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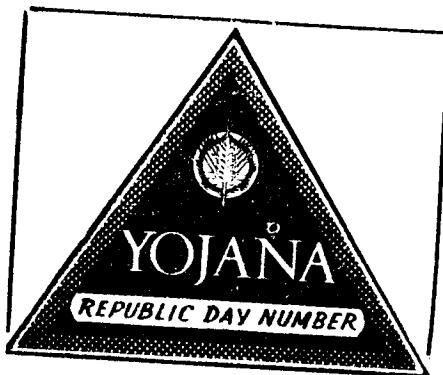
DELHI: MAGHA 6, 1881 TUESDAY, JANUARY 26, 1960

10 NAYE PAISE

V. KRISHNAMACHARI, ASOKA MEHTA, M. MUJEEB
SIAN NARAYAN, TARLOK SINGH, J. J. ANJARIA



Into The 'Sixties On Two Yds



JANUARY 1 this year was somewhat different from earlier New Year Days. It was a day of work and not an official day of rest. A good way of heralding the 'sixties. For if the peasant drove his team of oxen and the weaver wove that day, why should the administrator not administer?

Years and dates are of our making. As they say, men must have markers, beads on the rosary. And year's end and year's beginning are time for tally.

How did we fare in the year that went? What does the new year have in store for us? What the new decade?

Last year we grew more food-grains, more jute, more plantation crops. The food harvest, in fact, was a record. But prices have gone up and the volume of grain imports shows no sign of decrease. A foreign economist has gone to the extent of speaking of the "Defeat of Indian Agriculture".

It was a year also of remarkable industrial advance. It was the year of steel, with the three public sector mills going into production. It was also a year in which the inter-sector friction abated.

But to guard us from smugness, there were several warnings and pointers:

First, there were the hammer strokes outside our gates, although for the world at large, fortunately, the giant bellows of war were at rest.

Secondly, there was the big hole in the hill at Bhakra, and there were the floods in the Damodar Valley, reminding us that cement alone will not save us. In fact, the Bhakra mishap served as an occasion for moralists to tell us that "the bigger a man builds, the smaller his control over things he builds."

Thirdly, although agricultural and industrial output has risen,

and inflation kept under control, the economists warn us that our defences against further inflation are weakened.

Fourthly, at the same time as we were told that India could make the Bomb, if she would—and she won't, fortunately—we are helping the building of another bomb: the population bomb. Scientists of the standing of Sir Julian Huxley and Sir Charles Darwin declare that we are increasing in numbers faster than we are industrialising.

We said it is the time of the year for stock-taking. The Congress party, at its Bangalore session, has just totted up the country's credits and debits. It has rightly come to the decision that what we need today is performance more than new policy. We shall soon be entering the final year of the Second Plan, and at the same time determining the size and shape of the Third. There are tasks still to be fulfilled in the Second. As for the Third, it should ensure the country's "reaching the stage of change-over to self-generating economy".

We are still far from that stage. The Prime Minister, with his gift for using the apt phrase, has said we have just entered the bicycle age. From pedal-pushing it is a long way to pistons, "take-off" and air-travel. We have only this decade to do it. The 'seventies will be too late.

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To Our Readers

Owing to pressure on space we have been compelled to hold over several of the regular features of 'Yojana'.

'Shambu', the comic strip that was to have been started in this issue, will begin next fortnight.

Dr. S. R. Sen's article "Strategy of Agricultural Development" and Shri S. A. Krishnan's contribution "What is wrong with contemporary Indian Art?" will also be printed in our next issue which will be dated February 7, 1960.

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YOJANA

January 26, 1960

AGRICULTURAL PRODUCTION IN OUR FIVE YEAR PLANS

INCREASED agricultural production is crucial to the success of all large-scale plans of social and economic development. This has been the experience of countries which are now industrially advanced and is much more applicable in the case of underdeveloped countries like India. When the Second Five Year Plan was under preparation the Planning Commission placed before the country the target of doubling agricultural production in ten years. This is in consonance with the goal of doubling per capita national income by 1976. If the gap between urban and rural incomes is not to widen appreciably, rural per capita income must at least double itself by 1976. Also only then can there be a stable foundation for industrial development on the scale to which we are inevitably committed.

In this article I propose to answer two questions: (1) Is it possible for the country to attain the target which is aimed at, viz.,

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Deputy Chairman, Planning Commission

doubling per capita rural income by 1976? and (2) what are the measures that should be undertaken if this goal is to be reached?

There need be no doubt that the target we have placed before ourselves is attainable. As the report of the World Bank has said:

"Proper application of known techniques, in conjunction with the possible expansion of irrigation and the cultivated area, could increase India's agricultural output four or five-fold. By the time that has been achieved, new techniques will have been evolved and the way will be open for further progress."

The annexure to this article shows, in tabular form, the highest yields secured in crop competitions organised in States in the last few years. These yields are many times higher than the local averages. Where the average yields are high (Andhra in rice for example) they are about 6 times and where they are low (Orissa in rice) as high as 12 or 14. The same picture obtains in regard to wheat. In all States there are large numbers of cultivators whose yields in these tests are five to six times average yields. These figures show the vast scope for increase that exists. It is common experience that in every region of India there are cultivators who get on their farms yields at least as high as those on Government farms.

There is no reason to think that the agriculturist in India is conservative and reluctant to apply improved methods on his holdings. In 1892 the Government of India invited one of the best agricultural experts of the time, Dr. Voelcker, to report on agricultural improvements in India. After visiting most parts of country he wrote:

"At his best the Indian *raiyyat* or cultivator is quite as good as, and, in some respects, the superior of, the average British farmer, whilst at his worst it can only be said that this state is brought about largely by an absence of facilities for improvement which is probably unequalled in any other country, and that the *raiyyat* will struggle on patiently and uncomplainingly in the face of difficulties in a way that no one else would. It must be remembered that the natives of India were cultivators of wheat centuries before we in England were. It is not likely, therefore, that their practice should be capable of much improvement. What does, however, prevent them from growing crops is the limited facilities to which they have access, such as the supply of water and manure. The Native, though he may be slow in taking up an improvement, will not hesitate to adopt it if he is convinced that it constitutes a better plan, and one to his advantage."

These remarks are truer now than ever before. Once the agriculturists are given facilities for adopting scientific agriculture they take to it readily.

Four-Point Programme

The First and Second Five Year Plans have initiated a comprehensive programme of agricultural development. In future plans,



Harvest of 'bajra' in a co-operative farm near Dhanaura, U.P.

these will have to be expanded steadily so that by 1976 every family in the countryside will be enabled to make the best use of its holding by adopting scientific methods. The aim is to evolve a self-generating diversified agricultural economy by utilising land and water resources to the best advantage.

These programmes can be classified under the following heads:—

First, programmes for permanent improvements—irrigation, contour bunding, soil conservation, afforestation, etc.

Second, programmes of scientific agriculture—approved seeds, fertilisers, organic and green manures, improved techniques, better implements, etc.

Third, programmes for building up community assets with the help of the unutilised surplus man-power in the rural community.

Fourth, programmes for non-agricultural occupations in the rural sector—processing, cottage and small-scale industries, etc.

Importance of Irrigation

Under the first category, high priority is given to the provision of irrigation facilities through multipurpose, large and medium and minor irrigation projects. The estimated cost of the multipurpose, large and medium projects included in the First and Second Plans is Rs. 1,330 crore. When completed they will irrigate 38 million acres. This may be compared with the 26.5 million acres irrigated from such sources at the time of Partition. Few countries have undertaken a programme of this magnitude in a comparable period. It is estimated that before 1976 it would be possible to extend the area under irrigation from such sources to 105-110 million acres. The planning and execution of such projects should be so organised that at every stage the supplies available in the reservoirs are actually utilised in the fields with the least possible delay.

Coming to minor irrigation, it is estimated that an aggregate area of 90-100 million acres can be served by such works and that this target can be achieved at the latest by 1976. A rough estimate of the area under actual irrigation by 1976 would thus be about 200 million acres.

After allowing for the maximum irrigation facilities which can be provided, there would thus be left a large area—over 150

million acres—in which increased yields can be obtained through contour bunding, soil conservation and other dry farming techniques. These measures should be organised and carried out over the entire area by 1976. An important aspect of this is afforestation of catchment areas of rivers and plantations of useful timber trees.

Improved Techniques

Detailed programmes for rapid introduction of scientific techniques form an important part of the Second Five Year Plan. These will have to be continued and their scope enlarged so as to cover the entire area under cultivation. More fertiliser plants will have to be set up and alternative fuels like soft coke supplied so that cow-dung etc. be available for use as manure instead of being wasted as fuel. More attention should also be paid to agricultural implements, programmes for dealing effectively with plant diseases etc. should cover the country before the end of the Third Year Plan.

The establishment of subsidiary industries to provide income from non-agricultural occupations has not made sufficient progress hitherto. At present, intensive pilot schemes are in operation in 26 blocks to gain experience in the setting up of processing, cottage and small-scale industries in rural areas. The experience gained in these pilot schemes should be utilised for spreading the movement over as large an area as possible.

Third Plan Priorities

In what I have said above I have attempted to give a general indication of lines on which agricultural planning for rural sector should proceed if the target of doubling per capita rural income by 1976 is to be achieved. In the First Five Year Plan financial allocations amounting to Rs. 1,000 crore a year were made for rural development. In the Second Five Year Plan, the total over Rs. 220 crore a year. Funds allotted for credit (short and long term), rural electricity, rural factories, industries in rural areas, etc. have not been included. There is a need to include these in the Third and later Plans. The Government will have to be considered in the context of production targets in different regions. Culture have been worked out.

