugurated at Sanchi.

—From a press note of the Madhya  
Pradesh Government

Weddings, receptions, opening ceremonies, social functions and other massive trivialities absorb too large a proportion of the time they (our Ministers) owe to serious public work.

—"The Indian Express"

The Planning Commission is indeed the Famine Commission.

—Mr Narasimha Reddy, M.P.

Neither loans, nor organisation, nor plans, nor poultry, nor fisheries, nor inputs would help at all unless the hon. Minister (for Food and Agriculture) can convince his colleagues that the peasants in flesh and blood are human beings.

—Mr Kapur Singh, M.P.

The spectacle of Mr Shastri being subjected to a torrent of abuse in the Lok Sabha has turned British sympathies away from a nation which is believed to be weak, querulous at home and adventurous abroad.

—London Correspondent of  
"The Times of India"

Formerly India was equidistant from both (USA and USSR); lately she has been trying to be equally close to either.

—Mr Inder Malhotra

## YOJANA BHAVAN DIARY

The Planning Commission had a joint meeting with the Finance Commission on May 1 to discuss issues relating to devolution of resources from the Centre to the States and their impact on the formulation of the Fourth Plans of States.

The Planning Commission has created a new Division called the Employment, Labour and Social Planning Division, which includes the former Labour and Employment Division, the Social Welfare Division and the Rural Manpower Unit. The Division is headed by Mr B. N. Datar and forms part of the charge of Mr Tarlok Singh, Member.

Mr B.K. Kaul, I.C.S., formerly Chairman of the Life Insurance Corporation, joined on May 1 as Adviser, Programme Administration.

Dr Daya Krishna Malhotra, Joint Secretary, and Member-Secretary of the Research Programme Committee, left on May 6 on deputation to the ECAFE, Bangkok, where he will be Senior Planning Expert.

Dr A. Vaidyanathan, Assistant Chief, Perspective Planning Division, participated in the preliminary meeting of experts from member-countries of the Colombo Plan held at Karachi on May 17 and 18.

## MAY TWENTY-SEVEN

IT seems but yesterday, and it looks so long ago, that Jawaharlal Nehru left us. And in the last twelve months there has not been a day when we did not remember him. More now than during the first pangs of loss are we able to get a measure of the man and his work, of his idealism and energy, of his knowledge and wisdom, of his zestfulness and ready sympathy, even of his shortcomings and errors of judgement.

His, it has been said, was an instance of the triumph of intellect in history. With mere intellect, however immense, he could not have called people to large tasks. He himself recognised his secret: that he was loved by people as he loved them. He was always a humanist. He would never concede the sacrifice of human well-being to the interest of a dogma. He never tired of explaining that his socialism was rooted in the quest for individual good in the group; that it recognised no right to coerce. To him violence was not a natural right.

That is what drew him to Gandhi. His faith received further sustenance in the later years from the humanist doctrines of the Buddha. The terror and the power of total annihilation that nuclear energy had brought to man made it, in his view, ever more necessary that man should take to mind the ancient teaching about right thinking, right conduct and right inclinations.

To Nehru a key problem of history was how to translate the great moral findings into the palpable facts of daily life. This, he felt, was the true function of politics and of political institutions. While he revered the seers, and recognised the validity of doctrines and theories, he stressed the role of humane leaders and institutions. His own ideal ruler was Asoka. Like Asoka he believed that there could be no true victory which involved defeat for anyone. Like him, again, he laboured in the cause of *dharma*, a *dharma* appropriate to our times and comprehending this spirit and achievements of science. Nehru's national policies and international stances grew out of this deeply held faith. To have provided a worthy frame of reference for us to live by, valid now and for a long time to come, is among

the gifts of Gandhi and Nehru. Masters show the way; disciples build. Nehru, thus, was involved with institutional problems: to evolve a constitution that gave expression to love of liberty and reverence for all religions; to build a Parliament that enshrined the right and the competence of people to rule themselves without tutelage; to initiate policies and programmes that struck at ancient wrongs and privileges and enabled people to have equal access to material and spiritual welfare.

Nehru was not a slide-rule man. He did not measure success by inch and ounce. He thought in terms of a large amplitude and long spans of time. When the Chinese scoffed at our faith and lunged at our territory he did not take that to mean a collapse of his philosophy or a reason to abandon the path chosen with deliberation. He rallied the nation in defence of the freedom it had struggled so long to win, but refused to let the people regard brute strength as being superior to the values of democracy and welfare. His concern with economic and social development increased, if anything, for he saw the real defence of the country in the growth and modernisation of our industry and agriculture, and in the building up of an order that promised more well-being to people and thus commanded their devoted allegiance. To the very last he thought ahead, and was concerned about his own work in building this better future.

In his last few weeks, especially, he is known to have chafed at our slow growth. He wanted the nation to accept and work for a large Fourth Plan and a big push towards growth. He had a feeling that economic stagnancy or slowing down might make the people lose faith in democratic institutions. His concern was about speeding up economic development, so that our political institutions—parliamentary democracy, panchayati raj, secular state, free judiciary—could gain further strength.

Let us, on this anniversary day, pledge ourselves to carry forward his work. And let us salute a man who knew no defeat, and who from the thorn of frustration plucked the rose of fulfilment.

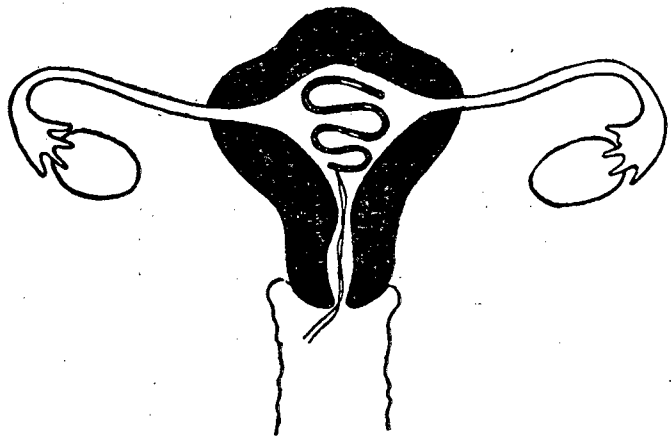
*It is called the Coil; it is called  
the Loop; it is the latest, cheapest and  
safest family planning aid*

# INTRA-UTERINE CONTRACEPTIVE DEVICE

By KATHERINE KUDER  
and Mrs RAMA RAU

**A**MONG the early checks to increase in population were famine, war, child mortality, diseases in epidemic forms, and infanticide. Other calamities like floods, earthquakes, cyclones and tornadoes have also played a role in controlling population. In the modern world, when science is endeavouring to deal positively with all these challenges, the explosive growth of world population poses a serious problem for mankind. The problem has a direct and personal impact upon all of us. The standard of living, health, education and welfare of the people depend upon the rate at which they multiply. Today the attempt of science is to provide effective and safe means by which people of all cultures could limit their families. The means should not be sophisticated nor impose heavy demand on motivation, educational ability and intelligence in their use. They must be based on normal physiological principles and not produce any harmful effect with prolonged use.

Numerous methods have been used—and are still being used—to fight this battle of limiting the size of the family. Of the different methods available,



Cross-section of uterus (frontal plane) showing loop in place with filaments extending through cervix

people select that which they find most convenient. A good contraceptive should be safe, cheap, effective, easily available, easy to use, easy to store and easy to dispose of. No one contraceptive can be suitable for all individuals. The search for a contraceptive which will have all the qualities still continues.

## IUCD NOT NEW

**I**NTRA-UTERINE contraceptive devices were in use as early as the eighteenth century. Silver rings as a method of contraception were used by Graefenberg, a well-known medical practitioner in Germany, and by Anklesaria in India in the 1920's. The method, however, fell out of favour. After the advent of the harmless material, polyethylene, and its wide use in

medical sciences, the prospect of making intra-uterine devices out of it was considered. In 1959 the old idea was put to test but the devices were of polyethylene instead of silver metal. Work has been continuing since then.

When favourable reports on the new polyethylene device (Lippes Loop) came out from New York, following international conferences on the subject in 1962 and 1964, India was greatly interested. Clinical trials were started in India in 1962 under the over-all supervision of the Indian Council of Medical Research to evaluate the device.

The first clinical trial was started in August 1962 at the Family Planning Clinic of the All-India Institute of Medical Sciences, New Delhi. Subsequently, 50 clinical studies

were set up during the period August 1962 to October 1964 in different parts of India. The results of the trials were considered in January, 1965, and the Advisory Committee on Scientific Aspects of Family Planning of the Indian Council of Medical Research recommended to the Government of India that "*it has been demonstrated that the IUCD is safe, effective and acceptable and should be made available through all medical and health centres having requisite facilities. No para-medical person should be permitted to insert the intra-uterine device. For the present Lippes Loop may be the IUCD of choice.*" The Government of India has accepted the recommendation and has accepted IUCD (Lippes Loop) as an appropriate contraceptive device.

## HOW IT WORKS

THE Lippes Loop is made of polyethylene and takes the form of a double-S shape. The device is inserted into the womb and it is not at all a difficult procedure. It is done by a doctor and takes hardly five minutes, most of which time is taken in the internal examination of the woman. The device stays in the womb and only the thread protrudes from the mouth of the womb. The woman and her husband do not feel it, and it does not interfere in any way with normal family life.

*The whole procedure of insertion is painless, is not an operation and does not require any anaesthesia. The diagram shows an intra-uterine device in place.*

The time when the device should be inserted depends on various factors. Any time from the first to seventh day of the postmenstrual period is the best time to insert the device. Any time after six weeks following a delivery it is safe to have it inserted. After an abortion it is best to get the device immediately after one normal menstruation cycle. The device has no harmful effect on the body. At times, the normal menstruation cycle may be disturbed for a few months but then this disappears in two or three months' time. There may be some backache or pain in the legs, but it is bearable if the woman is serious about not getting pregnant without her desire.

It is difficult to say how long the device can be kept inside the womb. But experience in this country and abroad has shown that the device, even if left in for 5 to 6 years, has not produced any ill effects. When a woman wants to get pregnant or when the doctor feels that the device should be changed, it is removed. The removal is very easy and simple and can be done by pulling out the thread.

## ADVANTAGES

THIS contraceptive has some definite advantages over others:

- (1) The most important advantage is that when once inserted it requires no further action by either partner.
- (2) It is very effective and does not permit 'taking a chance'.
- (3) It is very economical and is the cheapest known method.
- (4) It is convenient and does not interfere with married life.
- (5) It can be left in place as long as the couple desires.
- (6) It may be easily removed by a doctor if the couple desires to have another child.

The trials carried out in India with Lippes Loop have greatly strengthened our faith in the device. Out of 2,285 insertions till October, 1964, only 124 were removed and 113 expelled. But 74 were reinserted. For 4,830 reported months of use, there were only 10 pregnancies. The following table gives details:

TABLE  
PERFORMANCE OF LIPPE'S LOOP  
IN INDIA

|                            |      |
|----------------------------|------|
| First insertion            | 2285 |
| Removal                    | 124  |
| (1) Pain                   | 15   |
| (2) Bleeding               | 81   |
| (3) Other causes           | 28   |
| Expulsion                  | 113  |
| Reinsertion                | 74   |
| Pregnancies                | 10   |
| (1) When loop was expelled | 5    |
| (2) When loop not expelled | 5    |
| Planned pregnancies        | 2    |

The pregnancy rate works out to only 2.5 for the reported months of use. In other words, those who were using IUCD were able to avoid the risk of pregnancy to the tune of 97.5 per cent. If those pregnancies which resulted when the loop was accidentally removed with-

out knowledge are not counted against the loop, the effectiveness comes to nearly 99 per cent. It can therefore be said that this method is far more effective than any other known method.

It is said that roughly 10,000 to 12,000 women have been fitted with IUCDs in India. The Government has not launched any special programme to popularise IUCDs and whatever little popularity it has acquired is through word of mouth. Most of the hospitals in India where facilities for IUCD are available are in urban areas, and it cannot be said with certainty whether or not it will be popular in the rural areas. But it is interesting to note that the device, in urban areas, is most popular among low income group couples.

What is holding up the programme? If the device is so effective, why is it not spreading as fast as in other countries? In Korea more than 50,000 women were fitted with IUCD in one year and they hope to increase the number to 100,000. Why not in India?

The first reason is that facilities for insertion are available in only a handful of clinics.

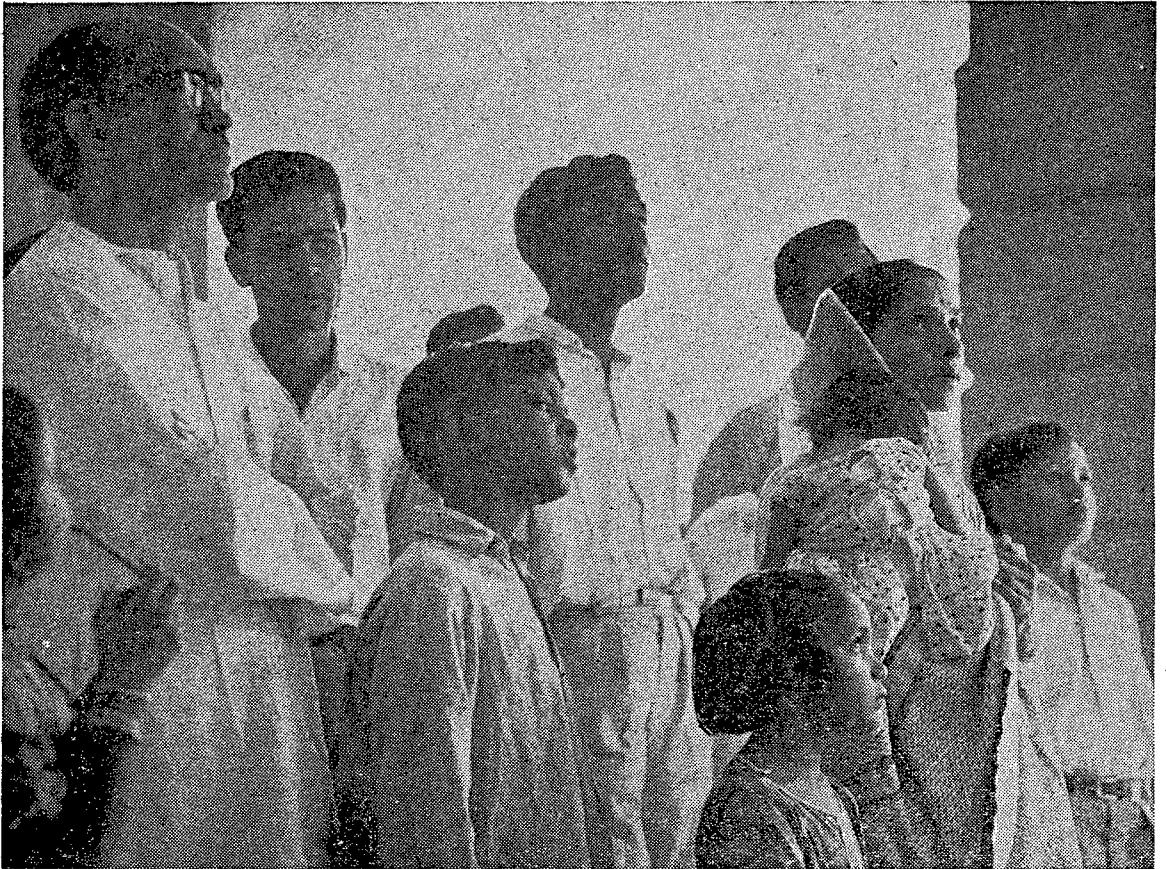
Secondly, no effective arrangements for supply have been established. It is known that a foreign foundation has agreed to supply these devices free. India may also start manufacturing them by the end of this month. Still supplies are not regular.\*

Thirdly, the Government has not started an effective propaganda for popularising IUCD.

During the Fourth Plan period India will have an average of 100 million married women in the reproductive ages. If serious efforts are made to popularise family planning in the rural areas through the help of social workers and social scientists, it is feasible that 20 to 25 million women can be fitted with IUCD in the five years. IUCD has the advantage of being a once-for-all method in the sense of sterilisation, and also an effective method for spacing children. It can, therefore, be popular among younger and older couples alike.