(Continued)

Agricultural Production In Our Five Year Plans

(Continued from page 3)

not be set out here. One point in regard to these may be stressed. In the Third Plan, emphasis will continue to be on the production of cereals. In the Fourth and Fifth Plans, emphasis will shift to protective foods; oilseeds; plantation products like coffee, tea and rubber; and raw materials for industries like long-staple cotton, jute.

The targets we have placed before ourselves may appear to be ambitious; but they are no more than what are needed for the economy as a whole, taking into consideration the increases in the population that will take place in the intervening years. These can be achieved successfully if two conditions are fulfilled. First, the administration must increase its efficiency in all directions. The planning for projects must be more thorough, aiming at concrete results at every stage for all expenditures incurred. Implementation must be prompt and procedures leading to delays avoided. The district administrations should organise a system of distribution by which supplies and services and credit will be available to the 70 million families in the countryside at the right time and place. Secondly, official and non-official leadership should work together at all levels and ensure that people everywhere take their share in the making of the Plans and feel that the Plans are theirs. It is only in this way that they will carry them out with a sense of proprietorship and make them successful. More than anything else, rural communities organised in small self-governing units—panchayats and co-operatives—should build up remunerative capital assets for the benefit of the community when intensive agricultural operations are not possible. Capital formation of this kind is one of the effective ways in which under-developed economies can achieve large-scale social and economic development through their own efforts.

I suggest that in the Third Five Year Plan, the country should aim at building up assets yielding an income of 500 crore of rupees a year. This would be about Rs. 50 a year for every member of the working force in rural India. The essence of democratic planning is that men and women working together for abolishing poverty achieve social cohesion and unity. Such efforts are invaluable especially at the present time when India is facing a difficult situation.

CROP COMPETITIONS AND STATES' YIELDS

STATE	Year	Highest yield per acre (lbs)	State Average yield per acre (lbs)	Ratio of yield to col. (4)
RICE				
Andhra Pradesh	1951-52	4,710	879	5.4
	1952-53	6,154	905	6.8
	1953-54	6,652	1,078	6.2
	1954-55	6,707	1,087	6.2
	1955-56	6,859	1,015	6.8
	1956-57	6,075	1,006	6.0
Assam	1951-52	5,677	809	7.0
	1952-53	5,924	874	6.8
	1953-54	5,533	870	6.4
Bihar	1951-52	5,269	454	11.6
	1952-53	6,527	577	11.3
	1953-54	6,721	707	9.5
	1955-56	5,759	613	9.4
Bombay	1951-52	5,802	550	10.5
	1952-53	10,861	645	16.8
	1953-54	9,325	817	11.4
	1954-55	8,864	822	10.8
	1955-56	8,776	786	11.2
	1956-57	8,399	812	10.3
Kerala	1951-52	4,550	807	5.6
	1952-53	4,634	740	6.3
	1953-54	5,266	923	5.7
	1954-55	6,308	986	6.4
	1955-56	7,021	1,025	6.8
Madhya Pradesh	1952-53	7,940	603	13.2
	1953-54	6,445	623	10.3
	1954-55	7,110	583	12.2
	1956-57	6,010	758	7.9
Madras	1951-52	8,047	899	9.0
	1952-53	7,504	891	8.4
	1953-54	5,471	1,122	4.9
	1954-55	5,404	1,149	4.7
	1955-56	5,869	1,209	4.9
	1956-57	6,167	1,255	4.9
Mysore	1951-52	7,546	943	8.0
	1952-53	5,844	895	6.5
	1953-54	7,460	1,032	7.2
	1954-55	6,939	951	7.3
	1955-56	8,228	1,187	6.9
Orissa	1951-52	6,925	506	13.7
	1952-53	7,336	520	14.1
	1953-54	5,348	527	10.1
	1954-55	5,924	513	11.5
Punjab	1951-52	4,374	717	6.1
	1952-53	4,169	852	4.9
	1953-54	5,513	885	6.2
	1954-55	5,482	825	6.6
	1955-56	4,505	698	6.5
Rajasthan	1952-53	3,648	570	6.4
	1953-54	3,899	1,060	3.7
U.P.	1951-52	4,534	396	11.5
	1952-53	3,166	469	6.8
	1953-54	3,175	558	5.7
	1954-55	3,984	531	7.5
	1955-56	4,307	614	7.0
	1956-57	5,194	537	9.7
WHEAT				
W. Bengal	1952-53	4,937	861	5.7
	1953-54	8,857	1,099	8.1
	1954-55	6,714	865	7.8
	1955-56	4,778	920	5.2
Himachal Pradesh	1951-52	3,017	432	7.0
	1952-53	3,191	448	7.1
Manipur	1953-54	3,239	840	3.9
	1955-56	3,746	1,181	3.2
Tripura	1951-52	2,349	788	3.0
	1952-53	2,328	761	3.1
	1953-54	3,072	779	3.9
	1954-55	3,332	815	4.1
WHEAT				
Andhra Pradesh	1951-52	2,412	284	8.5
Bihar	1951-52	3,768	377	10.0
	1952-53	6,015	553	10.9
	1953-54	5,636	566	9.9
	1955-56	5,356	545	9.8
Bombay	1951-52	4,880	412	11.8
	1952-53	2,884	396	7.3
	1954-55	4,944	497	9.9
	1955-56	5,500	461	11.9
	1956-57	4,985	377	13.2
Madhya Pradesh	1951-52	4,462	349	12.8
	1952-53	7,257	475	15.3
	1953-54	5,317	484	11.0
	1954-55	4,408	556	7.9
Orissa	1952-53	2,404	560	4.3
	1953-54	4,326	560	7.7
	1954-55	1,944	517	9.6
Punjab	1951-52	6,252	896	7.0
	1952-53	6,372	987	6.5
	1953-54	5,933	949	6.3
	1954-55	6,882	982	7.0
	1955-56	6,425	830	7.7
	1956-57	3,733	921	4.1
Rajasthan	1951-52	4,330	589	7.4
	1952-53	6,374	962	6.6
U.P.	1951-52	4,460	683	6.5
	1952-53	5,053	758	6.7
	1953-54	3,591	754	4.8
	1954-55	4,031	791	5.1
	1955-56	4,120	684	6.0
	1956-57	4,116	699	5.9
W. Bengal	1951-52	4,639	687	6.8
	1952-53	3,832	727	5.3
	1953-54	4,268	635	6.7
	1954-55	4,211	686	6.1
	1955-56	4,730	609	7.8
Delhi	1952-53	5,134	1,022	5.0
Himachal Pradesh	1952-53	4,429	297	14.9

* Years in which no competitions were held are omitted.



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Emotional Integration Of Indian People

Re-reading Of History Can Solve Tensions

THE more we study our problems the more we shall find that there is nothing exceptional about them and the wisest course for us would be to learn from the experience of the other countries and from general human experience. Every country has had to face and to solve the problem of unification, and there would be very few countries today which can regard this problem as having been solved for all time. In almost all countries a certain degree of force has been

Prof. M. MUJEEB

VICE-CHANCELLOR, JAMIA MILLIA

used and unity has been the end-product of a process of conflict. It is equally true that in all countries the creation of national unity has brought about benefits otherwise unattainable, and the roots of loyalty have thus been fixed not only in history and religion and culture, but in self-interest and common benefit. The third principle which can be regarded as an axiom is that the degree of unity or national integration is measurable only in times of danger, just as the walls of a fort are tested for strength by attacks from the enemy.

How do we stand in India today? One great source of conflict has apparently been settled by the partition of the country. Partition was a political measure and was a course adopted in an emergency. We have accepted it as a decision for all time. But evidence since then has revealed other tendencies working against complete integration, remedies for which have yet to be found.

We are used to saying that the Indian people have many religions and many cultures and culture groups, that they have many languages, many styles of art and architecture, of food and clothing and living. Because we can, if we like, suppose that there is no evidence to the contrary, we assume that freedom has transformed this diversity in some mysterious fashion into a unity. How true is this assumption?

We have a national Government with a national policy in foreign affairs, defence, communications and transport, currency and finance. At the moment there is a party in power in the Centre which is also in power in the States. In spite of this it is a matter of common knowledge that the Centre and the States do not always pull together as they should. There is nothing wrong or dangerous about this at the moment.

But if the pattern of party formation changes, matters which are questions of constitutional procedure now may become sources of friction. We have at the helm of affairs today a personality so definitely outstanding, so popular and so wise that we can mistake his wisdom for our national good sense. If, later, the wisdom of national policies is called into question, differences are likely to be sharp.

LINGUISTIC CULTURES

The Congress has been forced to implement a decision taken when it was building up a strong opposition to the British Government of India about the division of the country on a linguistic basis. The States have been reorganised on this basis and the reorganisation is a fact which must be loyally accepted. But the process of reorganisation brought to the fore certain prejudices and certain mistaken ways of thinking which we cannot assume have been eradicated. In any case it would be safer to assume that the formation of States on a linguistic basis is the result not of administrative advantages but of certain fears and prejudices. In fact, to an Indian citizen the boundaries of a particular State in which he happens to live should be of no concern at all.

Linguistic States are sure to be homogeneous units. Their populations will be culturally more integrated than the populations of States formed on the basis of geographical advantage or administrative convenience. But the linguistic State will also tend to become a cultural group and its cultural distinctiveness will be reinforced by its political and constitutional individuality. We have now to see what effect this will have on the formation of political parties in the Centre and what the after-effects of disagreements between the Centre and particular States on different types of issues will be.

Partition has scattered a large part of the population of north India in the different States. National policies, such as recruitment to the Central Services, will continue as before to throw people from different States together. Education will inevitably help to make the young citizens of the country conscious of their duties and privileges as Indian citizens. What is needed now is a deliberate and concerted effort at understanding the nature and the strength of the forces which divide the people and devising remedies in anticipation of difficulties that might occur decades or generations later.

THE RIGHT TO DIFFER

We have to a large extent accepted the right to differ, and the right of all cultural and social groups to the fullest opportunity to develop and enlarge their life. There is still, however, evidence that this has been done grudgingly. Language is still an issue. There was fear in Bengal and the South that Hindi would be imposed to the detriment of the regional language. This fear has been allayed, but conflicts such as that in the Punjab between interested groups advocating one language or the other can still become a disturbing element. The Urdu-speaking people have still no assurance that their language will get all the rights provided for the individual languages under the Constitution. Like the ideal of a national language, the ideal of a secular state, in spite of its rational appeal, has not been adopted with enthusiasm. And those with a suspi-

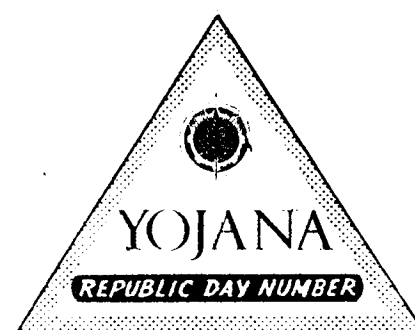
cious turn of mind feel that the State is not as secular as it ought to be. If we are reasonable, we will understand that the national language and a secular national culture will take time to grow and become a source of unity and integration.

UNDERSTANDING HISTORY

If I were asked to give one basic reason for the tensions which are even now found to exist, I would say that they are due to our not having interpreted our history so as to make it a means of understanding and solving our problems of today. We still think of our history in terms of population groups and culture groups, of unresolved conflicts over causes whose nature has not been objectively analysed. To quote an extreme case, we have not been able to explain and understand the conflict between Akbar and Rana Pratap and Shivaji and Aurangzeb. Whether we like it or not, such conflicts represent test cases, and so long as they continue unresolved, our emotional integration will remain an unrealised ideal.

This is not the place to consider all the aspects of the two instances of conflict which have been given. One aspect, however, which is applicable to all time and circumstances would be covered in our answer to the question: How could the parties to these conflicts have worked for mutual benefit? Not only our historians and, not only students of history, but all Indians must think out an answer to this question. They must discover the reasons, both circumstantial and sentimental, for proving and believing that both parties were in the right and both were in the wrong, that to take sides in these conflicts, however old and irrelevant they may seem today, is to perpetuate the conflicts and to involve ourselves in them emotionally. We must ask ourselves today what each of us is doing in his personal capacity, as the member of a culture group, and as the resident of a city and State to make it worth while for the rest of his fellow-citizens to believe in Indian unity and to give it a stable form. For even the best among us are inclined or forced to adjust their relationships in terms of different forms of benefit. They give to those from whom they expect a return. In commercial transactions, the give-and-take is a short, limited process. We call it a bargain. In political and moral relationships, the give-and-take is a long-term process and takes a thousand different forms. In our country this process has begun. Let us hasten it by thinking in terms of what we can give. Let us hope that whatever we give will be returned a thousand-fold to future generations for whom both the giving and the taking will be a joy and a fulfilment.

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OUR COVER: The cow-dust hour, traditional symbol of prosperity

ENTREPRENEURSHIP FOR THE PLANS

Light Engineering Industry Is Hopeful Pointer

INDIA has accepted an economy where both the public and the private sectors function and expand. In both the sectors, though in different ways, the key role is played by the innovating entrepreneurs. The management of industries demands fostering of certain talents and garnering of certain experience. They are needed for competent performance in either of the two sectors.

Is there any industry where persons from varied backgrounds can enter easily and have possibilities of acquainting themselves with entrepreneurship? Such an industry, if it exists, would help an under developed country to overcome a key limiting factor, the acute shortage of entrepreneurs. In case such an industry can be located, has it the prospect of rapid expansion so that it can function as a nursery of entrepreneurship and enable persons to earn their initial spurs and then move on to other industrial fields?

The Madras Survey

It is not easy to answer these questions because information is scanty. Fortunately a detailed study made by Father Berna and a technical paper prepared by the Planning Commission help to illumine our understanding.

Father Berna has investigated light engineering medium-scale enterprises in Madras State. Of the fifty nine such establishments in the State, employing between 50 and 250 workmen, 52 have been studied. Of them 41 are engaged in producer-goods industries and

11 in consumer-goods industries. Between them they extend to fourteen different branches of production.

The entrepreneurs encountered form a very varied group in terms of both economic and social background. Men of trading background constitute the largest single occupational group, 26.8 per cent of all firms having been established by men of that category. The second largest group—23 per cent—consists of graduates of engineering colleges. Six firms were established by former factory workers, five by rural artisans, four by cultivators, four by men already established in some other line of manufacture, and six by entrepreneurs of various backgrounds, such as white-collar workers, former teachers, and others.

In social terms, 21 firms were established by Naidus, 12 by Brahmans, 8 by Chettiars, 3 by Naicks

Industry group in the State of Madras:

Entrepreneurial Category	Agricultural Machinery	Structurals	Textile Machinery	Electricals	Miscellaneous Producer Goods	Consumer Goods
(Number of Enterprises)						
Rural Artisans	3	2	—	—	—	—
Domestic Merchants and Importers	3	1	1	2	3	5
Former factory workmen	3	1	—	—	2	—
Engineers	3	2	2	2	2	1
Manufacturers	2	—	—	—	—	2
Miscellaneous	2	2	—	2	2	2

The backgrounds that provide the most varied entries are those of trade and engineering. There is little tendency for entrepreneurs of similar background to enter particular industries, except for rural artisans, who have con-

450 crore. The following alternative schemes emerge:

Industry Group	A	B	C	D
in percentages				
Food, Tobacco & Allied Products	26	28	8	4
Leather & Rubber	4	4	3	2
Chemicals	3	4	7	9
Engineering & Metallurgical Products	11	19	41	58
Glass & Mineral Products	3	5	11	13
Others	53	40	30	14
All Groups	100	100	100	100

ASOKA MEHTA, M.P.

ers, 2 by Christians, one each by a Gounder, an Asari and a Muslim. Two others are by a Punjabi and one is by a Gujarati.

It is evident that entry into the industry is open to persons of very different social standing and economic position. The studies of origins of entrepreneurship in the early period of industrialisation carried out in other countries confirm this pattern of entrepreneurship. The following table shows distribution of entrepreneurs by

regated in the agricultural machinery and structural industries, and merchants, one third of whom have entered consumer goods industries.

Four Factors

Father Berna offers four reasons for the very democratic aspects of entry into the engineering field: (1) It is possible for an entrepreneur to enter an engineering industry on a very small scale. Of the 42 units, 34 employed fewer than 25 workers during their first year of operation, and 23 fewer than 15 workers. In terms of initial capital, only six of the 22 firms began with Rs. 1,00,000 or more; eleven with capital of Rs. 50,000 to Rs. 99,999; twelve with Rs. 25,000 to Rs. 49,999; and at least thirteen with less than Rs. 25,000. (2) Growth of small engineering workshops can take place gradually and by small increments. Machines such as lathes, drills, planing machines and similar equipment can be added one by one as capital becomes available out of earnings, or from small borrowings from relatives and friends. (3) Possession or lack of technical knowledge of engineering has no decisive significance. (4) It is an industry in which one can learn while producing. Of course once buyers become quality-conscious this advantage may not survive.

It would be useful to have similar studies prepared for the Punjab and Bombay. We can then reach firmer conclusions on the democratic pattern of entrepreneurship in the light engineering industry.

Future Pattern

In a technical paper prepared by the Perspective Planning Division of the Planning Commission, an assessment of patterns of small-scale industries in the Third Plan on the assumption of absorbing a million persons in them has been offered. The total investment involved works up to Rs.

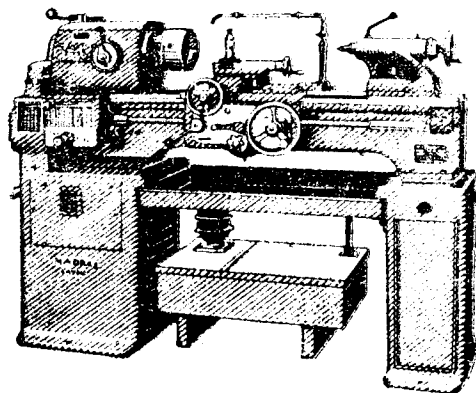
A and B schemes are on the basis of the existing occupational patterns—they assume development of small-scale industries on the prevailing pattern during the Third Plan—while the C and D schemes imply a development of small-scale industries more or less on the development of large-scale industries in the next Plan.



In a bicycle factory

As it is likely that we shall opt for small-scale industries clustering round and fully benefiting from the expansion of large-scale industries, the commanding position of light engineering industries, becomes obvious. In the new perspective that opens up, such industries will have growing weight in our economy. It is a matter of deep satisfaction that such fast-expanding industries are themselves "threshold" industries that can help to recruit from different social and economic groups entrepreneurs. Such an expanding nursery will foster many seedlings and ought to impart optimism to the country.

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OUTLINE OF THIRD FIVE YEAR PLAN *Resources And Priorities*

THE Planning Commission has repeatedly made it clear that mobilisation of domestic resources for preparing a Plan of big size would be dependent on the fulfilment of three essential conditions. First, it must be the firm policy of the Government to stabilise the prices of essential commodities, particularly foodgrains. In order to achieve this objective, there must be a substantial increase in agricultural production with a policy of ensuring a fair and remunerative price to the producer. In this context, the policy of State trading in foodgrains at the wholesale level must be pursued in a systematic and thorough manner. The ultimate pattern of State trading could be achieved only through an organisation of efficient producers' and marketing co-operatives on the one hand and the consumers' co-operatives on the other.