*\*The most popular sizes of Lippes Loop in India are 27 and 25 mm. Sizes 31 and 30 mm. are not popular.*

# WITH CHILDREN IN A HOUSE THAT CHILDREN LOVE



A group of visitors at the Nehru Memorial Museum, Teen Murti House, reading the will of Jawaharlal Nehru displayed on a panel.

MAY. The month of hot winds and *gul mohur* in Delhi.

May. A year ago one felt a hush as one approached the house. Hush from awe. Hush from hope that one might catch a glimpse of Jawaharlal Nehru.

Now too I felt a hush as I walked past the tall gate of Teen Murti House. I was one of a crowd, and I saw that most of the others left their sentences half spoken as they stepped on to the grounds of the house.

But only for a moment. The children soon began chanting, chirping, asking questions.

Children do not know what it is to die. Death has a different meaning to them: probably the right meaning.

In the talk of the children that afternoon, three words were frequently heard, three familiar words: Chacha Nehru Zindabad. The last word, as they spoke it, was inseparable from the other two, as if it was a surname.

We walked up the bend in the path past the lovely old structure that must have been built in the time of the Sultans.

"Where are the roses that Chacha Nehru was fond of?" a girl asked. "Look there," her father said, turning round to the terrace in front of the house where grew five rows of roses.

In the group in front of ours, in the group following ours, and in our own group, the children were now jabbering off.

We came into the portico, walked up the steps and into the lounge.

"This is where he received the morning visitors" a boy said, pointing to the adjoining room. He had just read that on a sign.

A little girl, his sister, wanted to slip under the rope and go there.

"Don't do that," the brother said. "We must follow the arrow."

Neither the children nor we could spend much time taking in the scene. There was a press of people from behind. I spied among them families from Rajasthan, a bunch of elders evidently from Maharashtra, another group from a pilgrim train, three Tamil housewives, a tall Sikh and his four smart children, and many others.

## HIS WORDS

As we entered the back verandah, we caught the sound of something being read aloud. I looked that way. Elders and youngsters, men, women and children, were reading, as they would have read a class lesson, the Hindi translation of Jawaharlal Nehru's will.

We were overtaken by a cluster of sprightly village boys. They had caught a glimpse of the spacious back-garden and rushed forward. One of them pushed a pot and broke it—and got a mouthful from the attendant.

We followed the arrow, turned left, wheeled right and came to a tree with sumptuous leaves. It was the same tree that was much photographed last June sheltering the urn of ashes. On a small rock underneath it we read, carved on a smooth surface, the famous words: "If any people were to remember me..."

Back into the house again. The children weren't greatly impressed

by the tapestries, but hurried on and now came into a room which recreated Mr. Nehru's office in the External Affairs Ministry.

"Look at the buff carpet," a girl said in convent English. Her younger sister, who was a few yards ahead, chimed in: "And it is blue here. Blue up the staircase also. I had thought they would have red carpets."

## IS IT GOLD?

A smaller girl, this time in Bengali, said aloud: "Mother is this made of gold?" She was feeling with her fingers the thick brass railings up the main staircase. To her, everything yellow in Chacha's house was of course gold.

Now on the upper floor, we came to Jawaharlal's study and peered through glass panes into the sombre, book-lined, teak-panelled high room.

"Father, see, how many telephones!" a young fellow said.

A little girl in orange frock asked in all baby faith: "If the telephone rings, will Chacha Nehru speak?"

A boy in the Rajasthan group asked in Hindi: "Did Nehruji read all these books, father?" "Yes, *beta*, he did. He was a very learned man," the father said.

To the children the next set of rooms were a great delight. They had on display the costumes of various lands and numerous gifts presented during travels—the best work of the best craftsmen of the world.

"Look at the elephant, *bhaiya*."

"Ah, this elephant is better than that."

A dispute between two brothers. But who could decide whether the Burma elephant was indeed better than the Ceylon elephant? Their sister decided that far more beautiful was a silver-and-mother-of-pearl white peacock, also from Burma.

"It is Gagarin on that vase."

"No, it is the Shah of Persia."

Two other boys at dispute again. Evidently public-school chaps. They asked the attendant.

"Yeh Tito hai," he said.

The boys seemed satisfied; I had my doubts. What would a vase with Tito be doing under a label that said

U.S.S.R? And since when had Yugoslav ceramists begun showing Tito in his 'twenties?

We threaded our way into a room that showed the degrees and honours Nehru had received from universities. "He was only a B.Sc. Tripos, but this certificate says he has been created Master of Arts," said one girl, puzzled, reading the Cambridge degree.

"And the biography says he passed in 1910 but this shows 1914," another girl who was with her remarked. They couldn't solve the mystery.

"And look," she added, "look at the strange English. It says: full convocation holden on...!"

Near there, in a glass case were displayed a *charkha*, a sari and a blouse. A card said: "Saree and blouse woven from yarn spun by Nehru in prison."

## DIAMONDS & DOUBTS

But one of the Tamil ladies, who sported a bright diamond in her nose, had her doubts. She said: "I don't think these are really from yarn spun by him."

"Why do you say so, *mami*?" asked the youngest of the three.

"Because they weren't there when I was here last time."

"That doesn't mean they are telling a falsehood..."

"Tell me, where did he have the time to spin so much yarn?"

"But, *mami*, it says that he spun it in prison. Certainly he had time there?..."

Just as I was eavesdropping on the sceptical housewife, I heard a chorus in Hindi. I turned round and saw a group of boys reading aloud the Bharat Ratna citation: "*Mai, Bharat ka Rashtrapati Rajendra Prasad, vyaktigat gunon ke liye aap ke sammanarth Bharat Ratna pradaan karta hoon.*" Having read this aloud one of the boys looked at the medal in peepul-leaf shape and said: "See how lovely it is." Another fellow in the group didn't think it lovely. "Why have they made it so black?... An award must shine, like those in the next case," he said.

"Mummy," said a girl, "So many keys. Where are the locks?"

Mother had a hard time explaining to her what the key to a city meant.

But even before she had finished, the little girl had begun admiring the silver and gold scissors and trowels that had been presented to Mr. Nehru.

Back in the corridor and past more books, a young fellow exclaimed: "Why are there so many pictures of Tagore?" A little ahead there seemed to be a throng of people gesticulating with animation. All the boys and girls rushed there to see what was going on. It was Mr. Nehru's bedroom, and one had to peep through glass from a bay.

"Look, how many table lamps!"

"But the bed looks so short. Chacha was tall, wasn't he?"

"Papaji, there isn't any radio. Didn't Chacha have a radio in his bedroom?"

"Why is there a table fan? Didn't Chacha have air-conditioning?"

So the young voices went on. The young voices strangely got mixed in my mind with a wistful, earnest, well-known, and well-beloved voice.

H.Y.S.

## KOYALI EXAMPLE

FEW people might know that Koyali, the village near Baroda where the refinery is coming up, has another claim to fame.

It is the place where an important battle has been won in the fight against soil erosion. Although this effort is modest compared to the refinery, it nevertheless means more food and employment for thousands of people.

Enterprising farmers of Koyali and a couple of neighbouring villages like Ranoli and Dhanera have, by hard work over the years, demonstrated how nature can be subdued and made to serve man.

Gujarat has suffered considerably from soil erosion. Wind and water have laid waste large tracts of land, thus leading to less food and fodder, less employment, less business and less prosperity. The State has nearly 10 lakh acres of ravine land, locally known as *kotars*. These are spread over the banks of big rivers like the Mahi, the Narmada, the Tapi, the Sabarmati and the Banas.

The work of combating erosion and reclaiming land started in Koyali as far back as 1915 when Bakorbhai Patel, a farmer with 40 acres of land, took up the work of reclamation. He was able to convert a desolate holding into a garden of fruit trees.

Bakorbhai Patel's brave work was continued by his sons. In 1951 they embarked on another experiment in reclaiming a 100-acre stretch. Besides growing tobacco, *tur*, castor and *bajra*, they have raised mangoes, lemon, *bor*, *amla*, *chiku*, *babul* and *neem*. The income per tree is estimated at Rs 10 to Rs 50 a year.

The broad solution to the ravage of *kotars* is to adopt contour-bund-ing.

The Department of Agriculture of Gujarat has, after making a study of the work done at Koyali, taken up the demonstration work on reclamation of 1,000 acres of *kotars* at Gambhira in the Borsad taluka of Kaira district.

M.P. DAIYA

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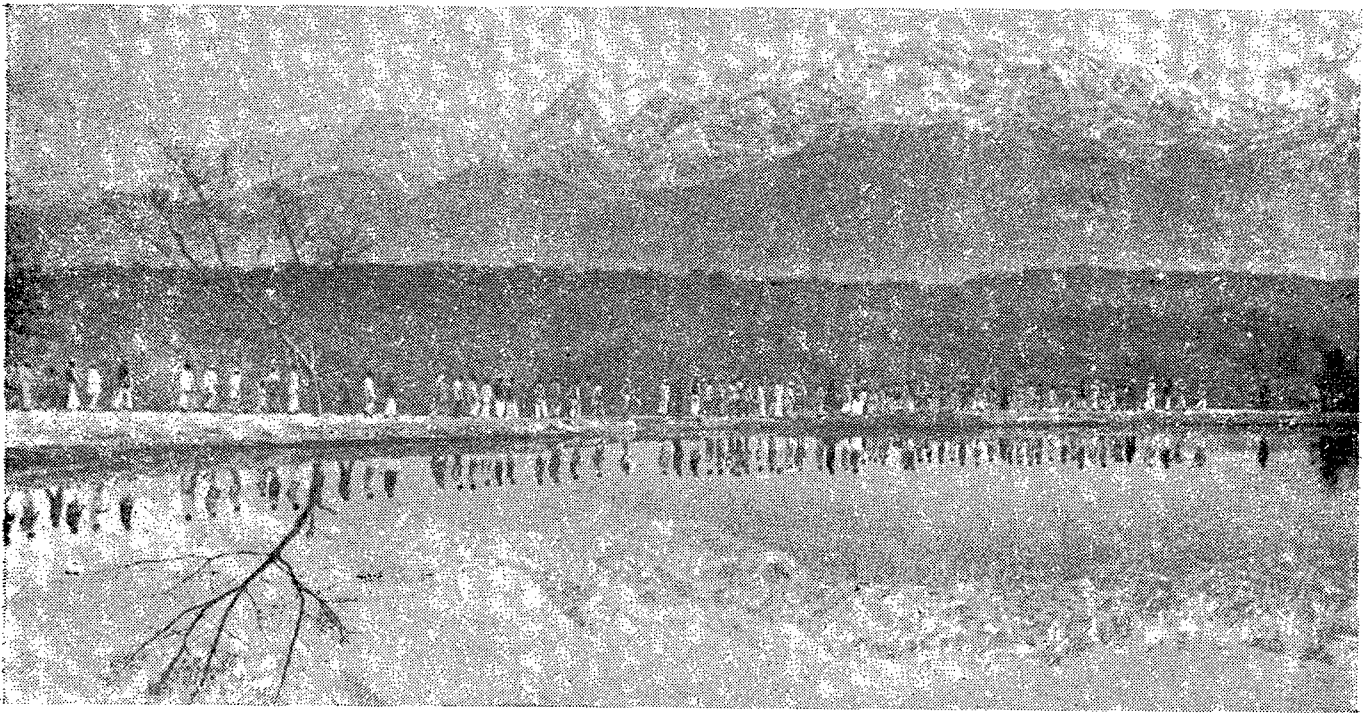


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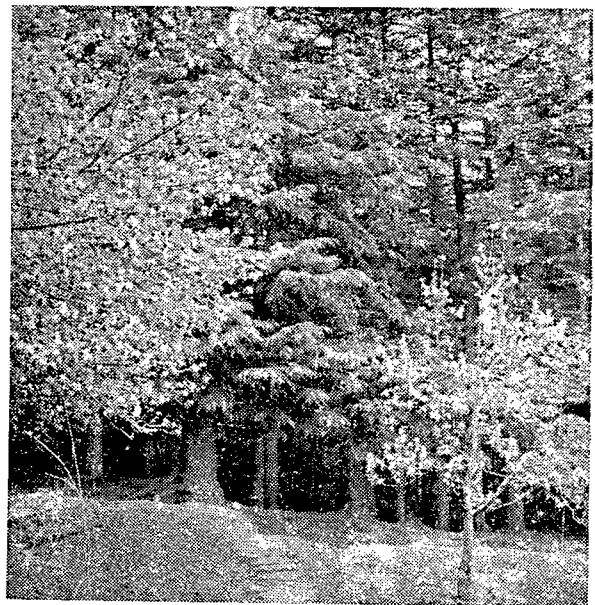
# A MIRROR TO THE WHITE MOUNTAIN

By

M. S. RANDHAWA

“**H**AVE you seen the eighth wonder of the world?” asked Parmeshwari Das. “It is only an hour’s jeep drive from here in village Maniara,” he added.

I had packed my luggage and was ready to leave Palampur for Mandi to see the agricultural work which has been going on in that district of Himachal Pradesh under an Indo-German aid project. I had already admired the snow-covered mountains and the Palam Valley green with a bumper crop of wheat. What could be more beautiful than what I had already seen and enjoyed? Ignoring the prospect of a late arrival at Mandi, I accepted the suggestion of Parmeshwari Das, as



## KANGRA FARMERS LEARN of FERTILISER MIRACLE

his information about places in Kangra Valley was always reliable.

We left Palampur at 8.30 in the morning and after a couple of miles diverged to the left. We were on the familiar road to Tira Sujanpur and soon reached Bhavarna. There the metalled road ended, and we were on unmetalled track which ran through tea gardens. After a short distance the road was no longer smooth and was strewn with pebbles. I was already regretting having accepted the invitation while I had a long journey in front of me with people waiting at different places.

## THE TWO GREENS

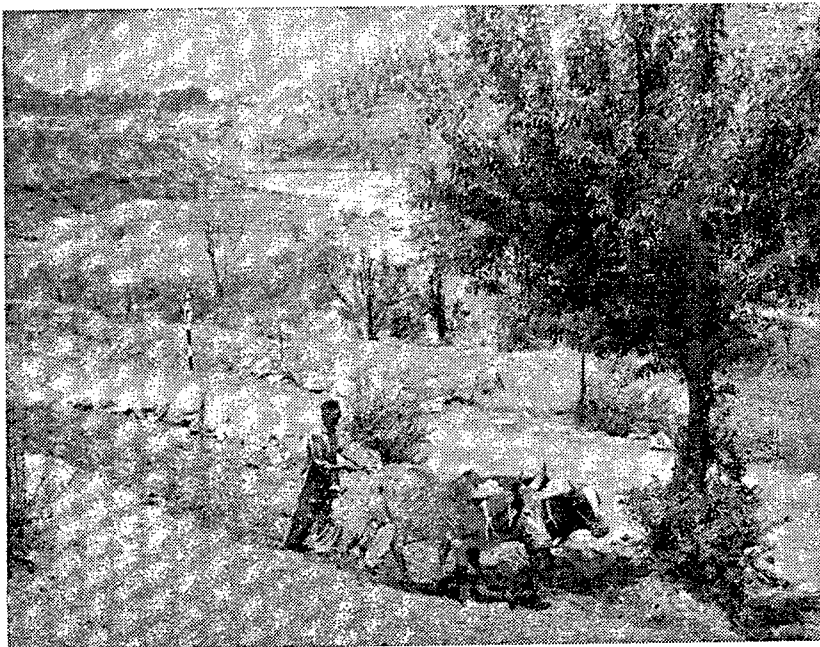
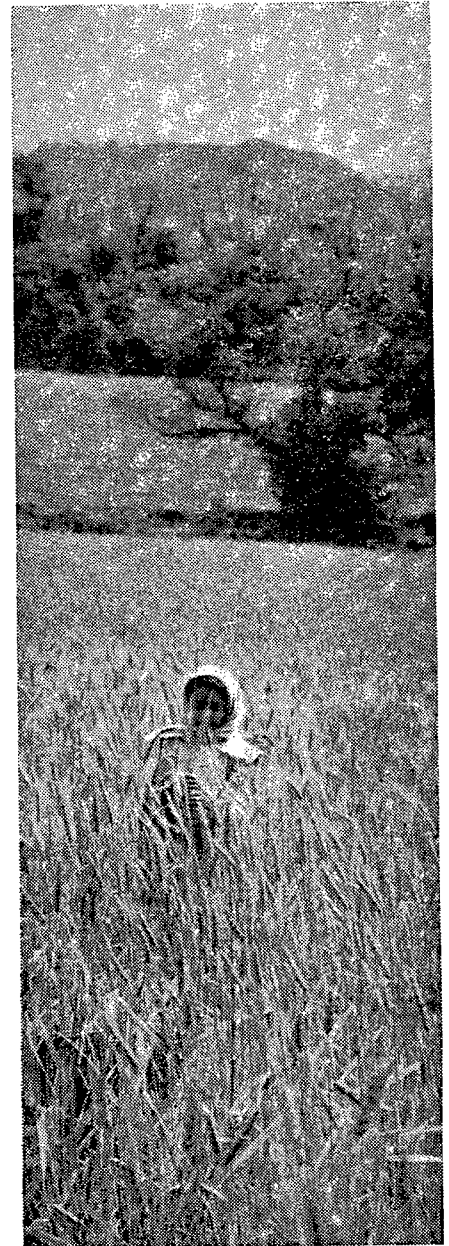
The road dipped down to the level of a *khud* and from here a remarkable view of the Dhauladhar was before us. Below the white mountains was a stretch of terraced fields covered with dark green and pale green strips of wheat.