The second essential condition for the mobilisation of substantial resources for the Third Plan is the tightening up of the administrative machinery for the collection of the existing taxes. There is no doubt that at present there is considerable evasion and avoidance of the current direct and indirect taxes. We can create a proper climate for the imposition of further taxation on the people only if they feel a sense of confidence that the Government is doing everything in its power to plug various loopholes in the existing structure of taxation.

Thirdly, it would be essential to streamline the administrative system in order visibly to improve its integrity and efficiency. There is considerable room for effecting economies in our administration, particularly in the sphere of constructional activities. Further expansion of staff in different Ministries and State Departments has also to be restricted effectively. The people must feel confident that every pie that they pay to the Government through taxation and borrowings is properly spent for their welfare and development.

If we succeed in fulfilling these three essential conditions of (a) stabilisation of the prices of essential goods; (b) minimising tax evasion and avoidance; and (c) streamlining the administrative machinery, I have no doubt that it would be feasible for us to have a big Third Five Year Plan in accordance with our economic needs and requirements.

Top Priority for Farming

As regards priorities for the Third Plan, all the preliminary thinking done so far in the Planning Commission leads to the conclusion that Food and Agriculture must be given the top-most priority in our pattern of investment. Henceforward, the Community Development movement would devote almost its whole attention in increasing agricultural production in the country through the proper organisation of village institutions like the Panchayats and the co-

operatives. Even the industrial development of our country would be largely dependent on our capacity to achieve substantial progress in the sphere of agriculture.

Next to food and agriculture, the exploration and exploitation

of these basic objectives.

Lastly, the Third Plan will pay special attention to the removal of disparities between the rural and the urban areas, between one region and another and between the richer and poorer sections. Expansion of educational and medical facilities during the

SHRIMAN NARAYAN

MEMBER, PLANNING COMMISSION

of oil in different parts of the country would receive a very high priority in the Third Five-Year Plan. At present, India has to import a large quantity of oil at high costs. In order to establish a self-generating and self-sustaining national economy, it is of utmost importance that we should be able to produce crude oil to the extent of 12 to 15 million tons within the country by the end of the Third Plan period.

In addition to oil exploration and exploitation, the Third Plan will provide for the establishment of a few heavy and basic industries particularly for the manufacture of machinery and for the generation of power.

Fuller Employment

Provision for fuller employment to the people both in the rural and the urban areas will also receive a high priority in the Third Plan. This would be possible both by the intensification of agriculture and by spreading a network of a very large number of small industries in the countryside. The Planning Commission is preparing a detailed scheme of 14 pilot projects, one in each State, for increasing agricultural production through the timely supply of credit, seeds, fertilisers and implements and for providing fuller employment to the people through various productive projects, particularly during the slack seasons. Each project will cover one whole district in each State. The Planning Commission and the Ministry of Food and Agriculture will soon be able to finalise the broad outline of these pilot projects so that the State Governments could commence work on them by the end of the year.

Basic Amenities

In order to generate the necessary enthusiasm among the people for economic planning, the Planning Commission is preparing a detailed programme of providing certain minimum and basic amenities to all sections of the population by the end of the Third Plan. These basic amenities would be: (a) provision of drinking water; (b) provision for free and compulsory elementary education to all children of the age group 6-11; and (c) construction of an approach road connecting every village with the nearest marketing centre, the main road or a neighbouring railway station. Adequate financial provision will be made in the Third Plan for the achievement

of electric power, and it is estimated that at least 26,000 more villages will be covered by electricity by 1966. While sanctioning schemes for new industries, both small-scale and large-scale, the need for developing backward regions of the country will be specially kept in view, so that we are able to achieve a more balanced regional planning in India. The Planning Commission has suggested that there should be no further expansion of industries in large cities like Bombay, Calcutta, Madras, Delhi, Kanpur and Ahmedabad. Instead, both private and public sectors should be encouraged to establish industries in the interior by giving them necessary facilities for power and communications.

In order to reduce the existing disparities between the richer and the poorer sections, the Third Plan will provide for special schemes for the amelioration of the economic condition of the backward sections of the population, particularly the slum-dwellers and the scavengers in the cities and the landless labour and Harijans in the countryside.

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Problems Of Planning

Need To Ensure 'Break-Through'

ALTHOUGH we in India will soon be completing the Second Five Year Plan, we are still only on the threshold of development. The First Five Year Plan was mainly preparatory in character. Its goals were related more to the immediate requirements and possibilities of the economy than to the long-term perspective which was outlined in the report of the Planning Commission. The Second Plan was conceived as a major step towards industrialisation; it called for resources, both financial and organisational, on a large scale. It ran into difficulties not long after its commencement, and the question is being asked whether the objectives and the priorities chosen were sound. These issues are coming into the forefront at the present time when the Third Plan is on the anvil.

Developmental planning involves co-ordinated action at various points in the system, and it involves necessarily some adjustment in the balance of social forces within the system. It is for this reason that developmental planning has inevitably a social philosophy besides an economic strategy. For democratic planning to succeed it is essential that both these are accepted by all sections of the community. If it is to take root and gather strength, it has to be backed by much more than passive or partial readiness to go along.

I cannot here attempt a satisfactory statement of the social philosophy or the economic strategy behind India's plans. The old Indian philosophers tried to expound the nature of reality in terms of "Not that, not that," and although that device too has its limitations, one could say that India's plans do not aim at creating any set pattern, capitalist, communist or other. The socialist pattern which is described as the objective of our plans is not a rigid or clear-cut pattern. It implies rather special stress on certain values like reduction in inequalities, wide diffusion of economic power and the organisation of local resources, especially the skills and capabilities of the small man, on a co-operative basis in certain fields, but these are not a unique feature of any particular pattern of economic organisation. India's plans do not seek to build a system resting solely on private enterprise, but private enterprise has an important part to play in initiating and carrying through the process of development. Nor is the State to be the ultimate owner and dispenser of the means of production. The objective is not to evolve a monolithic system with all economic initiative or power concentrated in the State, but to utilise the State as a principal agency for promoting rapid and balanced development.

THE WILL TO PROGRESS

I need hardly go through all the usual indices to bring out the fact that the Indian economy has begun to respond well to the expansionary stimuli of the plans. National income has risen at an average rate of 3½ per cent the index of national income (1948-49=100) at constant prices being estimated at 134 for 1958-59. The rise in 1958-59 was as much as 6.8 per cent—a fact which ought to warm up those who were inclined to draw pessimistic conclusions from the previous year's figures. The rise in agricultural production since 1950-51 has been of the

order of 30 per cent, in industrial production, more than 50 per cent. More important than these, the production potential of the economy has been greatly added to. A number of new industries have come up and, if power can be made sufficiently available, there will certainly be rapid progress in this direction in the coming years. Facilities for education and technical training are being rapidly expanded; so are medical and health facilities. A new class of medium and small entrepreneurs is coming up, and some of the trading classes in society are turning to industry as their mainstay. Above all the will to progress is discernible all over the country,

expansion of employment opportunities than by way of increases in the incomes of those already employed. All this is not to suggest that rising prices are no evil, or that the utmost vigilance in this regard is not called for. But stability of prices is no more than an element in economic management; it is not the sole criterion of its soundness.

STRAINS AND STRESSES

As against the achievements mentioned above must be reckoned the stresses and strains the economy has gone through. Firstly, although the inflationary pressures have, by and large, been held

and it is not the proverbial conservatism of the farmer, or the reluctance of the small industrialist or handicraftsman to adopt improved methods that stands in the way of quicker advance, but the inability of the economy to find a sufficient surplus for investment.

PERSPECTIVE ON INFLATION

It should be also noted that the big step-up in investment that has been achieved has not been accompanied by serious inflationary pressures. The index of wholesale prices is now 20 per cent higher than in 1952-53; so is the cost of living. However much one might regret this, especially for those whose incomes are fixed, it is essential to see this problem in some perspective. A plan of development aims, necessarily, at pushing the rate of investment above what it otherwise would be. It must, therefore, press on the resources available for consumption. The rise that has occurred in prices and cost of living is by no means larger than in other countries. The decline in the internal purchasing power of the rupee between 1948 and 1953 has been estimated at 1.7 per cent per annum on an average. In the same period, the U.S. dollar depreciated by 1.8 per cent per annum; the British pound by 4.3 per cent; the French franc by 6.3 per cent; the German mark by 1.7 per cent. This is not to say that all is well with our plans and policies. But there is warrant for going ahead cautiously and with confidence. It is, I think, a mistake merely to compare the real purchasing power of a given volume of income without asking whether the latter has gone up too. National income has increased in real terms, and while this overall average may be poor comfort to those who have not gained either in terms of employment for the younger members of the family or of higher incomes for those already in employment, it is possible to be misled as to the degree of hardship caused if one goes merely by price indices. It is, I suggest, rather in the nature of the development process that the poorer sections of the community stand to gain more from the

well in check, the defences against future inflation are today considerably weaker than they were a few years ago. For one thing, people have become inflation-conscious, and there is increasing resistance to price rises, witness for example, the increases in wages in various industries and the increases in salaries in the public sector that have been found unavoidable. Secondly—and this is partly an extension of the same line of reasoning—the foreign exchange reserves at the disposal of the country have been seriously depleted, and there are, in fact, sizeable external obligations to be met in the Third Plan period. Thirdly, despite the large outlays on irrigation, community projects and other items of agricultural improvement, the response of agricultural production has been below requirements. And, fourthly, there is a growing feeling—whether warranted or not—among considerable sections of the community that the limits of taxation have been reached, and that there is not much to hope for from this source for financing the Third Plan.

The implementation of the Second Plan involved difficulties both in regard to internal and external resources. Does it not follow, it is asked, that the Third Plan should avoid the mistakes of the Second and pitch its ambitions well within the limits of available resources?