The dark green wheat had been fertilised with calcium ammonium nitrate and superphosphate and gave the promise of a bumper crop. The pale green wheat was not fertilised, and had a poor stand and the size of the ears was also small. The pale colour of the wheat plants indicated how deficient the soil was in plant nutrients, particularly nitrogen. The production of fertilised wheat would easily be three to four times that of the pale green wheat raised according to traditional methods.

It is thus that nitrogen is changing the landscape of the Punjab Himalayas. It has not only provided a new colour to the landscape but has also added to the granary of the farmer. It has made four ears of wheat grow in place of one and they are also larger. There is a saying in Germany that when one ear of wheat has eleven grains in a row, the farmer can go on a holiday by himself; when there are twelve grains in one he can go on a holiday with his wife; and when he has thirteen grains he can go on a holiday with his girl friend. In Balh Valley in Mandi, and in some villages in the Palampur Intensive Agricultural Project, there are quite a number of farmers who have qualified for a holiday with their girl friends.

The hill farmer who has adopted the full package of practices has now more to eat and also a surplus to sell in the market to repay the price of fertiliser which the Government has given him on loan under the newly started scheme of intensive agriculture. "Was this the eighth wonder of the world which Parmeshwari had in mind when she led us into this unfrequented tract of Kangra?" I was wondering.

Our planners are carrying on an interminable discussion about the measures to overcome the food crisis in India. This crisis is mainly the result of reckless increase in population. Since we became independent, we have added 11 crore to our



Top: Miracle of nitrogen in Kangra Valley. While the average production of wheat was 8 maunds per acre, with the use of full dose of fertiliser it has risen to 24 to 32 maunds per acre, an increase of 300 to 400 per cent.

Left: A farmer of Kangra.



population and every year we are adding more than a crore of new mouths that have to be fed. Many more people are born, and few die. This imbalance is the result of the use of modern medicines, particularly antibiotics, which have lowered the death rate remarkably.

Experience has shown that a kilogram of nitrogen applied to soil will give an additional yield of 15 kilograms of cereals. If phosphorus and potassium are also added according to requirements, the increase will be much more. If one million tonnes of nitrogen are applied to the food crops, India's deficit in cereals would be eliminated. The soils of India are starved of nitrogen owing to continuous cultivation over thousands of years. This is the penalty which we have to pay for the ancientness of our civilisation.

However, the response which our soils show to NPK is marked, and even remarkable. The present production of cereals can be doubled almost everywhere and in some areas it can easily be three to four times. This is the lesson which the scheme of intensive agriculture, also called the Package Programme, has taught us.

An average farmer in Kangra produces 6 maunds of wheat per acre, a good farmer using traditional methods produces 14 maunds per acre, while farmers who have applied the full package including improved and treated seed and fertilisers have

produced 30 maunds per acre. In the plains of Punjab many farmers in Ludhiana and Rohtak have produced 40 maunds per acre.

### JAPANESE SECRET

Students of Indian agriculture harp on the low yields of crop per acre in India, and dangle before us the high yields of Japan and European countries. Japan has high yields not because Japanese farmers are more hard working and intelligent than farmers in a number of our States but because Japan manufactures 1.5 million tonnes of nitrogen—which would work out to an average of 15kg per inhabitant. *If we could have 15 kg of nitrogen per inhabitant in India, our farmers could give similar performance. The solution of this problem is NPK.* The sooner we have it in the quantity which our cereal crops require, the better would it be for the economy of India.

Apologising for the digression, let me resume the account of my journey. Negotiating steep climbs we ultimately reached the small village of Maniara built on a plateau. A large number of men, women and children had assembled to welcome us. Among them was a group of Gaddis beating *naqara* drums, and blowing trumpets. Two of them were playing on bagpipes. The sound of the bagpipes and the kilts of Gaddis almost added a touch of Scotland to the scene. The young women of Kangra seated on platforms of stones under banyan

trees appeared charming. With their clean complexions and chiselled features they reminded me of Kangra paintings. Some of them seemed to have stepped out of the paintings. How serene and beautiful they looked with their faces decorated with large nose-rings!

There was a large oval pool of water on one side and in it was reflected the white snow-range of the Dhauladhar. The pool had recently been stocked with mirror carp brought from the hatchery at Barot near Bilaspur. Though I have wandered extensively in the Himalayas from Almora to Srinagar, I had not seen so far a spectacle of such majesty. I could not take my eyes off this scene of sublime beauty. The air was full of fragrance of the *garna* flowers. The Kangra women in their colourful clothes decorated the hill-side like alpine blossoms. Where could one see a scene of such grandeur and beauty which satisfied all at once the senses of sight, smell and hearing! It was an intoxicating scene and I forgot myself and wanted to linger on.

Karam Chand, the Sarpanch of the village, now mounted a platform below a banyan tree and addressed us thus: "We are poor hill men of Kangra who live in one of the most picturesque valleys of the Himalayas. Many of us are oblivious of the beauty of the mountains, for only people whose bellies are full can admire beauty in nature. The scheme of intensive agriculture under which the use of fertilisers has been promoted has shown us the way how to fill our empty stomachs. Use of nitrogen has increased our wheat yields fourfold. We do not want a road or a hospital. Our only demand is that the price of fertilisers should be reduced so that they may be used by more of our farmers who have small holdings. We are

(Continued on Page 18)

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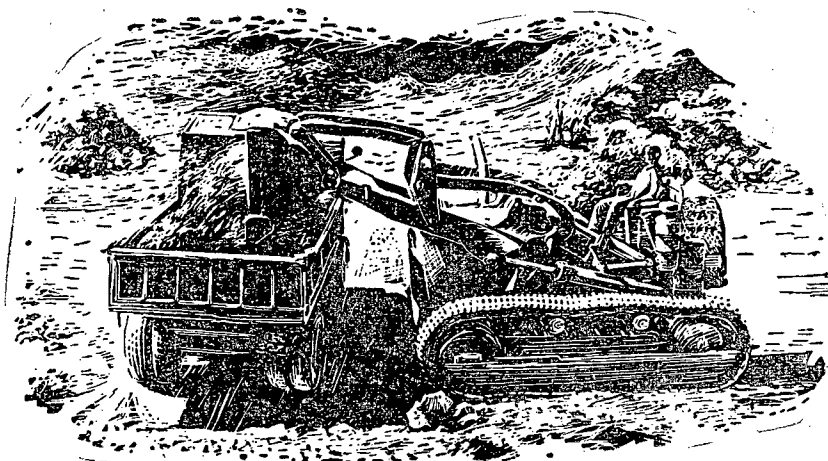
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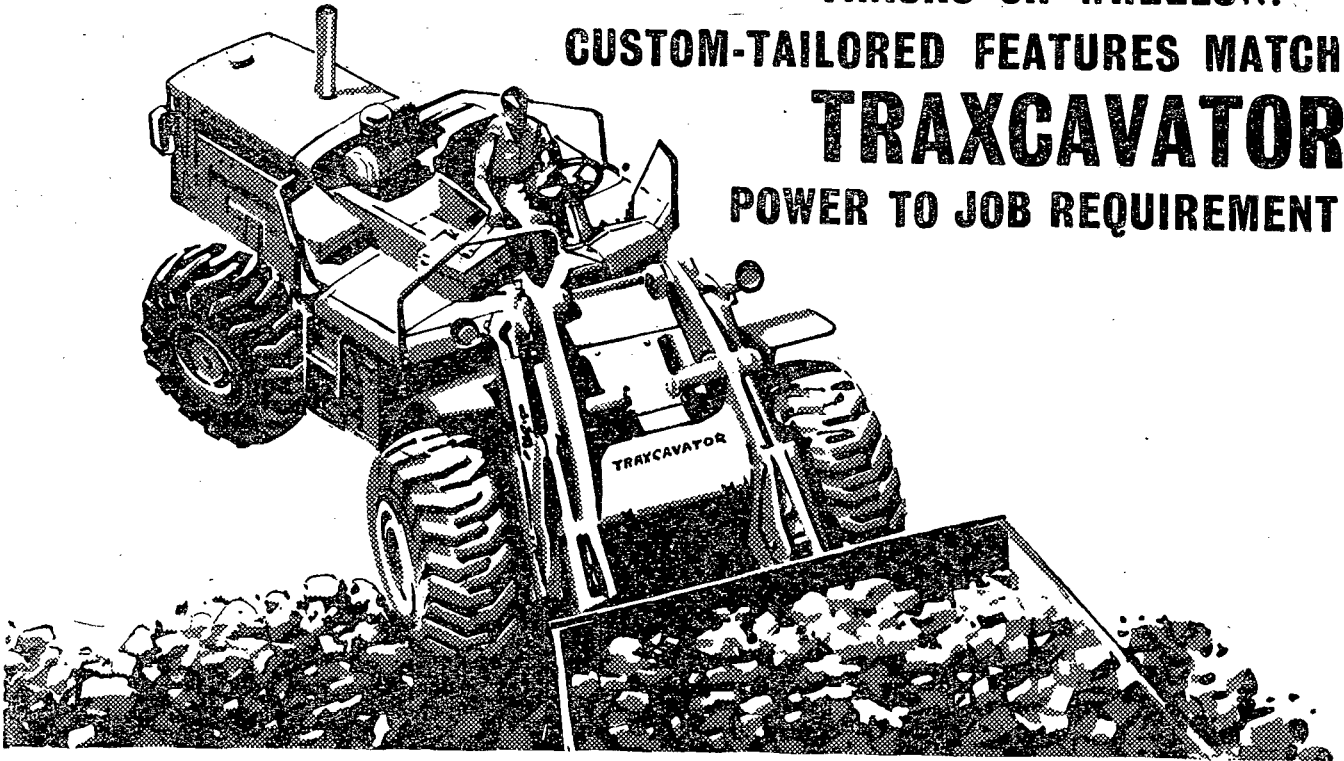
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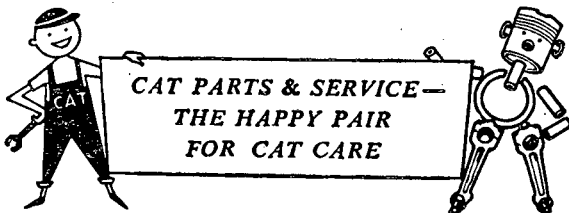
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# ENTRUST RURAL INDUSTRIES TO ZILA PARISHADS

## Block-Level Samitis Can't Run Them

RAM K. VEPA

WITH the complete coverage of the non-municipal areas by the Panchayat Samitis and the increasing transfer of functions to self-governing bodies at the block level, the specific role of the Zila Parishad (the district-level body) in States such as Andhra Pradesh has become a matter of some doubt.

Many of the Parishads have begun to feel that they are redundant and that they fulfil no useful function. There have, in fact, been suggestions that they may be abolished. On the other hand, in Maharashtra, there has been a wide deviation from the policy of wholesale decentralisation and considerable powers have been vested in the Zila Parishad which has control over all the district-level officers dealing with development and is assisted by a senior IAS officer equivalent in rank to the district collector.

It is too soon to say whether the Maharashtra experiment will succeed. In creating a development agency independent of the district collector, it is likely that the loss is mutual. In any case, it would be seen in Maharashtra that the decision-making level is not the block, as was recommended originally, but has been pushed up to the district. In the majority of States where panchayati raj has been functioning, however, it is the block-level body that is regarded as the most important. The allocation of functions between it and the Zila Parishad is of some interest.

In Andhra Pradesh, one of the earliest States to introduce the panchayati raj programme, the Zila Parishads were entrusted with the main responsibility for secondary education. Minor irrigation schemes with a command area of less than 200 acres in each case were also looked after by the Zila Parishad but later were transferred to the Panchayat Samitis. Recently, the maintenance of major district roads has been retransferred to the Zila Parishad from the Panchayat Samitis. In spite of it, the work load of the Zila Parishad is somewhat inadequate and meetings of that body tend to lack much substance.

It is felt that the allocation of functions between the three tiers of the panchayati raj—the Gram Panchayat, the block-level Panchayat Samiti and the district-level Zila Parishad—should be on a more rational basis so as to yield the best results. Besides providing adequate (but not too heavy) work loads to each of these bodies, the distribution of work should be such as to yield the desired results.

Broadly, it is felt that each of these three tiers of institutions should take up a different category of facilities. Thus, for instance, the Panchayat should look after basic amenities of the rural sector such as drinking water, village school, panchayat roads and rural sanitation. The Panchayat Samiti should be made responsible for programmes of increased agricultural production, improvement of cattle, and the running of middle schools and high schools. The Zila Parishad should be made responsible for the major "infra-structure" facilities such as communications, artisan training schemes, rural industries programmes, all of which involve greater technical know-how and skill, and special programmes such as the Package Programme. They should also be responsible for the formulation and implementation of area plans of the panchayati raj institutions and the general supervision of the Community Development programme in the district.

Rural industrialisation, for instance, is a field that has suffered greatly in having been allotted to Panchayat Samitis in the first instance. The failure of the programme has been due to the inadequate technical skill available to implement such programme. Although the funds provided are admittedly modest, they have been mostly spent on distribution of improved tools and common facility centres which have failed to make the slightest dent on the problem. It is suggested that the more logical institution to tackle the important and intricate problem is the Zila Parishad which has the assistance of several experienced district officers. The district body could also run training centres and engineering workshops to provide adequate number of artisans to man the industries programme.

In the Fourth Plan period, a sum of Rs 5 crore has been provided in Andhra Pradesh for development of rural industries under the 'Area Planning' schemes. The Khadi and Village Industries Commission also channels, through the State Khadi Board, funds to the extent of Rs 80 lakh annually. Thus about Rs 9 crore are available in the State for the rural industries programme, which works out to almost Rs 50 lakh for each district of the State. This should be utilised to generate a matching share capital from the public and a loan equal to the total equity capital.

Thus it would be possible to raise as much as Rs 2 crore for each district during the Five Year Plan period which could be used to establish 30 to 50 small-scale industries scrutinised and approved by an expert committee at the district level. Such a committee, headed by the district collector, and consisting largely of technical personnel and industrialists with close

(Continued on Page 18)

## Quick Prick

A COLLEAGUE recently went to see his cousin in a small town, which has a temple of some note and two middle-sized mills.

Riding a bus on a smooth, *gul mohur*-lined highway he got down in front of the cousin's house.

As he entered the verandah he caught the smell of a spirit lamp and the glimpse of a syringe and needle being sterilised. He crossed the verandah into the inner room or 'hall'.

Even before he could ask his cousin "Hope everyone is all right?" the cousin said: "You didn't get the letter?"

"No"

"It probably reached your place after you left... So I took the liberty of getting the doctor over. Meet Dr.....Have a prick. Then we'll talk."

It turned out that our colleague was preceded by another visitor to the town—cholera. There had been many attacks and a few deaths, one in the very colony in which our colleague's cousin lived.

The prick over, the cousin said to our colleague: "Sorry for this kind of welcome. You know how glad we are to see you, but we were worried, with this thing raging all round."

Our colleague explained that luckily he had some immunity, having had a cholera inoculation just two months earlier, when he had gone out of India, and anyway he didn't mind another dose.

The doctor, an earnest young man who evidently was in need of a lot of sleep, turned out to be the town's health officer. Our colleagues cousin was also an official, but in some other department. In a small town, officials fall into one group, whether they like it or not, and they begin talking, and our colleague was an interested listener.

"I believe the District Health Officer was here today for a couple of hours."

"Yes, and he gave me a mouthful."

"What for?"

"For not having brought the situa-

tion under control. I told him our difficulties. I told him headquarters didn't send us stocks for three full days after I had reported the first attack. And a mere fourteen miles. We don't even have a vehicle to take the victims to the isolation hospital at district headquarters. Do you know, in our town hospital they keep the suspected cholera cases in the general ward!"

"What did D.H.O. say to that?"

"He listened quietly. I told him we had done our best. We have closed all the hotels. We are not allowing any milk or curds to come from the villages. Fortunately the schools are already closed for summer. I then told him the main problem we have..."

"And that is?"

"To have the mill closed. Four deaths took place right within the mill, you might say. But they won't close it. I pleaded with the manager. But he put me off saying he has to ask the Director in Calcutta. Why, when the workers, who mostly live in near-by villages, said the village committee had forbidden them to go to work until the week-long worship that had been undertaken was completed, the manager sent his men offering inducements—like Rs 50 to all workers who will come in."

"But doesn't the Assistant Commissioner have power to close the mill for a week or two because of the epidemic?"

"He has. But I have tried at least ten times in the last five days to meet him. He sends word back he is too busy."

## How Indian ?

Mr. Balraj Sahni, the actor, has hurled a stone at Hindi enthusiasts.

He maintains that films in the non-Hindi regional languages are more Indian than Hindi films. His argument is that in seeking to entertain the amorphous mass, Hindi films have merely become copies of foreign films.

Mr. Sahni knows more about films than we do, but many of the non-Hindi Indian films that we have seen struck us as being obvious



## I GNORAMAN

Wants to Know

*A Paper Corporation  
is to be started;  
but aren't  
all of them  
Paper Corporations?*

copies of the Hindi films. This was true specially of the songs. The tunes were the same, but the words changed with each province.

## Heart of Matter

The old argument that the capital of India should be transferred from Delhi to a place more central was heard again in the recent session of Parliament.

It is hard to see the point of this theory.

In these days of air travel, geographical equidistance has ceased to matter. Apart from that, what is plumb at the centre isn't necessarily accessible. The geographical centre of India, if we go mathematically by the longitude and latitude, is somewhere near Ambikapur in Madhya Pradesh. We have gone there, and, believe us, it is one of the least accessible of places in India.

In the whole argument there is this usual mistake of taking a metaphor to be the truth. Governed by metaphor we feel that the capital should be at the heart of a country. But we forget that the heart itself isn't at the centre of the body. Its location isn't midway between top and toe. Also, much to the disapproval of conservatives, the heart is to the left of centre.

Anyway, isn't it better for a country to be ruled from the head than the heart ?

# 4th PLAN

OUTLINES  
OF STATES

5

## KERALA PROPOSES 25% RISE IN FARM OUTPUT

*Country's Most Crowded State Wants to Lift Income to All-India Level*

A typical Kerala scene of tall palms, people clad in white, and placid waters

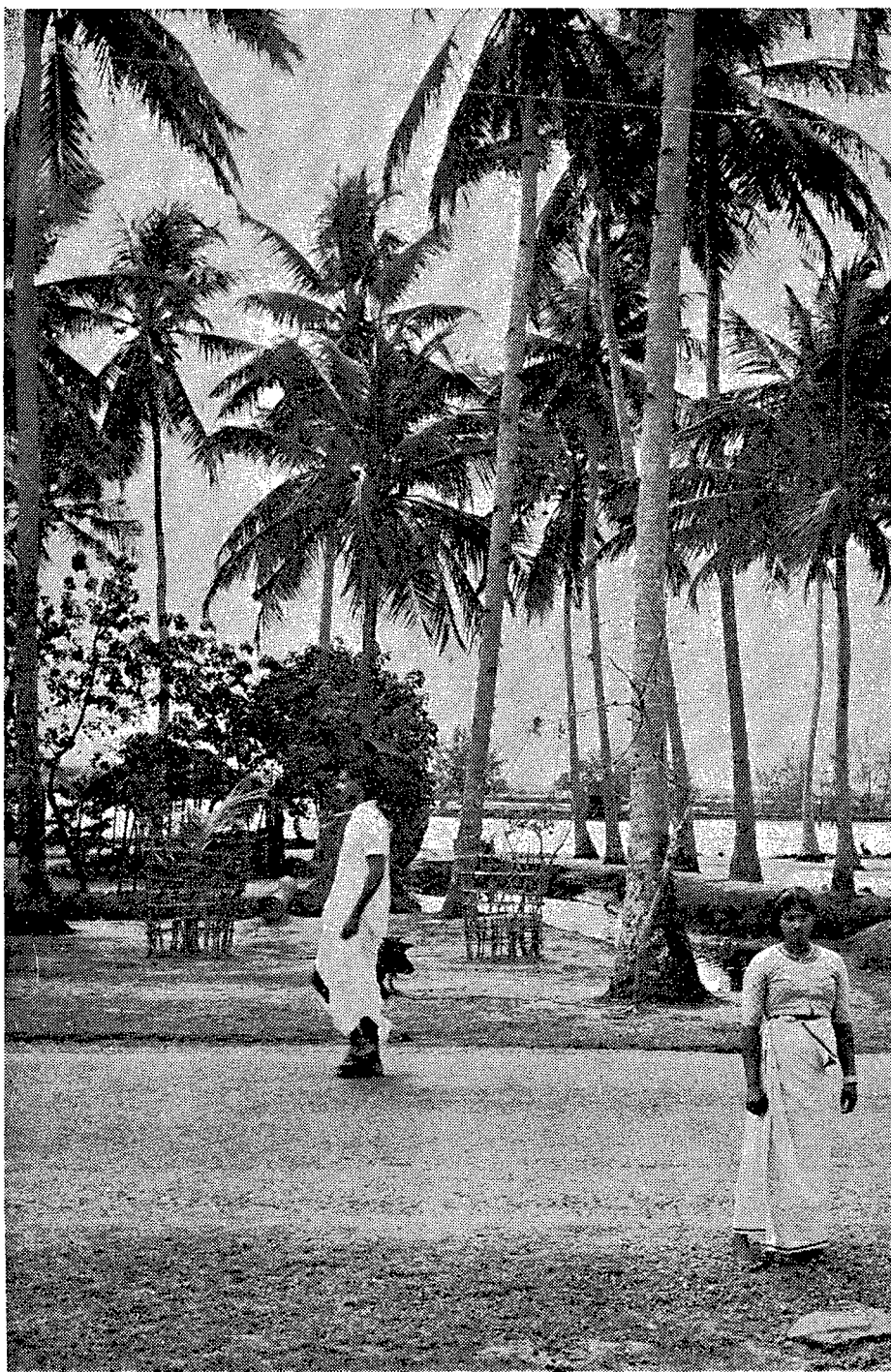
THE Fourth Plan of Kerala State aims at an increase of 25 per cent in agricultural production. The outlay pattern is designed to take the per capita income in the State (which has the highest density of population in the country) to the all-India level.

The total outlay has been placed at Rs. 1,020 crore—Rs 442 crore in the State sector, Rs 326 crore in the Central sector and Rs 252 crore in the private sector.

Among programmes on which the Plan places stress are: intensive cultivation through improved practices, development of fisheries and poultry on modern lines, exploitation of power potential, establishment of a number of industrial units and encouragement to village and small scale industries so as to absorb the rapidly increasing labour force.

Improvement in the quality of education and technical training and a massive programme of family planning are also planned.

Kerala has several special features. Its average density of population is 1,200 persons per square mile. In the coastal areas the pressure is twice as much. The State has the highest percentage of literacy, half its population being able to read and write. The rate of growth in population has also been higher, which has resulted during the past few decades in a very high percentage of unemployment and underemployment and a very low per capita income.



# PER CENT

a Level



The State is deficient in food grains and produces only half of its requirements. There is little scope for increasing the area under cultivation. Agriculture absorbs only 38 per cent of the working force, while the percentage is nearly 70 for the country.

The State lacks raw materials for basic industries. Traditional industries like coir and cashew employ low levels of technology and a large body of labour.

## AGRICULTURE

The output of agriculture, as noted at the outset, is to be increased by 25 per cent. The two main crops, paddy and coconut, with half a dozen other crops—arecanut, tea, tapioca, rubber, pepper and banana—account for 80 per cent of the gross agricultural output.

Adoption of improved practices will form the basis for increasing agricultural production. Targets of consumption of fertilisers for 1970-71 are 250,000 tonnes of ammonium sulphate, 312,500 tonnes of super-phosphate and 100,000 tonnes of muriate of potash. If the prices of fertilisers cannot be brought down, subsidy will be given, at least for paddy cultivation. Two to three lakh acres will additionally be brought under improved seeds.

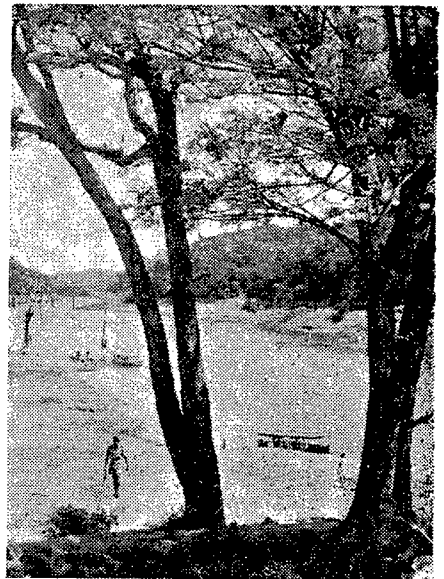
The Planning Commission's suggestion of setting up an agro-industrial corporation to popularise improved implements and co-ordinate activities in the industrial field to meet the needs of agriculture, is being considered. An extensive programme of pest control by providing supplies, credit and trained personnel may also be undertaken.

A sum of Rs 36.88 crore will be spent on agriculture.

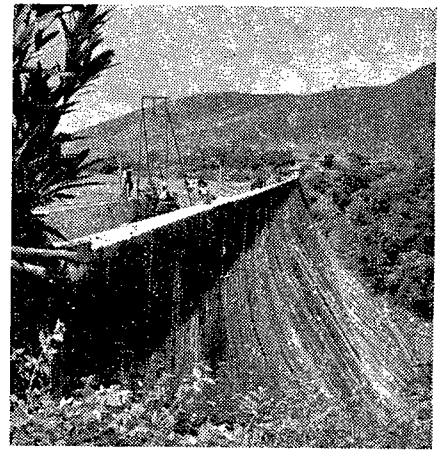
## IRRIGATION

For minor irrigation, a programme of sinking wells (including filter point wells) and installing pumping sets has been drawn up, in addition to other schemes of regulating surface water. A provision of Rs 12.50 crore has been made for minor irrigation schemes which are expected to benefit an area of 1.32 lakh acres.

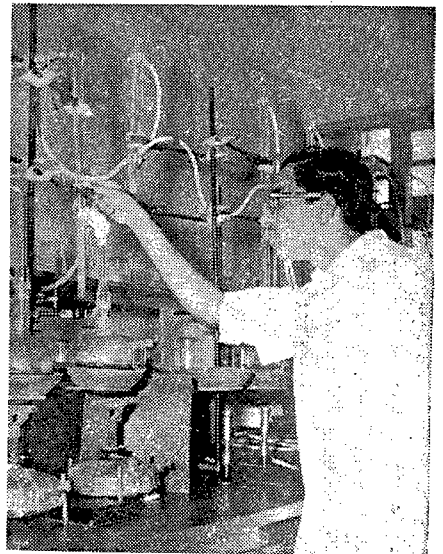
Major irrigation programme will cost Rs 25 crore. All spillover



Tourist attractions, like the Thekkady game sanctuary (above), will be expanded.



The Periyar dam. From Plan to Plan the State has more power and irrigation water.



The spice box of India, Kerala is sponsoring research in essential oils.

schemes of the Second and Third Plans, such as Pothundy, Meenpara, Periyar Valley, Neyyar stage II, Pampa, Kuttiadi, Chitturpuzha, Kanjirazha and Pazhassi, will be completed. It is also proposed to secure technical clearance of the Kallada project and start work on it in right earnest.

On the completion of the spill-over projects, an additional area of 194,000 acres will be brought under irrigation. A crore of rupees have been earmarked for detailed investigation of new schemes like Idikki, Kabini, Vamanapuram, Bhavani and Palakuzhipuzha, and another Rs. 1 crore for flood control works.

Sea-erosion has assumed serious dimensions in recent years. Anti-sea erosion works have to be undertaken on an extensive scale. For protecting at least 120 miles of the coastline, an expenditure of Rs 30 crore will be incurred.

Effective soil conservation measures in the catchments of the major river valleys has become an immediate necessity. Such works in the catchments of the projects like Idikki, Neriamangalam, Neyyar, Kanjirapuzha, Malampuzha, Cheerakuzhy, Kuttiadi and Valappattanam may be undertaken as Centrally sponsored schemes. Besides, soil conservation work will be undertaken in an area of eight lakh acres. Provision of Rs 3 crore has been made in the State sector and Rs 1.30 crore in the Central sector.

Other land development schemes like land reclamation and colonisation have been allotted Rs 1.87 crore in the State sector and Rs 1.10 crore in the Central sector.

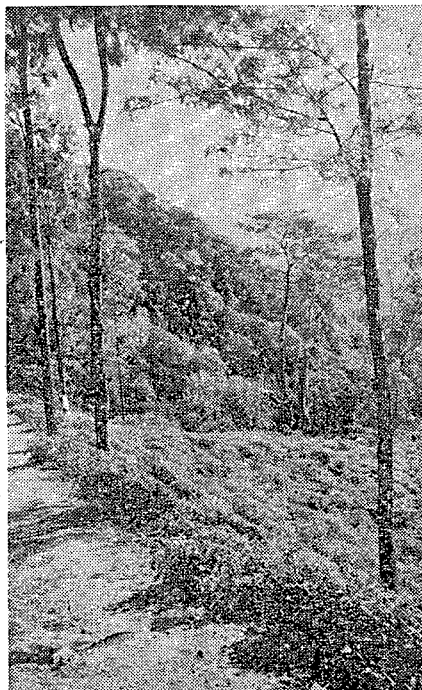
## ANIMAL HUSBANDRY

An intensive cattle development project has been included in the animal husbandry schemes. New schemes relate to intensification of key village activity on a package basis and promotion of cross-breeding and developing cattle feeds. A programme for the development of poultry and piggery on scientific lines is also contemplated. An outlay of Rs 7 crore is proposed.

The existing milk supply schemes at Trivandrum, Ernakulam and Kozhikode will be expanded and a new recombined milk plant with a capacity of 20,000 litres per day will

be installed at Alleppey. Efforts will be made to increase milk production. Loans will be given for the purchase and distribution of cattle feeds. The outlay on dairy development is Rs 2.75 crore.

For the development of forests, schemes in the Third Plan will be continued. The programme aims at the extension of the area of teak plantations by 30,000 acres, of soft wood and fuel plantations by 20,000 acres each, of sandalwood and



Tea is one of the plantation products which loom large in the State's economy.

bamboo by 4,000 acres, and *anjili* by 1,000 acres.

An additional area of 50,000 acres will be brought under eucalyptus plantation. Besides, the Government of India may be requested to include at least 1,000 square miles of the forests in the proposed survey. The outlay is Rs 5 crore in the State sector and Rs 1.67 crore in the Central sector.