ASSESSING SECOND PLAN

The basic objectives and priorities of the Second Plan were right and sound. Could the same be said about the scheme of raising resources? This is a question that does not admit of a categorical answer. For the outlay of Rs. 4,800 crore in the public sector, the Plan envisaged deficit financing of Rs. 1,200 crore and had still an uncovered gap of Rs. 400 crore. The scheme was not satisfactory as was stressed in the Plan report itself. That the tax target was too low was evident in the first year of the Plan, and the five-year yield of additional taxes imposed by the Centre and the States is expected to be over 900 crore. Even so, and despite the larger external assistance than was originally estimated, the resources available for the public sector have been short.

The major difficulty was undoubtedly the foreign exchange gap. The drawing down of sterling balances in the very first year of the Plan was Rs. 221 crore, and in 1957-58 it rose to 260 crore. By September 1959 the decline in these balances had added up to Rs. 567 crore. It is evident that the foreign exchange requirements of the Second Plan had been seriously underestimated, and the phasing of imports by the private sector was not properly planned.

It must be emphasised, however, that given the size and structure of the Plan, there was much to be said for as early a start as possible with the major foreign exchange consuming projects, and the emergence of acute foreign exchange difficulties in the earlier part of the Plan is not something we need regret, considering that the projects would, but for this, have been correspondingly delayed.

THIRD PLAN FACTORS

The Third Plan should provide for a significant step-up in investment. The rate of population growth has gone up and this means that the investment required even to maintain per capita incomes will be larger. Secondly there is a large back-log of unemployment and under-employment which should be reduced to the extent possible. Thirdly the greater the acceleration of investment and incomes in the Third Plan, the easier will it be in the succeeding plans to raise the resources required for further development. On these considerations the estimate of Rs. 9,900 crore of investment for the Third Plan given in the Second Plan report is if anything on the low side.

But, of course, a plan can be only as big as the resources that can be found for it, and there is need for the boldest possible effort in this respect on every relevant consideration. The amount of resources that can be drawn upon is not independent of the rate at which the resources are growing and since the first hurdles are always the most difficult to cross, a country which is still in the early stages of developmental planning should think in terms of a scale of effort that will achieve the breakthrough. Too little developmental effort is no less likely to fail than too much of such effort. I should add, however, that resources available for investment grow only as various projects get completed and come effectively into production. A plan which is excessively weighted with long-maturing schemes does not, during this period, create resources which could be utilised either for consumption or for further investment. The bigger the plan, in other words, the greater has to be the balance in the pattern of investments.

In a country like India where the bulk of the new purchasing power gets spent on food, the elasticity of supply of food is the major determinant in the pace of progress. If this section lags behind, the calculations both of internal and external resources available for the plan cannot but go wrong. What is needed therefore is an increase in agricultural productivity as a whole. This is the major balance that must be assured, and the resources for planning depend primarily on the success that can be achieved in this field.

A comprehensive development programme cannot be financed without calling for sacrifices from all sections of the people. There is, from this point of view, a case for a further increase in the coverage of taxation. Direct taxation of the agricultural sector seems a hardship if one assumes that incomes in that sector do not go up significantly. If the expectation that in the Third Plan agricultural output will increase substantially materialises, there is no reason why a portion of these increases should not be drawn back into the public fisc. Direct taxation in the urban sector might bear some selective and marginal increases, but the bulk of the additional tax resources for the Third Plan will have to come from increases in indirect taxation. The proportion of total tax revenue to national income went up from about 6.6 per cent in 1950-51 to about 8.3 per cent in 1958-59, the bulk of this increase being accounted for by imposition of new taxes and increases in existing taxes. On

(Continued on page 28)

Agriculture And Industry In National Development

ON the eve of every Five Year Plan it is natural for different schools to join battle over the issue of resources and priority for agriculture and industry. Those who press these relative claims are themselves the first to agree that agriculture and industry are inter-dependent and neither can go far without the support of the other. If this be so, it may be useful to set out briefly how agriculture and industry are related to each other and to point to some of the larger questions which merit greater attention at the present time.

Sometimes, in arguing for agriculture or for industry, an appeal is made to history. The lessons of history, in economic as in other fields, have to be read with discrimination. There is no exact parallel for us to follow. No country now economically advanced had to wrestle with a large population and with pressure on the soil and disguised unemployment on the same scale as ours. The elements which dominated in the development of agriculture differ from country to country.

In England, the agricultural revolution came before the industrial revolution and was a product of (a) the expansion of the market brought about by the trading activities of a seafaring people, (b) the enclosures movement which increased the size of the unit of cultivation, and (c) the technological improvements leading to increased productivity which were initiated by the reforming landlords of Britain. In France, the establishment of peasant proprietorship at the end of the 18th and the beginning of the 19th century cleared the way for agricultural development, but progress was slow until agriculture came under the stimulus of improved transport some 50 years later. In Germany, both Government policy and co-operatives played the leading role. In Japan, agricultural advance preceded the first phase of industrial development, its main contribution being through circumstances forced upon it which led to greater commercialisation of agriculture as well as to larger tax burdens being borne by it. In the United States, natural advantages gave the first push, but this was soon reinforced by capital and skills brought by immigrants and by improvements in agricultural practices and technology.

INTER-DEPENDENCE

A point of common interest in all these countries which has meaning for us is that whether in the first stage of economic advance agriculture was a little ahead of industry or industry of agriculture, neither could be out of step with the other for any length of time. If comparisons are made over periods which are not too short, it is observed that a flourishing industry and a depressed agriculture have never gone together.

The basic connections between agriculture and industry can be expressed in a few words. Agriculture has to meet the increased demands for food, for raw materials and for the supply of labour which arise from the growth of

industry and the progress of urbanisation associated with it. At the same time, agriculture must meet the challenge of population growth and of demands for improved nutrition. In the early stages it is primarily the task of agriculture to make a healthy balance of payments possible. In turn, industry provides the means for raising the productivity of agriculture and of transforming it from a traditional way of life into a commercial and industrial activity demanding complex skills and techniques. Industry also provides the openings which may draw away increasing propor-

tional product, its rate of growth should be at least as high as the rate of growth desired for the economy as a whole. There are circumstances which make this a practical proposition, at any rate, in the earlier stages of development. During this period, starting from low levels of productivity, small improvements bring about large increases in production, so that the capital output ratio can be only favourable to agriculture. In later phases, when agriculture demands much larger investments in the production of equipment, fertilisers, irrigation etc., the ratio becomes

ployment. From the aspect of capital formation also a similar conclusion emerges. In an undeveloped economy, in wider interest, every sector should contribute its utmost. In a predominantly agricultural country, unless the rural economy is enabled to make its full contribution, the overall rate of capital formation will be necessarily small and inadequate. The methods of getting the maximum capital formation in each branch of the economy have to be linked with its specific requirements and possibilities. It is mainly through more intensive development in rural areas that it will be possible to increase rural capital formation. The pattern of development for the economy as a whole has therefore to be such as will directly and speedily assist this objective.

SHARE IN INCOME

Much of what has been said points to a large measure of identity between the needs of agriculture and those of the national economy viewed as one integrated structure. The very process of growth, however, places agriculture and the rural population at some disadvantage and so accentuates the conflict between rural and urban interests. This may present itself in various ways, notably through: (a) increase in the share in the national product of industry relative to agriculture, (b) greater increase in productivity per man in industry, and (c) higher relative incomes in industry than in agriculture. It is true that many of those who benefit from the development of industry come

(Continued on page 10)

TARLOK SINGH

Additional Secretary, Planning Commission

tions of rural workers, thus enabling those who remain behind to raise their levels of productivity and enjoy larger real incomes.

In any balanced approach to economic development, there are a number of important considerations to be kept in view. The first concerns the relative contribution of agriculture to the growth of the economy. Where agriculture accounts for as much as 40 to 50 per cent of the na-

less favourable. Also, in the early stages, thanks to the force of custom and the abundance of man-power, non-monetised investments can play a larger role than is possible later.

Another factor in favour of agriculture being given the emphasis due to it is that here the processes for increasing production are more or less identical with those for using the available man-power resources more intensively and ensuring fuller em-

*on this day
let us remember*



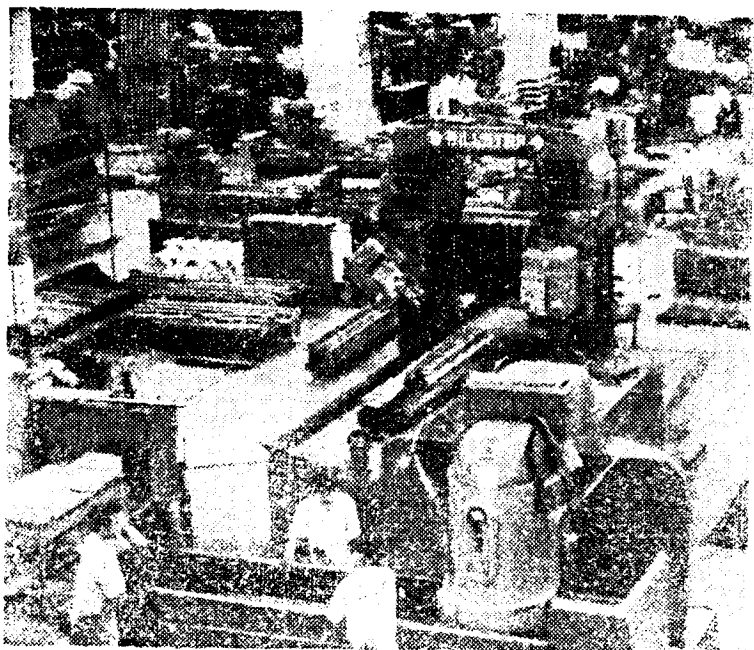
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Co-ordinated Progress



Machine Tools—Matrix of Industrial Development

(Continued from page 9)

originally from rural areas. Nevertheless, there is a sense of contrast between agriculture and industry which tends to deepen and has important consequences both for policies relating to prices and taxation and in other spheres.