Fisheries have an important place in the economy of Kerala. It has been suggested that a corporation may be formed with Central assistance for the maximum exploitation of fish wealth of Kerala.

The scheme of mechanised fishing boats will be expanded for increasing

the catch, which is expected to be 9.5 lakh tonnes by 1970-71. In addition to completing the works at fishing harbours taken up during the Third Plan, many other suitable places will be developed as landing centres. Supply of modern fishing equipment and establishment of ice plants and processing units are considered equally important. The schemes will cost Rs 10 crore.

A sum of Rs 50 lakh each has been earmarked for warehousing and agricultural marketing.

## CO-OPERATION

Proposals for the development of the co-operative sector will cost Rs 5 crore.

Primary agricultural credit societies will be expanded and at least 36 lakh of people will be brought within their fold. The short-term credit requirements of small ryots with holdings of less than five acres would be met in full, and of the rest to the extent of at least 30 per cent. The targets are Rs 30 crore of short-term credit, Rs 6 crore of medium-term credit, and Rs 8 crore of long-term credit. Other schemes include increased facilities for storage and marketing of agricultural produce and establishment of more wholesale consumers' stores.

The State has now been fully covered by the Community Development programme. In the Fourth Plan Rs 5.68 crore will be spent for financing schematic budgets of the blocks.

With the impending adoption of legislation in this regard, Panchayati Raj organisation will be the sole agency for rural development. Rs 4.32 crore will be spent on establishing Panchayati Raj.

## INDUSTRIES

Industrial investment in the State in the Fourth Plan will be on a much larger scale than now, in both the public and private sectors. An outlay of Rs 38 crore is proposed from the State Government's own resources for setting up large and medium industries, plantation industries and mineral development. Besides, there will be an investment of Rs. 130 crore in the Central sector and of

Rs 103 crore in the private sector. The plans, as drawn up, will take due note of the need for expansion.

In view of the low capital formation in the State, the State industrial financing institutions, like the Kerala Financial Corporation, the State Industrial Development Corporation and the State Small Industries Corporation, will be provided with more funds to enable them to promote the maximum industrial activity. It is hoped that some of the consumer industries proposed by the Government of India will be located in Kerala.

Schemes for small-scale and village industries aim at the introduction of improved technology at a cost of Rs 16 crore. Industrial units, complete with buildings and equipment, are proposed to be made available to small entrepreneurs on hire-purchase basis.

The schemes for coir development will bring all coir workers and small producers into the co-operative fold and establish sound institutional arrangements to finance them. Several new industrial estates will be set up, besides the expansion of the existing ones.

## POWER

So far only 8 per cent of the State's power resources have been exploited. With the commissioning of the projects now under execution, nearly 21 per cent of the available potential would be utilised. Power schemes costing Rs 146 crore have been proposed in the Fourth Plan. Sabarigiri, Kuttiadi and Idikki projects will be completed. New projects include Edamalayur, Lakshmi, Silent Valley, Perinjankutty and Lower Periyar and a thermal plant costing Rs 12 crore.

## TRANSPORT

Kerala has to depend more on road transport as railways are inadequate. There is need for increasing the road mileage as well as for improving the existing roads. Rs. 30 crore will be spent on road development. The need is to develop National Highway 47, which connects Cape Comorin with Salem, as well as the West Coast road, which is part of the Bombay-Cape Comorin road.

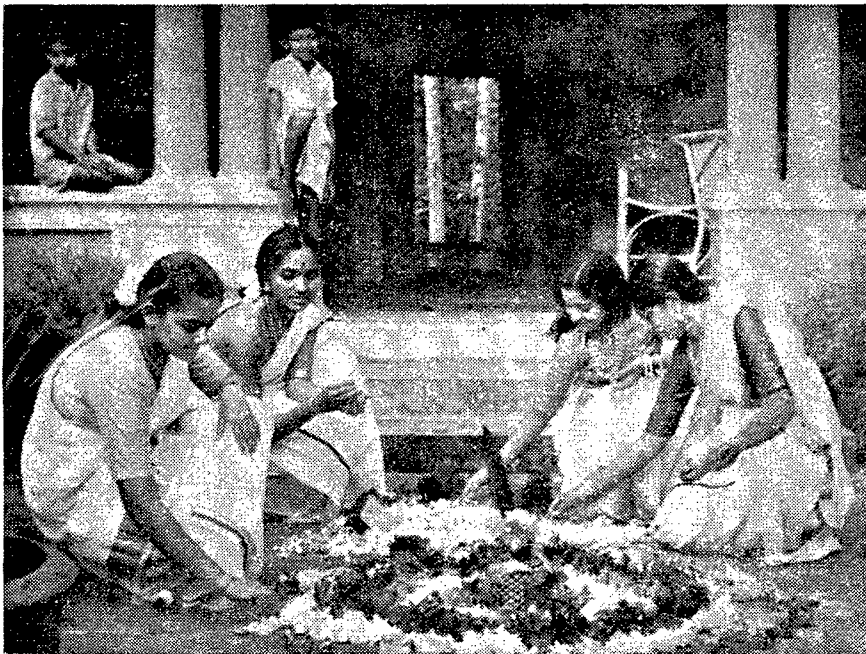
An outlay of Rs 7.53 crore has been suggested for the development of road transport.

Among Central proposals in this field are the laying of new railway lines and the development of the Trivandrum airport and of a new aerodrome at Kozhikode. The proposals for the railways include the conversion of the Ernakulam-Trivandrum line into broad gauge and the doubling of the Cochin-Coimbatore and Shoranur-Mangalore stretches.

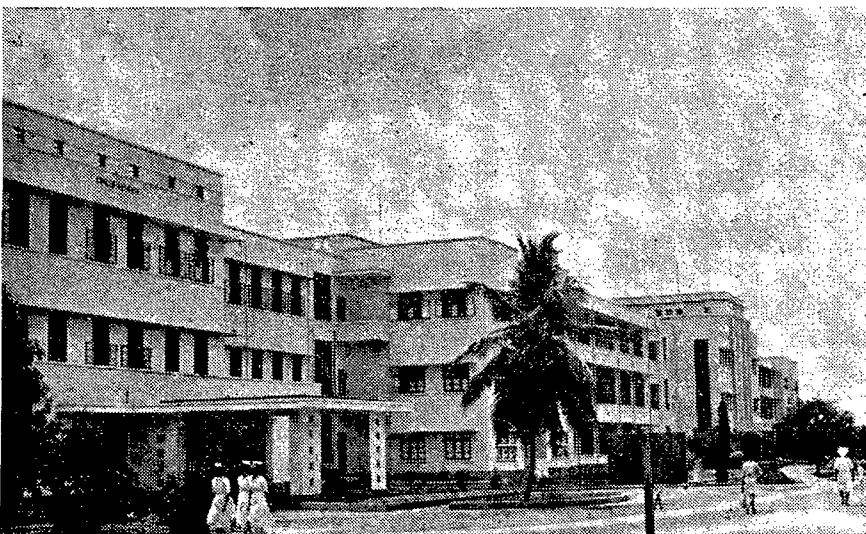
The port of Cochin, which is the only major port in the State, will be developed to handle the traffic for the proposed oil refinery and the Cochin shipyard. The construction of a port at Neendakara near Quilon will be completed, and the minor ports of Kasaragode, Azhikkal, Tellicherry, Badagara, Kozhikode, Neendakara and Trivandrum will be modernised. The outlay for the development of ports is Rs 22 lakh in the State sector and Rs 163.50 lakh in the Central sector.

Inland navigation will also be developed at a cost of Rs 1.20 crore in the State sector and Rs 4.30 crore in the Central sector.

OVERLEAF



Onam, Kerala's No. 1 festival, is a harvest feast. Larger production would mean happier Onams. Below: Kerala nurses are popular all over the country, and the State's own health services are fast expanding. Seen is the general hospital of Trivandrum.



To attract tourists to this picturesque State, Bolghatty, Thekkady-Edappalayam and Kovalam will be developed as tourist centres. A five-storeyed hotel with 200 rooms will be built either at Bolghatty or at Ernakulam. Thekkady, famous for its game sanctuary, will be provided with more accommodation facilities. A tourist development corporation might also be established.

The state will spend Rs 1.05 crore and the Centre Rs 5.86 crore on the development of tourism.

## SOCIAL SERVICES

The education programme will cost Rs 39 crore. Under primary education, schools will be opened for a lakh of new entrants every year. In the age group 11-14 the target of enrolment is 80 per cent. More teachers will be trained so that there is one teacher for every 35 pupils. The existing shift system in 2,800 schools will be discontinued. In the field of secondary education, the objective is to increase the enrolment in the age group 14-17 from 32 per cent to 35 per cent.

The higher education programme aims at providing facilities for 120,000 students. This number would be more than double the present total strength of colleges.

With regard to technical education, the intake capacity of the engineering colleges at Trivandrum and Trichur as well as of the polytechnics will

be increased, and a degree course in textile technology provided.

Public health schemes aim at one bed per thousand persons and one nurse for every seven beds. It is also proposed to have one auxiliary nurse or midwife for every 5,000 people. Top priority will be given to family planning. As for medical education, post-graduate courses may be instituted in as many subjects as possible.

A provision of Rs 7.75 crore has been proposed for water supply and drainage schemes.

A number of welfare measures have been envisaged for the housing, education and employment of the growing population. A housing board may be established.

Schemes for the welfare of backward classes comprise grant of educational concessions, measures of economic uplift and provision of houses, water supply and medical care, at a cost of Rs 3 crore. A provision of Rs. 70 lakh is also proposed for programmes of welfare of women and children, rehabilitation and social welfare and training.

Facilities under national employment service will be expanded and 7,800 additional seats will be provided in the industrial training institutes. The Employees' State Insurance Scheme will be extended to two lakh workers.

*(This article is based on Kerala's Memorandum on the Fourth Five Year Plan.)*

## MIRROR TO THE MOUNTAIN

*(Continued from Page 9)*

poor and have nothing material to offer you on your first visit to our village. We have, however, one gift to offer you, if you care to accept it. *We present to you, sir, the finest scene in the world.*"

So he concluded, pointing towards the reflection of the white snow-covered mountain in the pool.

"I accept your present with the greatest joy, my friend," I replied. "People come from long distances to admire the reflection of the Taj Mahal in the tank in front of it. The Taj Mahal is the creation of man, while your Dhauladhar is the creation of God. You have provided a mirror to the White Mountain so that she could admire her own beauty. Truly you have shown me the eighth wonder of the world," I concluded with my eyes glued on the reflection of the mountain in the pool.

The Dhauladhar was admiring her own beauty, Narcissus-like, in the pool of water, which the people of Maniara had created by their labour. The beauty of the mountain was truly breath-taking. All the same I was left guessing which wonder I should admire more, the miracle of nitrogen on the crops, or the grandeur of the white mountain reflected in the pool of Maniara.

## ROLE of ZILA PARISHADS

*(Continued from Page 12)*

knowledge of local conditions, will be in a position to evaluate the potentialities of each venture and appraise it critically.

Such an approach is likely to make a more appreciable contribution to the growth of rural industries than the attempts made so far. The basic weakness of the existing Community Development programmes in the industries sector is its inability to generate equivalent capital for the setting up of new ventures. It has been estimated that for every rupee the Government has spent, it has been able to attract only 75 paise from private funds, while the ratio should have been at least 5:1 between private and Government funds. It has been assessed by the Small Industries Extension Training Centre at Hyderabad that in a district with a population of one

million, at least 500 new industrial enterprises will have to be set up during the next ten years if the concentration of industry is to be anywhere like that obtaining in rural Japan.

Similarly, in the matter of irrigation facilities, it is the Zila Parishad that should take on the responsibility for their proper maintenance rather than leave it to the Block-level body where local politics tend to play a great part. Similarly, the running of artificial insemination centres which serve more than one block should be the responsibility of the district level body. Thus the division should be rather on the specific functional level in each subject, the more basic ones being allotted to those nearest the people and the "infra-structure" facilities to the district body. Such an allocation, it can be seen, is more rational and will help each of these bodies to function with greater effectiveness than at present.

*Dr Vepa, I.A.S., is Deputy Secretary, Andhra Pradesh Government.*

# KANAKADASA

## Saint-Singer of 400 Years Ago

V. SITARAMIAH

THE Haridasas are Vaishnava saint-singers. Purandara and Kanaka, the chief among them, belonged to the fifteenth and sixteenth centuries and lived in the Vijayanagar empire. They came under the influence of Sri Vyasaraya, the influential guru of the Emperor Krishnadevaraya. Their songs did the work of social and spiritual enlightenment which the *vachanas* in their intense personal way did about the middle of the twelfth century in the Karnataka country. Whereas the *vachanas* were more revolutionary and set up a new Protestant Veerasaiva community, the Haridasa movement contented itself with an effort of cleansing the life of the people at the individual and social levels and directed men to thoughts of God and liberation from the trammels of life.

We do not know exactly the dates of birth and passing away of Kanaka; nor the exact place of his birth and expiry; nor the exact community to which he belonged. He was perhaps born about the closing decades of the fifteenth century and lived more than three score years and ten. His name is associated with towns like Bada and Kaginele, in the southern part of the modern Dharwar district. He must have lived for some time at Hampi to be participant in the life and enthusiasm of the pupils of Sri Vyasaraya. But he seems to have moved about many places of pilgrimage of Vaishnava importance, like Tirupathi and Udipi, though the God of his worship was chiefly the Adikesava of Kaginele which is his signature.

We do not also know whether he was a Kuruba, a shepherd (there is a song indicating it), or a Beda, of the hunter class, who would be having the appellation of Nayak. Smaller men twitted him on his birth

and inferiority in social status. He seems to have smarted under it at first, but in the light of the larger understanding that came to him later he took that in his stride—and his strictures on men who made too much of the disparities of caste are no severer than those of Purandaradasa. He tells them the truth that quality of life should count more than birth, for what after all, is the caste of the Elements, of the Soul or of Life and the things that matter in spiritual life; honey and milk and the lotus are no less worthy as offering to God, even if they derive from a fly, animal flesh and from the slush of standing water!

Possibly, Kanakadasa was at first a follower of Sri Ramanuja and the

In a quater-century tribute, a poet asks :  
Can the traditional faith serve us now?

doctrine of devotion which Tatacharya was propagating, for both of whom he had veneration and regard. And Kesava in some form or other is the deity of his worship—not Vitthala, as with the other Haridasas. But he does not get into the doctrinal toils of the Dvaita system such as those we find in Purandara and others.

That in spite of jealousy, resentment and intolerance of the orthodox followers of Vyasaraya, he won the affection and esteem of the great Guru is certain. More than a few anecdotes are current about how the Guru pointed to his greatness of spirit and worth. Two instances may be mentioned to illustrate it: the Guru seems to have distributed some fruit and asked the best among his pupils each to take a fruit and eat it where nobody could see him.

Many were the exploits of others in narration as to how they finished off their fruit unseen by anybody. Only Kanaka brought back his fruit uneaten for he was at a loss to find a place where the eye of God was not.

Another episode is more crucial. A question was asked if anyone among the worthies there could attain to God and go to Heaven. The only one who answered was Kanaka, who, to the utter indignation and disgust of all, seems to have said, 'I might, if I went'—only the Guru understood the meaning; that if the 'I' in each disappeared, all might go to heaven. That was wisdom along with insight.

Kanaka, before he became a devotee of God, must have been a rich, prosperous and powerful chieftain, leader of the hosts, a mighty killer on the battle-field. His presence on the field and in the camps he says, put heart into the drooping spirits of his men even as it struck terror and confusion in the ranks of the enemy. He was followed with pomp, with a retinue, bugle and drum, with umbrella and fan when he moved among men, but one day, when possibly he had lost a battle and saw heavy death and destruction on the field, he gave up the martial life as unsatisfying and his conversion into the ways of the Lord saved him from all that might hold him prisoner to the earthly life and its limitations. A song, "Hari Ninna Paramartha", in Saveri, records it, that the drop of water became a pearl through the *mantra* of the guru which redeemed him totally.

After that his life was a passage into purity and light, spaciousness and godliness. He moved about talking to others, and weaning them from wrong ways and directing men to see light and right and prove to men that if they did not let them into the temples and shrines God would appear to bless him wherever he was. That was exactly what happened at Udipi, where today we have a peep-hole through which all can see the Krishna image. The songs enshrine his faith, his attitude, and his message.

If Purandaradasa had given up the life of a rich and grasping money-lender and taken to the ways of a *dasa* (a servant of the Lord), Kanaka

had converted himself from being a *nyayak* (or a military chief) to being a servant of God. Poetically, Purandara is perhaps richer, more racy and concrete, and has more colour. There is more life and light-heartedness and humour and more milk of human kindness in him. Kanaka is deeper and sounds more learned and has a philosophical depth and reference which make his songs more serious in tone.

That is what makes songs like: 'Was I born out of myself?' (*Nanninda Nane Janisi Bandene?*) 'This body is yours even as this life is yours' (*Tanu Ninnadu Jeevana Ninnadu*), or 'Is the Maya in you or are you in Maya?' (*Nee Nayeyolago Ninnolu Mayeyo*)—some of the profoundest in our language. There is cleverness and word-jugglery also, anecdote and reference and a lot more of puzzlement in some of his symbolic poems. But when he talks to men the words go home and his comparisons tell.

Technically, the structure of his songs continues to be the same as that used by Purandara (and the great Annamacharya of Tirupathi, an elder contemporary of Purandara): a refrain and its specialisation and a few verses in expansion and illustration. With the *raga* and *tala* indicated, *dasa sampradaya* retains the traditional form till today. All through the songs, we feel we are in the presence of a person who has realised the essential truths underlying life with a mastery of the secret which can redeem it. If his heart was simple and tuned to the Lord it is the positiveness of this faith and the clarity of his understanding that strike us today as the supreme and compelling features.

**B**UT this is a religious solution—as it has been that throughout. Today we lack faith; our understandings are clouded; our intellectual, social and secular life burn with doubts and scepticism, while our external life is full of secular oppressions and deceptions on a scale which never seemed to beset the earlier centuries. Saints and singers and reformers through the succession of the ages have inweighed against crudeness and superstition, dishonesty and cruelty, sinfulness, selfishness and passion. There doesn't seem to be a respite from them, and the same message in principle

is, perhaps, needed today as ever before.

But, since this age lacks religion, the type of faith that could redeem a Kanaka or a Meera, a Prahlada or a Nanda has no compelling power. The faith of an earlier time was simple and clear and total. The principles in guidance could be spoken freshly and frankly; the precedents were known; the sanctions were real and such as they could heed; the appeal to God and man and to the claims of the spirit was accepted but the sophistications of the modern age have made doubt and scepticism deeper.

The old solution doesn't seem any longer to convince, let alone be effective. The Vedas, the Smritis, the Puranas, the faith of the Middle Ages, the examples of older idealism are no longer items in belief or in regard. There are no claims of happiness in heaven or threats or terrors of hell which appeal to public opinion and conscience. If one was asked why one should be good, the old arguments seem to fail in function.

In this 400th anniversary year of Kanakadasa, we might, therefore, ask ourselves this question whether even if his demands and appeals are right, his type of argument and solution would still persuade. The world scene is beset with the same type of event but it doesn't believe in a God or a soul. W.B. Yeats's line:

The best lack all conviction; while

The worst are full of passionate intensity

seems truer of us than of many an other. In individual and in social life, in the life on the political, national, international planes, the principle of the Good has got to be analysed again and the impulses to conduct have got to be argued and established in a new way. Much more seems to have to touch chaos before modern life will be redeemed.

When we hear the songs of the *dasas* and the singers of the past, we envy them for their simplicity and the positiveness of their faith. It is hard—this task of redeeming a modern complexity; this modern sophistication. East and West have jointly to strive for it in the matter of impulse and conduct, organisation and idealism, for it is not only

a Shaiva or a Vaishnava sect of the Hindu fold that is seeking direction. These religions, as religions, are hardly factors and forces in the current scene except as interest and pressure zones. It is the larger secular demand in India, of an Indian people or nation which comprises not only the warring, sectarian Hindu elements, but the Muslim, Christian, Sikh, and other conflicting claims and the ideologies of the time that have got to be considered in any effort at reconciliation, understanding and solution. India has been a laboratory of religious experiment and cultural synthesis and call for it today is more difficult if at least as insistent. Celebrations like Kanakadasa's quatercentenary deserve to wake us all to the need.

I have said that before he became a servant of God, Kanakadasa was some sort of a chieftain; he must have done a lot of reading also and seems to be conversant with the literature in Kannada before his time and with all the conventions of writing. He is credited with a *Nalacharitre* and a *Haribhaktisara*, in the Bhamini Shatpadi, a six line verse form; with a short poem in praise of Narasimha; with a fairly large work called *Mohana Tarangini*, (in a song metre called *Sangatya*) in more than 40 cantos. There is another clever piece of work on the comparative excellence of Ragi as a grain, whose superiority is established over Rice; Rama himself awarding the certificate of merit and conferring his name Rama—Raghavadhanya—on Ragi. As contributions to literature, these are fairly good works, *Nalacharitre* and *Mohana tarangini* being substantial.

But Kanakadasa as Kanakadasa has value and validity as *par excellence* the singer of those great songs which calmed, and still partially can calm, the human spirit, giving it life and warmth. His assurance to the restless and anxious soul in *Tal-lanisadiru Kandyu*, "God will protect and save all, there is no doubt about it", still appeals emotionally. But the implications of a scientific age and its impact on the national economic and political edifice threaten to rob the assurance of its power so to convince and calm. It is the tragedy of the time and of the human situation in India. One could believe in all this assurance and the effectiveness of the moral directive. Can one?

# Books

## INDIAN FEDERALISM

*Essays on Indian Federalism—*  
 Edited by S. P. Aiyar and Usha Mehta.  
 Allied Publishers, Bombay. 342  
 Pages. Rs. 25

N. Srinivasan

THIS is a collection of essays by different authors on some aspects of federalism in India edited by Dr Aiyar and Dr Mehta, Readers in the Department of Politics and Civics in the University of Bombay, and presented to Professor M. Venkatarangaiah who was the first occupant of the Sir Pherozshah Mehta Chair of Politics and Civics of the University of Bombay. The theme is well chosen, as federalism is one of the two areas in which Professor Venkatarangaiah was deeply interested and had made a notable contribution through his books *Federalism in Government* (1953) and *Competitive and Co-operative Trends in Federalism* (1951) and other papers. The book is a token of the deep affection and respect in which Professor Venkatarangaiah is held by his former students and colleagues.

The essays attempt to trace the growth of the federal idea in India, and survey the developments in the field of federal-state relations since the adoption of the Constitution that have tended to modify the federal system as visualised by its framers.

In the context of the goals of a Welfare State and democracy which India has set before herself, the character of inter-governmental relations—relations between the Union and State Governments and relations among State governments themselves—is a matter of the utmost practical importance. The implementation of vast programmes of economic and social development and the balance and development of the different parts of the country require co-ordinated and joint action by the Central and State governments in the country and a large

measure of Central direction and control. The maintenance of national unity in the face of the challenge posed by differences of language, religion, caste and tribe also demands a powerful centre.

The classical federal model with its emphasis on the co-ordinate character of the Central government and the governments of the component states of a federation, each exercising sovereign powers in clearly demarcated spheres of exclusive authority, would seem to be hardly adequate to India's special needs. Anticipating in some measure the problems of the future, the framers of the Constitution invested the Union Government with an amplitude of legislative financial and administrative powers without parallel in other federal systems. Under the impact of national planning which began after the Constitution had come into force, the powers of the Centre have tended to increase largely through executive action. This has been reinforced further by extra-constitutional party control of the Congress exercised over the party in the Central and State legislature and on the governments.

To some extent this is both inevitable and necessary in a country that is new to a planned economy as well as party government. But the question may be raised whether such an accession of power of the Centre is consistent with the maintenance of democracy and a federal system. Can such an accession of power take place without endangering the freedom and initiative of the States in the spheres allocated to them by the Constitution and considered essential to a genuine federal system? Both democratic and federal theory postulate that the autonomy of the States should be preserved and fostered. The escape from the dilemma posed by the needs of economic development and political unity on the one hand and democracy and federalism on the other is possible only through a balance

between centralisation and decentralisation that assures the Centre the requisite power to maintain the unity of the country and effectively implement its plans of economic development and at the same time allow the States to function freely in the spheres allocated to them by the Constitution.

The problem is, in no sense, peculiar to India. In all federations the imbalance between revenue resources and functions of the Central and State governments under the constitutional division of powers has resulted in a large measure of federal centralisation. The component States have had to seek federal financial assistance to achieve a national minimum standard of social services such as education, health, social security and welfare. In these fields which fall within the

### BOOKS RECEIVED

Nehru: The First Sixty Years. Volumes I & II. Dorothy Norman. Asia Publishing House. 638 and 618 pages. Rs 60 per set.

Design For Tomorrow by B.G. Verghese. Times of India Press, Bombay. 303 pages. Rs 11.

Studies in Economic Problems. General Editor S.K. Basu. Asia Publishing House. 256 pages. Rs 28.

Town Planning in Maharashtra, 1914-65. Published by The Town Planning and Valuation Department, Government of Maharashtra, Bombay. 80 pages.

Indian Rural Economics by S.C. Jain. Published by Educational Publishers, Hospital Road, Agra. 234 pages. Rs 7.50.

Agricultural Demonstration and Extension Communication by Ram Krishan. Asia Publishing House. 261 pages. Rs 15.

Britain—An Official Handbook 1965 edition. Published by the British Information Service, New Delhi. 584 pages + 1 map.

Economic Trends and Indications 1965-66, Central Budget X-Rayed by Bhikha Lal Kapasia. Published by Economic Trends and Indications, New Delhi. 25 pages. Rs 3

Soviet-Indian Economic Co-operation 1955-65 by J. Sokolov. 60 pages. Re 1. Bhilai—Symbol and Portent by Girija Kumar Sinha. 92 pages. Re 0.50 paise. Both published by the Information Department of the USSR Embassy in India, New Delhi.

Agricultural Officers' Guide Book 1965. Published by the Department of Agriculture, Kerala. 195 pages.

The Control of Industry in India by L.A. Joshi. Vora & Co., Bombay. 265 pages. Rs 15.

The U.P. Co-operative (Quarterly) Journal, Oct-Dec. 1964 Vol. XXXX, No. 2. Published by The U.P. Co-operative Journal Quarterly, Lucknow.

Perspective Studies in Social and Political Forecasting, Vol. XI, No. 1, Jan-March 1965. Published by Indian Institute of Public Administration, New Delhi.

States' power the latter have had to accept federal leadership and varying degrees of federal supervision and control. This new development, which has taken place in Western federal democracies during the last fifty years, has come to be described as "co-operative federalism".

The central thesis of the essays collected in this volume is that Indian federalism has also tended to develop in the same direction under the impact of national planning. The expansion of the powers of the Central Government in fields such as community development, agriculture, education, social welfare etc., illustrates this trend. These developments differ in degree rather than in kind from developments in other federations.

The essays in this volume cover the field only in part. They deal with the impact of community deve-

lopment, agriculture and social welfare, local government and the operation of the Emergency powers on Centre-State relations. Studies of other functional aspects of Centre-State relations in the fields of education, health, industries and over-all national planning and of the political forces like party and leadership that have a profound influence on Centre-State relations which would have made the book complete, have not been presented. The studies included achieve a high degree of competence. The analysis of developments in the field of Centre-State relations is objective and the interpretations offered are sound.

These essays are an excellent introduction to the study of the problems of Indian Federalism and the book is a valuable addition to the literature of political science in India.

## Trade with North Africa

*India-Africa Trade Series—Northern Africa. Published by the Federation of Indian Chambers of Commerce and Industry, New Delhi. 100 pages.*

M. K. Ramamurthi

INDIAN Trade Commissioner's reports are happily supplemented by the survey of North Africa provided by the Federation of Indian Chambers of Commerce. Whether the development of trade will proceed on lines desired and expected may not be in much doubt, though competitive capacity is a major requirement in export trade. The private missions that have examined opportunities are optimistic because North Africa is changing and political ties are strengthened by the current preference for non-alignment.

The French and Italian connections with Algeria and Libya are not disappearing and trade has survived the withdrawal of political authority, as it has done in Morocco and Tunisia. If a common language like Arabic helps to define aspirations, the differences in culture between nomadic and settled communities are not to be overlooked. The Overseas Trade department surveys provide a familiar pattern for such reports as that of the F.I.C.C.I. and the background information is related essentially to economic analysis.

North Africa has closer association with Mediterranean countries like Spain. This is due largely to history. But the need for extensive capital is being satisfied by many countries. India, too, will have to furnish capital for local ventures as it has done in recent floatation of joint ventures in East Africa. Concessions may be available but local experience and knowledge have to be secured. Poor and undeveloped as the region may be, there is yet promise of trade opportunities especially in Libya whose oil exports to Europe have made the desert kingdom prosperous in recent years. In Morocco, tradition is a force to reckon with.

India's need for long staple cotton is satisfied by purchases from Africa and the rise of local textile industries in U.A.R. or Sudan cannot spoil the market for Indian yarn and piece-goods, if the customers' requirements are studied and Pakistani competition countered. There is perhaps a limited market for tea and coffee in North Africa but the demand for spices should keep growing as also that for vegetable oils. Outlets for electric fans, sewing machines, bicycles and diesel engines have been found by engineering exporters.

Trade agreements have helped to enlarge trade, and goodwill missions have found that development is

(Continued on Cover iii)

## Our Soils

*Soils—An Introduction to Soils and Plant Growth (second edition) by Roy L. Donahue, 1965. Prentice Hall. 363 pages.*

S. P. Raychaudhuri

The book treats of soil-plant relationships in two parts. The first part deals with: soil factors influencing plant growth including nutrient-supplying power of soils and areas of mineral toxicity and deficiency for livestock, man and plants; the physical properties of the soil; parent materials of soils and soil formation and classification; chemical and colloidal properties of soils and their classification; movement of soil water; and role of individual plant nutrients. The section on soil surveys and their use will be particularly useful to students of soil science for field work. The fundamentals of the important subjects of life in the soil and of organic matter have been described very lucidly.

The second part of the book is concerned with the application of knowledge of soils to problems of plant growth. This part deals with: lime and liming practices; fertilisers and their characteristics; use of fertilisers; soil and water conservation; irrigation; drainage; manure; compost; sewage; sludge and sawdust; and soil and plant diagnosis. At the end, the book contains useful tables on atomic weight and valencies of common elements, conversion factors, definitions of textural classes and a glossary.

The get-up of the book is excellent. It has been written in a clear and simple language and is illustrated with a large number of photographs and charts. Each chapter is followed by a useful summary, typical questions and references. Although the data and illustrations are mostly drawn from American literature, the fundamental principles of soil-plant relationships and the application of the knowledge of soils to problems of plant growth will be quite applicable under Indian conditions. There is no doubt that the publication will not only be very useful to students, teachers and research workers in soil science but will also serve as a reference book to the general workers in agricultural science in India.

## Triple Role of

# Andhra Agricultural University

C. V. H. RAO

Six years ago Indian Agricultural Research Institute, New Delhi, was the only institute of higher learning in the field of agriculture in India. Though the Institute had been doing useful work since its inception in 1905, the facilities provided by it were not adequate to meet the increasing demand for higher education and research in agricultural science. To meet this urgent need, the Government of India decided to set up a number of agricultural universities all over the country.

These universities were not to be mere seats of learning and scholarship, but were also to assume a large measure of responsibility for the economic development and improvement of the status of the rural population of the State in which they were situated. Besides being seats of learning, they were to be of service to the farmers.

The first such university was established at Pantnagar in Uttar Pradesh in 1960. Then followed the universities at Bhubaneswar, Ludhiana, Udaipur and Hebbal near Bangalore. And on March 20 this year, the Andhra Pradesh Agricultural University was inaugurated at Rajendranagar near Hyderabad by the Prime Minister of India. Constituted under an Act of the Andhra Pradesh Legislature, the university aims at providing an integrated system of teaching, research and extension; "so that the fruits of research can flow into the fields and the problems of the farmers are transmitted back to the teaching and training centres for solution".