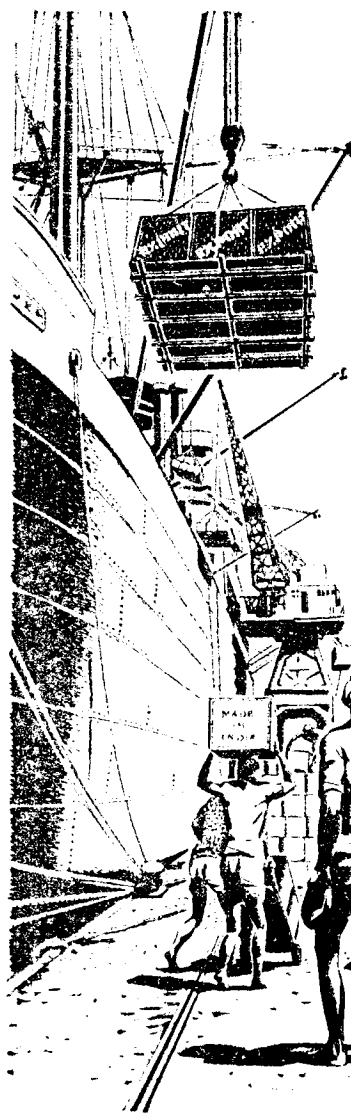
The forces at work are of a somewhat basic character and will persist. They need to be approached, not in terms of palliatives or short cuts, but from the broader standpoint of (a) the rate of growth in the economy as a whole, (b) the pattern of industrialisation, and (c) the structure of the rural economy. On the first consideration, it is enough to stress here that it is only in the context of a rapidly expanding economy that we can expect to establish a correct balance between the growth of the rural and the industrial sectors and to resolve the tensions embedded in them.

In the ordinary course of industrial development, whether undertaken by public or by private agencies, rural areas come into the picture somewhat indirectly or after a long interval of time. Apart from building up adequate potentials in certain basic industries, the main objective of policy over the rest of the field should be to spread industrial opportunities as widely as possible, to strengthen and diversify the rural economy, and to carry a great deal of industry to rural areas as well as to small and medium-sized towns.

ROLE OF CO-OPERATIVES

It is a disturbing fact about our rural economy that though it is now provided with a growing network of extension services and large investments in irrigation are being made, and in some measure land reform is already exerting its social impact, the fundamental weaknesses implicit in small and uneconomic holdings and all that goes with them in our conditions have not been materially affected by the important economic developments of the past decade. Indeed, on account of increase in population, these weaknesses are likely to become a matter of deeper concern with the passage of years. The technical and economic possibilities of the present structure have by no means been adequately realised and much more can and must be achieved even within this framework. This structure will carry the country some distance, but not far enough, nor with speed equal to our barest

needs. To create conditions under which the village economy can be speedily and efficiently reorganised along co-operative lines with the support and enthusiasm of the peasants themselves is now, as ever before, a major goal of the highest significance for the development of the national economy, and even more so, to serve the vital and urgent interests of the millions in the villages, whether today they happen to count themselves among the 'haves' or among the 'have-nots'.



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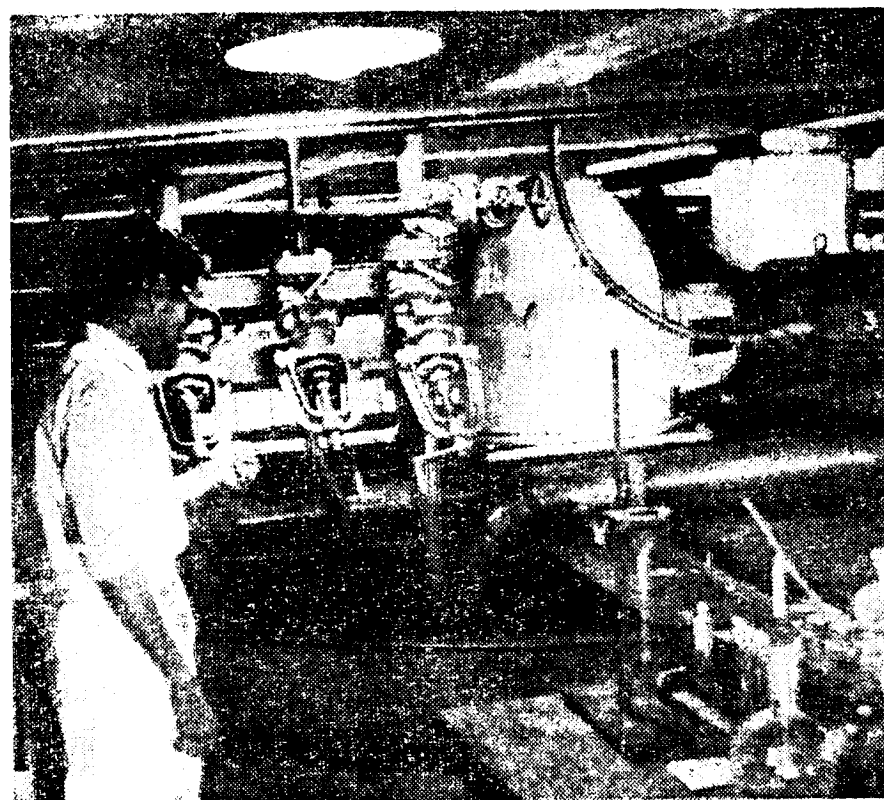
NOTABLE ADVANCE IN Mineral Survey & Development SINCE 1947

THE Geological Survey of India, one of the oldest scientific surveys in the world, instituted about 110 years ago, has laid the foundations of our knowledge of India's geological structure, past history, record of fossil life, composition and disposition of its main rock-formations in the Deccan and in parts of the Himalayan region. A small band of devoted workers belonging to several European nationalities produced a skeleton geological map of the country, the basis and starting point of all future work in economic geology, mineral prospecting and mining. While a great deal of fundamental knowledge and data regarding the physical constitution of the Indian sub-continent and its relations to the rest of Asia on one side and with the bordering seas on the other was accumulated, surveys of underground mineral resources of the country, as such, were not undertaken. The foundation ground survey, however, revealed the existence of major economic mineral resources in coal, iron, manganese, chromium, aluminium, copper, gold, petroleum and such industrially useful minerals as mica, refractories, salts, etc., together with some facts regarding their present reserves and future possibilities.

Exact and detailed surveys of these mineral resources, however, were never planned or executed and no considered policy regarding their prospecting, commercial development and mining was laid down. The result was indiscriminate mining of ores and minerals that had an immediate export market and the neglect of other materials, the underground reserves of which remained undetermined. The ore-bodies were worked not for the extraction of the metals contained in them, but for the purpose of exporting them in raw condition, since few smelting or metallurgical plants existed or were encouraged. The economic value of the ores thus realised by the Indian miners was barely half the real market value, because of the heavy cost of transport that had to be borne in supplying ores to the European manufacturers at rates current in the latter's country. The absence of metallurgical enterprise produced a complete neglect of mineral and ore deposits, except those whose export in the raw was paying. This was a serious drawback in the development of India's mineral resources which remained either unutilised, or worked wastefully as commodities for export.

A National Policy

Since 1947, when the new Government framed its mineral policy and announced it at an All-India Mineral Industries Conference in January of that year, this picture has begun to change and today we perceive a healthy turn in the country's minerals outlook and the industries that are based on them. Till that date, the subject of mineral development and its exploitation on a national plan received scant attention. Mining on modern systematic lines was almost wholly confined to a few foreign corporations who owned the petroleum, gold and copper mines, and had a controlling share in coal, manganese and chromium mining. The provincial Govern-



Inside the Rare Earths Factory, Alwaye, Kerala

ments which were very little interested in the development of such mineral occurrences as lay in their territories, and States whose annual mineral production returns

for some specialised functions, with an emphasis on economic mineral surveys and completion of the Geological Map of India on a mile to the inch scale; the insti-

D. N. WADIA, F.R.S.

Geological Adviser, Department of Atomic Energy

amounted to crores of rupees had no agency whatever for controlling the development, utilisation, or conservation of their mineral deposits.

The mineral resources of India, though limited, are by no means inconsiderable and encompass a sufficient range of products that are necessary to make a modern civilised country, within feasible limits, industrially self-contained both in times of peace and war. Minerals of strategic and defence importance may be regarded to a considerable extent as adequate though there is a serious deficiency in some key minerals, such as tungsten, tin, mercury, sulphur and petroleum. But in the basic metals—iron, manganese, aluminium, magnesium, chromium—and in coal fuel, the country is well-supplied; in the first three there is a large exportable surplus. India's resources in the new highly strategic atomic minerals—uranium, thorium, beryllium, zirconium, titanium and lithium—are sufficient in the case of thorium the reserves are of considerable magnitude. In uranium, though the supply is not abundant, enough reserves have been known to give present self-sufficiency for industrial power generation.

Rapid Growth

Since the adoption of the new mineral policy by Government, the country has taken important strides in the proper utilisation of its underground mineral wealth. The expansion of the Geological Survey of India from a cadre of less than 50 to 350 geologists, geophysicists and technical officers, including personnel

rough investigation of the country's potential for petroleum with modern techniques; and the creation by the Atomic Energy Department of a special Atomic Minerals Division are steps in the right direction which give promise of a healthy vigorous development in this field of national economy.

Three National Research Laboratories—Fuel Research, Glass and Ceramics and the Metallurgical—have important contributions to make towards mineral development and technology. In the last few years, they have undertaken programmes of processing, beneficiation and utilisation of indigenous raw minerals and ores with good results.

A brief review of the present-day mineral industry of India, with its annual output of Rs. 183-crore worth of raw products against Rs. 90 crore ten years ago, brings into relief the progress made since 1947.