The Agricultural University's main function at present is to train students for a degree in agriculture and to provide facilities for post-degree training. For this purpose, six institutions—three agricultural colleges at Rajendranagar, Bapatla and

## *It Will Educate Students, Inform Farmers and Conduct Research*

Tirupathi, two veterinary colleges at Hyderabad and Tirupathi, and the Home Science College in Hyderabad—have been transferred to the control of the university. As an initial step towards the integration of the courses in the three inter-allied disciplines, a college of basic studies in agriculture, veterinary science and home science, has been set up.

## *Blending of Theory and Practice*

In the sphere of teaching, the university has been experimenting with schemes which provide for a harmonious blending of theoretical instruction in agricultural science and practical application of the theory and assessment of the results of instruction. The assessment of the students' work is frequent and continuous; and to the extent the university authorities enlist the purposeful co-operation of the students in the implementation of the scheme, it should bring about a highly desirable and significant change in the attitude of students towards studies and obviate waste of effort.

To impart practical training to students in scientific agriculture, there is a well-established Agricultural Research Institute in the neighbourhood of the university college at Rajendranagar. Spread over about 500 acres of land, the Institute has well equipped laboratories, a cattle breeding centre and dairy farm, and

a complex of training centres for community development and extension personnel.

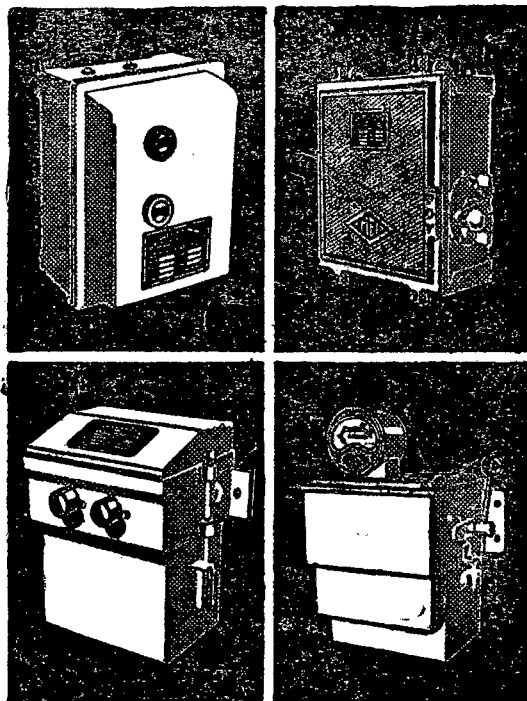
Of the three agricultural colleges affiliated to the university, the college at Bapatla is the oldest and best organised. It has more than 20 years of teaching experience behind it and has adequate facilities for practical demonstration work. The college at Tirupathi, located in a proverbially backward and drought-ridden area like Rayalaseema, has an important role to play in toning up agriculture in that area. The Rajendranagar college, which constitutes the nucleus of the university, has been in existence for nearly 20 years and has been playing an important part in the promotion of agricultural education and in providing facilities for post-graduate studies. An extension education institute, started in 1962, is attached to the Rajendranagar college. Altogether the three colleges have a total annual intake capacity of about 300 students.

The veterinary colleges at Hyderabad and Tirupathi have an annual intake capacity of 140 students. They are well equipped with laboratories and have facilities for practical work. The Home Science College at Hyderabad, which admits 30 women students every year, has at present a total of 140 students on its roll. It provides teaching and practical training facilities, leading to a degree in home science.

As the various institutions, now under the aegis of the Agricultural University, were earlier under three different universities, common courses of study, syllabuses and standards of examination have been evolved.

Of the three declared functions of the university, the most important and ultimately most significant one is extension, involving the communi-

(Continued on Page 27)



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# Fertiliser Demand up by 50 per cent in One Year

PRODUCTION of fertilisers in India was 2.24 lakh tonnes in 1963-64, an increase of 5,000 tonnes over the previous year's.

The consumption of nitrogenous fertilisers is estimated at 5.91 lakh tonnes in 1964-65, an increase of 2 lakh tonnes, or 51 per cent, over the previous year's. The consumption of phosphatic fertilisers also is expected to have reached 1.80 lakh tonnes from 1.40 lakh tonnes in 1963-64.

The Sindri Fertiliser Factory earned a net profit of Rs. 2.37 crore for the five years up to 1963-64.

## CHANDRAPURA'S UNIT II READY

The second unit, with a capacity of 140 MW, of the Chandrapura thermal power station of the Damodar Valley Corporation, has begun trial runs. The third unit of the same capacity is being installed.

The power-house will be expanded in the Fourth Plan to increase its total capacity to about 1,000 MW.

## New Loan Agreements

During the first quarter of 1965, India signed agreements for foreign loans amounting to Rs 137.85 crore including Rs 100.5 crore from the Soviet Union for the Bokaro steel plant. This brings the total to Rs 3,462 crore of foreign loans so far, excluding assistance from PL 480, draws from International Monetary Fund and all grants.

India had signed agreements for loans of Rs 3329.65 crore with 17 countries and two international agencies (I.B.R.D. and I.D.A.) up to the end of 1964. Of these loans, Rs. 2149.78 crore had been disbursed and equipment and stores worth Rs 2804.74 crore ordered.

Among the countries, the U.S.A. gave Rs 1121.35 crore, West Germany Rs 405 crore, the Soviet Union Rs 383.81 crore, the U.K. Rs 321.96 crore and Japan Rs 144.96 crore, besides I.B.R.D.'s Rs 403.41 crore and I.D.A.'s Rs 230.93 crore.



## SNIPPETS

### NEW PAPER MILL AT AMLA

### POWER-HOUSE AT AMARKANTAK

Hindustan Insecticides, Delhi, produced 1480.28 tonnes of technical DDT in 1964-65, the second best production during the past ten years of its working... India's biggest paper mill has gone into production at Amla in Madhya Pradesh. Built in the private sector at a cost of Rs 17 crore, the mill will produce 2,000 tonnes of paper daily... A thermal power station, with an installed capacity of 60 MW, has been commissioned at Amarkantak in Madhya Pradesh. It cost Rs 12 crore... Maharashtra and Madhya Pradesh have agreed to build jointly a hydro-electric power-house on the Narmada river at Jalsindhi in Dhulia district of Maharashtra... A wagon repair workshop will be set up at Raipur in Madhya Pradesh at a cost of Rs 6.37 crore. It will overhaul 30 wagons per day... The Bombay Port Trust earned a net profit of Rs. 1.50 crore in 1963-64... Exports of fish products were valued at Rs 7.15 crore in 1964-65, an increase 1.07 crore over the previous year... India exported pure silk fabrics valued at Rs 2.23 crore in 1964. The U.S.A. and the Soviet Union are our biggest customers... The strength of the junior division of the National Cadet Corps is to be doubled to six lakh cadets this year.

## CENTRAL BOARD FOR HOUSING

A Central Housing Board is to be set up to co-ordinate the activities of the State Housing Boards and to accelerate the construction activity throughout the country. Over 3.47 lakh houses have been built so far under different housing schemes and Rs 71.27 crore were spent during the first four years of the Third Plan. Besides, 1,45,565 tenements have been built under the subsidised industrial housing scheme and 92,000 houses under the low-income group housing scheme.

## U.S. CREDIT FOR PRIVATE INDUSTRY

The Industrial Finance Corporation of India (IFC) has received a credit of 10 million dollars (Rs 4.76 crore) from the United States Agency for International Development (USAID). The credit will enable IFC to give dollar loans to private industries for importing equipment, materials and services from the U.S.A.

The credit will be repaid in 15 years in rupees to the Government of India which in turn will repay it to the U.S.A. in dollars over 40 years.

IFC has received credit of more than Rs 19 crore from the USAID so far.

### BRIGHT SPOT

## BEL MAKES MORE

Bharat Electronics Limited, Bangalore, which doubled its output in 1963-64 (valued at Rs 6 crore) as compared to the previous year, further increased it to Rs 7.08 crore in 1964-65. The profit in 1964-65 is estimated at Rs. 78 lakh.

## Rs 126 CRORE IN SMALL SAVINGS

The deposits in small savings in 1964-65 are estimated at Rs 126 crore. It is likely that the final figure will reach the previous year's total of 128.31 crore.

Maharashtra led with Rs 28.74 crore, followed by West Bengal with Rs 20.86 crore.

# STATE PLANS: HOW TO IMPROVE PROGRESS REPORTING

VERY often a long-term plan has to be modified and adapted to changing circumstances. During the implementation of the plan, delays in the execution of some projects might necessitate modifications in other related projects or higher priority to some new projects not contemplated when the plan was formulated. Additional information and study might prove that certain projects are not likely to be so economical as thought earlier. Cost estimates also require revision. Timely modifications and adaptations are thus essential for an intelligent implementation of plans. Major changes in the Plan programmes were occasioned in India in the wake of the Chinese aggression and the mid-term appraisal of the Third Plan. Such modifications can be done only in the light of correct information about the progress in implementation of the plan programmes. An effective progress reporting thus becomes an inevitable part of planning and programming.

In India each State has evolved its own method of keeping itself informed about the progress of plan schemes and programmes and has devised various procedures for review of their implementation. However, no comprehensive study of the nature, content and frequency of reporting on the progress of programmes and projects has been made so far.

In Maharashtra, progress of plan schemes is watched through quarterly and annual progress reports. The responsibility of collecting data at regional, district and lower levels and of consolidating schemewise reports is placed on the heads of departments. These quarterly reports, after consolidation, are submitted to the Secretariat Department concerned, Finance (Planning) Department, the Bureau of Economics and Statistics and the Accountant-General.

For the district level schemes, each District Officer submits quarterly progress reports to the Collector and sends a copy to his Department. The Collector consolidates the progress reports for the district as a whole with the assistance of the District Statistical Officer and forwards three copies, one each to the Commissioner of the Division, the Finance (Planning) Department and the Bureau of Economics and Statistics. Similarly, for the Divisional level schemes, a Divisional Officer submits periodical reports to the Commissioner, who prepares a consolidated report for the Division and forwards it to the Finance (Planning) Department and the Bureau of Economics and Statistics.

A qualitative analysis of the data received in the block reports on inputs and performances is made by the Bureau of Economics and Statistics. As in other States, Finance (Planning) Department undertakes

## K. V. NATARAJAN

an appraisal during the middle of the term of a Five Year Plan. The Additional Development Commissioner, usually a senior official, is entrusted with the task of reporting and he undertakes field visits to improve the quality of the progress reports.

In Uttar Pradesh, reports on monthly expenditure on Plan schemes are submitted to the Finance Department with copies to the Planning Department. The Planning Department also receives quarterly progress reports from the departments on the utilisation of funds and on physical achievements against fixed targets. The Progress Assistant at the block level prepares the report which is forwarded by the Block Development Officer to District Planning Officer and the District Statistical Officer. The District Planning Officer consolidates them with the help of the District Statistical Officer. The Deputy Commissioner or the District Magistrate sends quarterly progress reports for the district to the Divisional Commissioner. A copy is simultaneously sent to the Director, Bureau of Economics and Statistics. The Divisional Commissioner sends a consolidated quarterly report for the Division to the Secretary, Planning Department. Finally, the quarterly progress report for the State is prepared in the Bureau of Economics and Statistics. The report of the Bureau is both qualitative and quantitative in content.

Uttar Pradesh has recently decided to reduce the number of items of progress reporting on certain key items like agricultural production. No mid-term appraisal of the Third Plan was attempted.

In West Bengal, progress reports on block plans are submitted quarterly to the Community Development Department by the Block Development Officers through the District Magistrate. There is, however, no system for reporting on the progress of the district plans. Even in the block plans, systematic progress analysis is done only in respect of agricultural items. The Bureau of Economics and Statistics is not involved either in progress reporting from the districts or its analysis at headquarters. A mid-term appraisal of the Third Plan was undertaken by the Planning Department in co-operation with other departments.

In Orissa, the Block Development Officers send monthly progress reports in the prescribed form to the district headquarters, which are reviewed by an Administrative Committee of officials and the Zila Parishad. Collectors send reports to the Divisional Commissioner as well as to the Government. An annual review of progress of Plan schemes in panchayati raj sector is

made at the district level in a conference of the Development Commissioner with the heads of departments and the Additional Development Commissioner. At the State level the Planning and Co-ordination Department reviews the quarterly progress reports on physical performances and the monthly reports on expenditure. The monthly reports on expenditure also go to the Finance Department, and the State Cabinet is apprised of the financial position. A mid-term appraisal of the Third Plan was made in Orissa.

In Andhra Pradesh, there are at present 39 heads of departments for implementing various schemes included in the Plan. Plan units were established in major Departments such as Agriculture, Irrigation and Industries, for attending to the regular processing of plan progress data. In the Departments where there are no planning units, a part of the existing staff does the planning work. The reports received from various officers are scrutinised and consolidated in these units. Heads of Departments are required to report the expenditure on all plan schemes by the tenth of every month to the Bureau of Economics and Statistics which forwards the reviews to Government for approval by the 20th of every month.

A Planning Cell was established in the Bureau of Economics and Statistics in July 1957 to collect information and assess the progress of plan schemes periodically and to prepare various reports on plan schemes on a monthly, quarterly and annual basis. With the setting up of a separate Planning Department in September 1963, the Planning Cell was abolished.

The Planning Department scrutinises and analyses the data for consideration at the bi-annual meetings of the General Co-ordination Committee of Secretaries. The processed data and reviews are also sent to Government of India and the Heads of Departments and are considered at the meetings of the Departmental Co-ordination Committee concerned normally held once in two months. Six Co-ordination Committees have been set up for allied Departments. Since 1963, these committees also review the progress of the centrally sponsored schemes.

In addition to the General and Departmental Co-ordination Committees, an Informational Consultative Committee for the Panchayati Raj Department functions on the lines of a similar committee constituted at the Centre. Andhra Pradesh constituted in October last Informal Consultative Committees for five more Departments, namely Food and Agriculture, Industries, Education, Health and Housing, and Public Works. These committees consist of legislators drawn from both the Houses of the State Legislature. These committees meet once in three months.

Besides these bodies, there is also a State Advisory Committee for Planning which generally meets twice a year and reviews among other things the progress of the Plan. This Committee is the chief consultative body to advise the Government on the broader questions of planning.

Reporting on expenditure is done by the State Finance Department to the various Ministries at the Centre through quarterly expenditure statements for claiming Central assistance. Reports from all the Heads of Departments implementing the Plan schemes are obtained by the Finance Department. In order to avoid confusion in figures on Plan schemes, the departments have been advised to furnish only three sets of figures of annual expenditure, namely, provisional, revised and final on April 30, June 30 and September 30, respectively.

Main difficulty in plan implementation is with securing financial sanction for approved works without delay and undertaking all sanctioned works with requisite speed. The detailed procedure of financial sanction and control of expenditure varies from State to State, but it has been felt both by the Centre and the State Governments that better results could be achieved if timely operations are undertaken so that advance intimation of budgetary allocations to the concerned offices is given in time at different levels. Andhra Pradesh has evolved a procedure by which after the annual State-Centre plan discussions are over in November-December every year, detailed proposals are obtained from the Heads of Departments and processed so that sanctions could be issued within a month after the Budget is passed by the Legislature.

Material for progress reporting at the district and lower levels is inadequate. One of the means of reviewing Plan progress at the district and sub-divisional levels is the co-ordination meetings. Instructions were issued by the State Government to the Collectors to make the co-ordination meetings more meaningful by having detailed discussion with each B.D.O.

Since 1963, the preparation of the draft annual review for a district has become the responsibility of the District Statistical Officer. After completion of the review it is sent by him to the Secretary, Zila Parishad, who places it before the appropriate Standing Committee of the Zila Parishad for consideration in consultation with the District Officers concerned.