There are some 30 minerals of commerce mined in India today. The major ones are:

ALUMINIUM: The aluminium ore reserves of India are known to be of large dimensions, in the range of 100 million tons. Till recently, however, our annual production of the metal was barely 4,000 tons against the country's requirements of 30,000 tons. Developments of late give promise of manufacture of metallic aluminium in India to the extent of 20,000 to 25,000 tons per annum through the enterprise of some private corporations. Large workable deposits of bauxite, the principal ore of aluminium, occur in easily minable areas in the Hazaribagh district of Bihar, the Jabalpur and Balaghat districts of Madhya Pradesh, and in Bombay, Madras and Kashmir.

BERYLLIUM: During the war, considerable quantities of beryl, a valuable rare mineral of increasing use in atomic energy and metallurgy,

(Continued on page 22)

HINDUSTAN CABLES LIMITED

(A Govt. of India Undertaking under the Ministry of
Commerce & Industry)

Manufacturers of:-

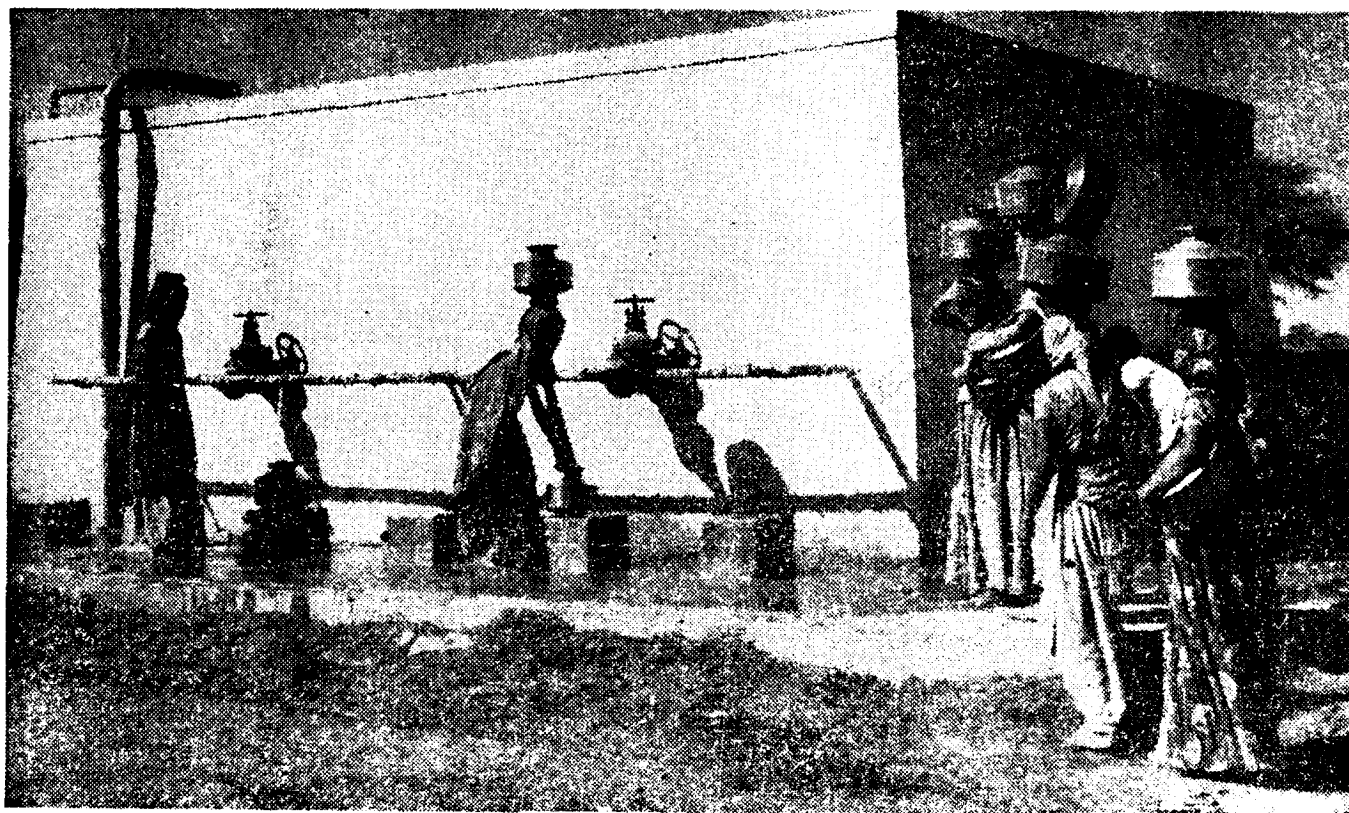
PAPER INSULATED,
LEAD COVERED,
PROTECTED,
ARMOURED,

UNDERGROUND TELEPHONE CABLES

Factory:-

P. O. HINDUSTAN CABLES,
RUPNARAINPUR RAILWAY STATION
Dt. BURDWAN, (West Bengal.)

WHAT HAPPENS To A Top Priority



Story of Rural Water Supply

MAN has a few primary needs and their order of urgency is, food, clothing, housing and marriage. But food includes drinking water though it is not stated as a separate need. Mankind gets drinking water somehow, though a major part of it does not get protected. A large number of diseases, mainly intestinal, like cholera, dysentery, diarrhoea, are carried through contaminated water to the human system. India has suffered for years from these diseases but in spite of rivers of water and skyfuls of rainfall it is believed that only 6.2 per cent of our total population gets safe water supply to drink. More than one-third of our land area is dry and arid with very inadequate water supply. To my mind the Government's most urgent task which deserves top priority is the adequate supply of safe water to all parts of India, urban and rural. But we are yet a long way off from that happy position.

National Water Supply

The First Five-Year Plan made the first serious attack on this grave situation by providing a sum of Rs. 30 crore for water supply and sanitation. Of this amount Rs. 14 crore only were for rural and Rs. 16 crore for urban areas. Fortunately the Central Government sponsored a "national water supply and sanitation" scheme in August 1954. For this purpose another Rs. 12.72 crore were allocated for urban and Rs. 6 crore towards rural water supply. But in actual fact the sum allotted was Rs. 42.72 crore for urban and only Rs. 6 crore for rural areas.

We shall take urban schemes first. Up to March 1956, about 196 urban water supply schemes and 53 drainage schemes were "approved" for execution in 17 different States, but the actual expenditure was only Rs. 8.3 crore—out of nearly Rs. 43 crore! The schemes executed were almost all for water supply and hardly any for drainage. The unexecuted ones were carried forward as a spillover to the Second Five Year

Plan. But the rural schemes fared much worse. Out of the 134 schemes approved in 19 States very few were executed and only a pittance of Rs. 2.8 crore was actually spent, though 32 per cent of our population lives in rural areas. The Second Five Year Plan provided a sum of Rs. 53 crore made up of Rs. 30 crore in the Central Plan and Rs. 23 crore in the State Plans. A separate provision of Rs. 10 crore was made for corporations. The number of schemes approved is now 275 but

the expenditure is confined only to spillover schemes of the First Plan, without sanctioning any new ones. But the performance has been below expectation during the last 3 years. From 1956-59 onwards there has been a budget provision of Rs. 364 lakh, Rs. 915 lakh and Rs. 800 lakh, i.e., a total of about Rs. 2079 lakh. It is not known how much has been actually spent, though Rs. 33 crore more have yet to be allocated within two years.

The position with regard to rural water supply is almost distressing. The Second Five Year Plan allocated a sum of Rs. 23 crore for 206 rural water supply schemes. During the first three years of the Plan a sum of Rs. 8 crore only, half of it subsidy by Centre, has been sanctioned and no one knows how much has been actually spent. And yet there are Rs. 20 crore left to be allocated within the next two years. Top priority is always given in all important conferences to water supply whether called by the Planning Commission, the Health Ministry, the Local Self-Government Council or by the National Development Council consisting of Chief Ministers, but so far it exists more on paper than in practice.

Municipal Water Supply

The Central Harijan Advisory Board appointed by the Home

Ministry, and of which the Home Minister is the Chairman, appointed a sub-committee to investigate conditions of scavenging in India and more specially to make suggestions for stopping the practice of carrying head-loads of night-soil. This sub-committee of five persons, of which I happen to be the chairman, has been touring in India for the last 18 months. During my tours I found that few municipalities have safe, i.e. municipal and piped water supply and that almost all of them have

N. R. MALKANI, M. P.

"inadequate" supply, i.e. less than 15 gallon of water per head per day. For instance the Mysore State has 181 municipalities out of which only 64 have piped water supply and only 10 per cent of them have more than 15 gallons per head per day. The Andhra State has 2 corporations and 125 municipalities divided into two regions. In the Andhra region 33 municipalities have piped water supply, which is mostly inadequate. Bihar has 73 municipalities but less than half have piped water supply and almost all have it in inadequate quantities.

Waterless Villages

This problem is assuming serious proportions since the rapid growth of urban population indirectly makes the problem of sanitation more acute. With regard to rural areas hardly a beginning has been made. In a reply to a recent question put by me in Parliament the Health Minister confessed that he did not know the number of villages without drinking water supply and that no survey has been made so far. In a casual inquiry made in Mysore I was told by the Director of Health that 6,000 out of 23,000 villages were without suitable drinking water supply. Probably this did not include the Karnatak which is a dry area. It is highly

probable that about one lakh villages out of the country's 5½ lakh villages do not have this primary amenity of civilised life. The Estimates Committee of the Parliament in its 37th Report (1958) considered this matter as highly unsatisfactory and suggested the appointment of a 'team of experts' to conduct a comprehensive survey to find out: (1) how many villages have no perennial water supply; and (2) how many have unsuitable or infected water supply. It was of opinion that after such a survey is completed "a target date should be fixed and a phased programme chalked out to tackle the problem on a national scale."