The Planning Commission has stated in the mid-term appraisal of the Third Plan that while arrangements for reporting in each State had improved, those relating to the reporting as between States and the Centre were not yet quite satisfactory. While various implementing departments have evolved their own arrangements in the light of their requirements for progress reporting, it has been recognised that no attempt has yet been made adequately to introduce a "Plan orientation" in the types of data reported and their processing at different levels. Only in respect of community development has progress reporting been systematised. It is also commonly agreed that there is need to rationalise and co-ordinate the reporting system in the districts and to analyse data at higher levels.

The Working Group on Evaluation felt that the Bureaux of Economics and Statistics in the States should be more closely

associated with the administrative intelligence set up for all sectors, and that the Planning Departments in the States should use the services of both the Bureau and the evaluation agency for quarterly and half-yearly reviews of progress and for the mid-term and other appraisals.

One way of improving the quality of reports and reviews and making them effective would be to improve the working

of the Bureaux of Economics and Statistics. The quality of staff in the Bureaux is not always uniformly good and in most cases they receive very little training in progress reporting. It may be possible for the Programme Administration Division of the Planning Commission to organise training courses for the staff of the Bureaux in the States with a view to making them participate intelligently in the reviewing process.

## Agricultural University

from Page 23

cation and channelisation of knowledge of agricultural techniques and skills to the lakhs of farmers in the villages.

This objective can be achieved by field demonstrations carried out by students in the agricultural farms attached to their respective institutions. Information about the results of agricultural research and of improved techniques and methods obtained in the extension and other research institutions should be disseminated through a series of publications written in simple non-technical language for the benefit of the farmers. The services of the graduates of the university, who would have received training in extension methods, can be utilised for the propagation of new techniques and methods partly on their own farms which they can run as model farms, and partly by their being employed in suitable capacities in the agricultural, animal husbandry, panchayati raj and social welfare departments of the State.

By far the most important means by which the university can maximise its usefulness to the agricultural community is by utilising the services of the extension staff in the panchayati raj institutions in the State to popularise knowledge of new methods and techniques in agriculture. To enable them to maintain continuous rapport with the panchayati raj extension staff, brilliant agricultural graduates can be recruited to supervisory positions in zila parishads, from which vantage position they can co-ordinate extension work in the rural areas. Simultaneously, selected extension officers in the samitis can be deputed for orientation training in the extension wing of the university.

Promotion of agricultural research is another function of the university.

It can discharge its responsibility in this sphere effectively and successfully if the agricultural research stations and institutions located in different parts of the State are transferred to the control of or affiliated to the university. They should constitute its research wing. The transfer of research institutions to the university should be effected in a phased manner in the next few years.

On the tapis of the university's development programmes is the establishment of a college of agricultural engineering. Many problems of engineering significance are implicit in agricultural development as, for example, the manufacture of tractors and improved implements and equipment needed for diverse agricultural operations, soil conservation and soil testing. The college is expected to provide for specialised training in these subjects.

The pre-conditions for the successful implementation of the objectives of an agricultural university exist in Andhra Pradesh, with its predominantly agricultural economy and its fairly intelligent and forward-looking agricultural community. The benefits the university would confer on the State will depend on how these favourable pre-conditions are effectively utilised.

Having established the university, the Andhra Pradesh Government are professedly anxious to ensure its success so that it can play, as President Dr. Radhakrishnan said, "its vital role in bringing about a qualitative and quantitative increase in our agricultural production". The State Government have assured their full co-operation to the university authorities in furthering its objects and aims and a grant of Rs 1.5 crore has already been made by the Government to the university.

# The 50-P BIT

I HAD a counterfeit coin. Unfortunately, I had no idea where it came from. It was a 50-paise piece, but I wondered if it could fetch even eight paise in exchange. People now-a-days are very hard to please. They do not look towards the profitable side of bargains in general.

Where did I get stuck with it, anyway? I thought of the places I had visited the day before. I had done quite a bit of roaming about. On a conservative estimate, there were eleven places from where I could have got it. I decided to visit as many of these places as possible.

The first of these was a stationery store. I knew the shopkeeper, for he supplied our monthly needs. Now, I resolved to look cold, dignified and distant. I tried my best. He, however, did not seem to notice the change. Anyhow, I produced the coin and said in what I meant to be a casual tone, "I believe that, through carelessness, you passed this to me yesterday." It sounded like a prayer, for all my attempt, I stopped short as I saw the expression on his face, and added hastily—"that is, I think."

The man inspected it, and calmly returned it to me. "Sir", he said, "If I accepted coins like that," (unusual emphasis)—"I would have to start pulling up stakes. Between you and me, if you ever run short of money, nothing would please me better than to..." I felt that the discussion was taking a rather unforeseen turn and that the time to finish it had arrived. I said apologetically, "Of course, it could be that I acted

hastily. Perhaps I did not get it from you at all. Sorry to trouble you." "No trouble at all," he assured me. I came out of the shop in double-quick time. What a fool, I thought. Of all the people, what did make me pick on him?

Just around the corner was a little stall, and the old keeper was dozing. Ah, here was my man! The mind revolted at first: Cheating? Besides, he was a stranger to me. Why him? But the rational part triumphed over conscience: the fellows I met the day before—well, some of them were also unknown. It is the way of the world. Take or be taken. "Be taken" I had been. The first part had to be fulfilled.

So I strode confidently and bought a pack of chocolates. As I handed the coin, I tried desperately to act natural. But I felt almost sure he could hear my heart-beats.

But what he did, I had never dreamed of encountering. His senses did not enter the issue at all. "A moment, Sir." He then called a passer-by. "Excuse me, would you mind checking this? Can't see well, you see." The man, clearly, did not mind at all. He said almost triumphantly, "It's false." The old man seemed resigned as he declared, "This is what comes of trying to take a nap now-a-days. Our educated men, from colleges and schools, have peculiar way of paying. If a poor man had done it we would have taken him to the police." The situation was becoming awkward. "Counterfeit?" I said, "I hadn't noticed it." I even worked up some indignation. The stall-holder kept quiet, but his look said all that could be said in a civilised community. I produced another coin to settle matters quickly and walked away. I could almost feel the man's eyes on my shoulders.

To me it was now a challenge. The coin wasn't mine, and I must get rid of it. But who in his senses would take it? For a moment I felt like throwing it away. But no. It was sure to be found, and then some innocent fellows like myself might be cheated. Supposing it came right back to me!

I had done so much of worrying for the day that I had forgotten about a couple of things I had to

finish. I got busy about them, and they took up the whole of the rest of the day. It was late evening when I turned my weary feet homewards. It had been a long, hard day, and not a very good one. The look on the blind beggar's face sitting under the deserted street lamp also expressed the same sentiment. Unconsciously, I put my hand in my pocket and handed him a coin.

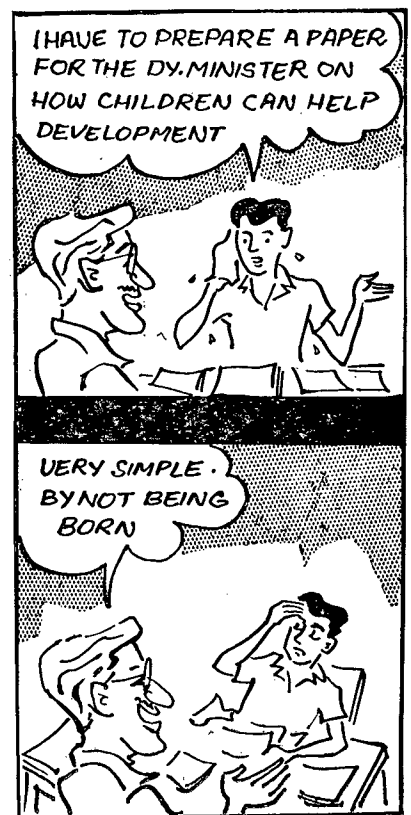
About twenty steps later, I stopped. The counterfeit coin! I searched for it, but it was missing. It was that coin I had given to the man. I looked back and was about to approach him, when something in his manner made me stop.

He, apparently, was counting the day's takings. He was anything but blind. I crept closer. Soon I found him taking a coin, inspect it briefly, and throw it down the gaping drain, muttering an unprintable name. It was doubtless my 50-paise piece.

ASHISH BISWAS

SHAMBU

by Malinda Topa



# WE YOU ASK US TELL YOU

*Questions from readers on planning and development will be answered on this page. It might be noted that the purpose of this service is to provide information. But we won't be able to entertain trade queries.*

## The Fight Against Corruption

**S.G. Parmar, Jhansi**

What are the steps taken by the Government to curb corruption rampant in the country?

**ANSWER:** The Union Home Minister recently stated that corruption in any sense was not more rampant in our country than elsewhere. However, we had to be more careful because we were struggling to emancipate the people from the sway of poverty and backwardness. We needed a high standard of integrity in our public services and among politicians to sustain people's morale and faith in democracy.

The steps taken by Government can be classified into three categories: administrative reforms, anti-corruption measures and the creation of a social climate of respect for moral values. The more important steps under the three categories are given below:

## Education of Workers

**P. S. Rajan, Guntur:**

What are the facilities available in our country for educating the industrial workers on their role, rights and responsibilities in the industrial growth of the country?

What is the system of such education?

**ANSWER:** A programme of industrial workers' education is being implemented for the past six years. A network of workers' education centres has been expanding throughout the country.

The scheme of workers' education has been formed on the recommendation of an international expert committee, appointed by the Government of India in co-operation with the Ford Foundation in 1957. Accordingly, a Central Board for Workers' Education, consisting of representatives of Government, employers, workers and educational institutions, was set up in 1958 to implement the scheme.

In the field of administration, delay is a potent instrument of the corrupt. A Committee on Administration of Secretaries to Government meets frequently to minimise delays and improve efficiency in administration. A Cabinet Committee is to be set up for reforming administration. Selected departments in the Central Government have set up teams to survey the organisational machinery and methods and procedures of their working.

Surveys of corruption in selected fields have been initiated. A survey of corruption in giving new water connections in Delhi has recently been completed. There was a Committee on Prevention of Corruption, whose recommendations submitted last year have mostly been accepted by the Government. The Government Servants Conduct Rules have been tightened. The

The Board has so far opened 62 regional centres and 36 sub-regional centres all over the country and two lakh workers have so far been trained, including 5,000 as worker-teachers. It is expected that by the end of the Fourth Plan a million workers will be trained.

The training programme has three stages. In the first stage, training is given to education-officers who are full time employees of the Board. In the second stage, the education officers are posted at the regional centres where they conduct training classes for selected workers, who in turn become teachers for the ordinary workers. In the third stage, the worker-teachers organise primary centres at the place of work to impart training to workers.

At each stage, the training period is three months. As a part of the training, the trainees go on short educational tours to visit important projects, factories and trade unions. The Board has prepared a large volume of literature in the various regional languages for the information of workers.

Discipline and Appeal Rules are being revised. An Anti-Corruption Laws (Amendment) Act has been passed to cover a wider range of offences. A Special Police Establishment was set up to keep watch on cases of corruption. The activities of the SPE have been greatly stepped up in recent years.

A Vigilance Commission has been instituted at the Centre, after which seven States have already established similar commissions and three more are following suit. Four other States have set up organisations on somewhat different lines. Also, an Economic Offences Bureau has been opened in the Central Bureau of Intelligence to deal exclusively with offences under customs, excise, drugs, gold control, etc.

To associate the people with the anti-corruption movement and to voice their grievances, a Sadachar Samiti of voluntary organisations has been formed. The Samiti has branches in a number of States. Its main function is to create a moral climate and promote ethical values.

The impact of these measures is gradually being felt. However, a more unified approach and concentrated action against corruption in coming months is being considered.

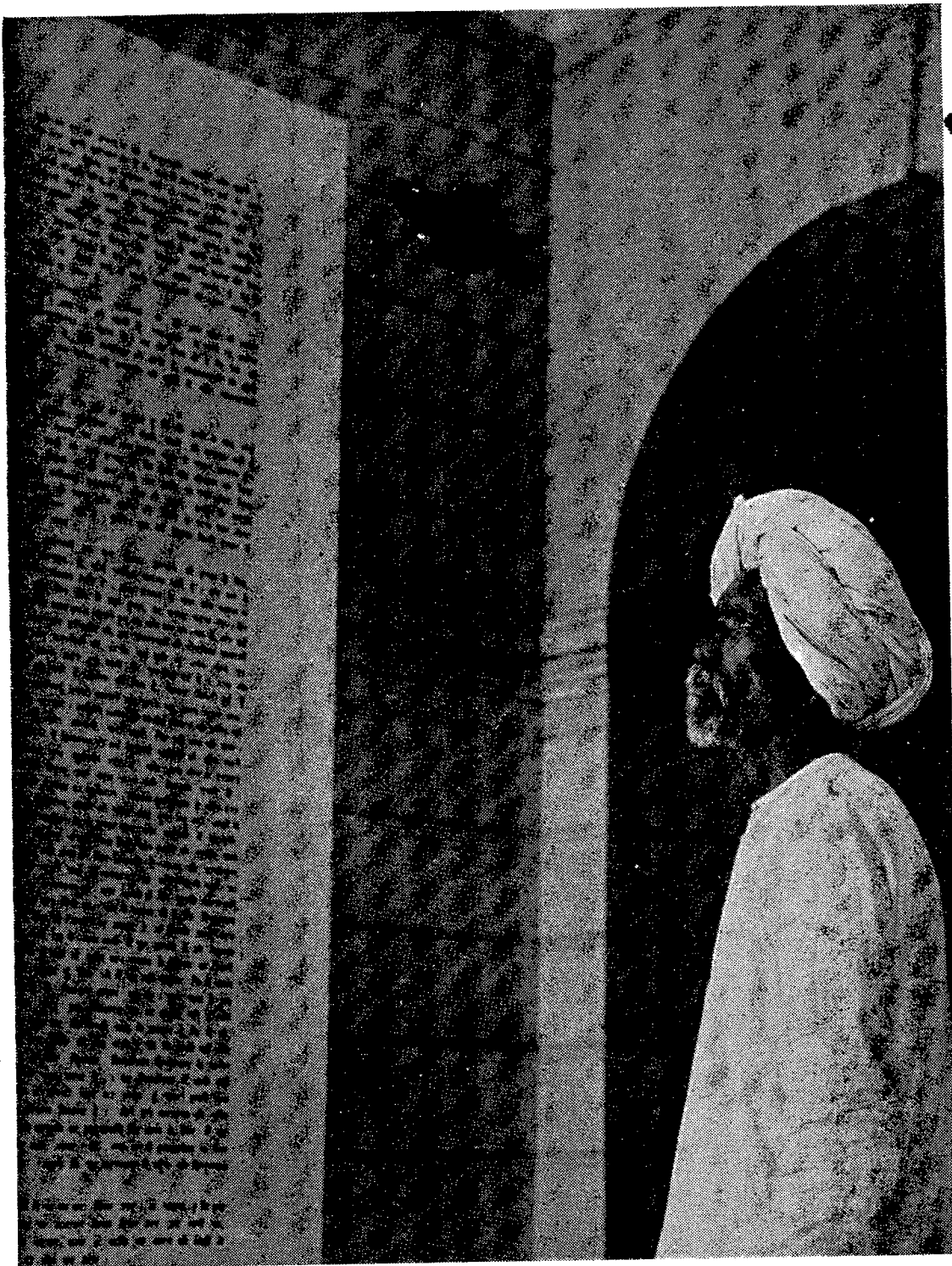
*(Continued from Page 22)*

probable and possible. If India were to import phosphate rock for fertiliser production here under the new crash programme, the enlargement of trade will be convenient. We may not be able to provide a market for cheap Algerian wines, but we can improve tobacco exports, as also those of sugar, especially if South African supplies are reduced for political reasons.

Succinct, stimulating and practical, the F.I.C.C.I. report proves that business men can see the trees more clearly than the wood. As developing countries whose experience may not vary greatly from India's own record, the new republics and the old monarchies may make good trading partners, if India can arrange for rupee payment.

# Words that have passed into history

A farmer from Pandharpur, Maharashtra, reading Jawaharlal Nehru's will and testament displayed in Teen Murti House, New Delhi



*"Many have been admired, some have been revered, but the affection of all classes of the Indian people has come to me in such abundant measure that I have been overwhelmed by it. I can only express the hope that in the remaining years I may live, I shall not be unworthy of my people and their affection."*