Resolution And Shortfall

The Conference of Health Ministers and Secretaries held in July 1957 passed a resolution (No. 9) as follows: "Considering the importance of providing safe drinking water supply to the people of the country, the Conference was of opinion that the provision in the Second Five Year Plan for water supply schemes was very inadequate and suggested that this scheme should be given highest priority."

This opinion was echoed by the Central Council of Local Self-Government, consisting of Ministers, held at Srinagar in September 1957 and where I participated in the proceedings. It was again repeated at its 4th meeting held at New Delhi in October 1958, which I attended. In answer to a question put by me in Parliament on December 2, 1959, as to the period within which this national programme will be completed, the Health Minister replied: "We are doing nothing less than shouting from the house-tops to urge the importance of this problem. But there are financial limitations. Personally I would be very happy if this question of water supply is given the highest priority in the Third Five Year Plan." I then immediately drew his attention to the shortfall in expenditure during the First Plan during which only Rs. 8.30 crore out of Rs. 43 crore were spent on urban schemes and Rs. 2.8 crore out of Rs. 6 crore on rural schemes. It is not yet known how much has been actually spent during the last three years of the Second Plan on urban schemes out of the allocation of Rs. 63 crore. But it is now known that in rural schemes there was a shortfall of Rs. 15 lakh in 1956-57 and a shortfall of Rs. 75.50 lakh in 1957-58. A sum of Rs. 4 crore is expected to be spent during 1958-59 but there is no knowing that it will be really spent. According to a reply given to me in Parliament "a sum of Rs. 894 lakh (including 50 per cent subsidy) has been sanctioned up to October 1959."

A few pertinent questions arise out of this strange situation. All the Ministerial Conferences shout that a sum of Rs. 63 crore plus Rs. 28 crore i.e. Rs. 91 crore in all is inadequate for the National Water Supply and Sanitation Schemes and should be increased. I am of the same view and would suggest that the total allocation of Rs. 309 crore to the Health Ministry in the Second Plan should even now be adjusted so as to give at least 25 per cent larger allocation for "environmental sanitation" including water supply. This would save large sums on the merely curative and medical side. But even given the present allocation the question is why there are persistent and distressing shortfalls in

(Continued on page 28)

SELLING HANDLOOMS ABROAD

Develop Research In Markets

THE export of handloom cloth from India to the non-traditional markets of Europe and the Americas is a complex problem. It involves a drastic change both in production methods in India and in marketing techniques abroad. The recent setting up of the Handloom Export Organisation (H.E.O.) and its decision to operate in the export market through business associates, both exporters and manufacturers, displays a more realistic approach to the export of hand-woven goods.

There is an increasing interest in Indian hand-woven and hand-spun cottons and silks in the United States and a growing awareness amongst Indian manufacturers of the special demands of the American market in terms of quality, design and deliveries. The handloom delegation that recently visited the United States met with considerable response, and it booked orders, on the basis of the special samples they had to offer, to the value of Rs. 1½ crore or over 3 million dollars.

TREMENDOUS POTENTIAL

It was fairly clear that a tremendous market for our goods exists in the U.S.A. and that we have not yet touched the fringe of the potential demand. To enter and operate on the American textile market, however, demands a detailed comprehension of American marketing techniques and the gearing of production in India to meet the challenge of the special American demands. It is necessary to remember that as yet India is selling handlooms not to any specialised field of marketing, but rather to the general textile trade where handlooms have to compete with the textiles offered from the main textile exporting countries of the world. So far India has been operating in the development of export trade mainly through trade fairs.

TRADE FAIRS

Although trade fairs are of great importance in building up consumer preferences and help greatly in promoting the export of Indian handloom goods, my experience has been that no large textile business is executed through trade fairs. Nor do any of the large textile producing countries like Japan, Italy, Switzerland, France or England offer their textiles through trade fairs. None of the main buyers of textiles visits the general trade fairs.

Most of the textile trade is carried on in great secrecy, and commercial samples are made available only to prospective buyers. While, therefore, taking part in promotional trade fairs, the Handloom Export Organisation will have to seek the existing channels of textile trade to build up a large volume of trade.

THE AMERICAN SET-UP

The American textile import market operates through the volume importer or converter for the garment trade. Through him the material goes to the department store or retailer. The main market for imported textiles is New York. Los Angeles on the West Coast is also developing as a potential market. In the U.S.A. a very negligible proportion of cloth is sold as yardage goods on the counter. Most of the cloth is converted into garments and then sold in department stores. Price mark-ups are regulated at every stage of the marketing opera-

tion and it would, in my opinion, be disastrous to interfere with the main pattern of marketing. To a great extent it is the wholesaler who keeps the market alive. He advertises the goods he has to offer and, at the present moment, he is the main channel of communication between the manufacturer in the U.S.A. and the producer in India.

APPEAL OF OUR HANDLOOMS

One of the main reasons for the great response to the samples the handloom delegation had to offer was that from the point of design, texture and colours, the goods that were offered were entirely new to the fashion industry in the U.S.A.

This created tremendous buyer interest and it proves that it is the ability of the handloom industry and its designers to continually produce new structures, designs and colour variations on which the volume of export will depend. Fortunately this aspect of the problem has been satisfactorily organised in India. The weavers' Service Centres of the All-India Handloom Board which are working in close collaboration with the H.E.O. is the channel through which design, dye and technical assistance will be made available to the ex-

PUPUL JAYAKAR

ADVISER, TEXTILE DESIGNS
All-India Handloom Board

porting unit of the handloom industry. The designs and finishes produced through these centres have received very encouraging trade reactions.

The handloom delegation sold both to the volume market and the prestige market. The main items were the non-fast or "bleeding" cottons of South India, Malabar bedspreads and yardage cottons, 'tussore' and 'mutka' fabrics, furnishing materials and fine cotton "buta" yardage goods.

'INDIA MADRAS'

The bulk of the demand was for 'India Madras', the term being used to indicate Madras check-and-stripe patterns in non-fast or 'bleeding' colours. This cloth, which was originally being exported to West Africa, is being used in the U.S.A. for men's shirts, sports jackets, shorts, bathing trunks, and even for coats for formal evening wear. It is also being used for all varieties of women's wear, dresses, skirts, sports wear, beach wear, etc. The demand for this India Madras was so great that the sudden increase in export enquiries has led to exporters entering the market without adequate knowledge of the areas of production. This has caused dangerous repercussions in the production centres of Madras and Andhra.

The price of Madras cloth has risen from 42 cents a yard c.i.f. (cost, insurance and freight) in June-July 1959, to 70-72 cents per yard c.i.f. in October-November 1959. The wages of weavers has also risen from Rs. 1.25 a day, for a sporadic 20 days' work a month, to Rs.3 a day.

DEFAULT IN DELIVERY

This rise in prices has resulted in many exporters who had booked orders at lower

rates defaulting on deliveries. This situation has been further aggravated by some of the importing houses from the United States sending their representatives to buy ready stocks of Madras goods booked for certain buyers. Thus goods have been sold direct from handloom centres at higher prices to alternative customers. This is likely to have a very serious effect on handloom export to the U.S.A.

There are nearly 40,000 looms in Madras and Andhra that could be geared to the production of these 'bleeding' Madras varieties. It is purely a problem of organisation. I am given to understand that the Handloom Export Organisation has turned to alternative sources in Andhra and Madras to organise production—but a lack of flexibility and speed on the part of weavers' societies to reorganise production is making this organisational work difficult.

THE OTHER MARKET

Another problem that has arisen is that because of the increased price levels many of the weavers of this cloth have turned to the American market and there is a growing danger of the traditional West African market, which also uses similar goods, being lost. The H.E.O. is trying to get the West African varieties of cloth woven in other centres in Uttar Pradesh, Hyderabad and East Khandesh. This again demands organisation and the adjustment of the resources of the weavers' societies to a change in their pattern of production.

EXPORT FUND

A lack of flexibility in the production processes is one of the gravest weaknesses of the handloom sector. The increase of exports to the non-traditional markets of Europe and America will depend on our capacity to select production centres and gear them to the production of exportable varieties. Unfortunately there is a time-lag between the organisation of these units and the receipt of export orders. Some agency is necessary to hold the goods produced, as the smaller co-operative societies are not capable of holding large stocks. The answer is obviously the establishment of an export development fund to hold goods manufactured against possible export demands. As many of these varieties have an internal market, the problem should be easier of solution, but, unfortunately, here again a lack of co-ordination has made solution difficult.

The Handloom Export Organisation is expected to short-circuit many of the difficulties by stocking dyes and chemicals against export enquiries, by setting up central dyeing and finishing plants and by exploring the possibilities of special finishes like 'sanforizing' and anti-creasing of handloom cloth and by setting up quality inspection and control.

THE LESSONS

With the present experience we have gained of the American market, certain points have emerged with some clarity. If we are to build up large exports to the U.S.A. we shall have to build up contacts with a large number of agencies who would sell our goods to the women's wear, men's wear, home furnishing and other sectors.

One of the main functions of the Handloom Export Organisation will be to gain the confidence of the buyer in the U.S.A. by its performance. In India its task is to encourage as many exporters as possible to offer their goods through the Handloom Export Organisation. This can at best be a long-term project, for which a great deal of patience and careful work will be necessary. But there appears to be no alternative.

At the time of the organisation of the H.E.O. there was some fear expressed in India that the American buyer would be unwilling to do business with a Government-sponsored organisation. This has not proved to be true. The American buyer is only concerned with getting his orders implemented as speedily as possible with guaranteed deliveries and quality controls. The setting up of an organisation which would act as a liaison between the manufacturer in India and the buyer in the U.S.A. and which would undertake the necessary supervision has been generally welcomed.

Indian Drugs In Modern Medicine

COUNTRIES with an ancient civilisation and tradition such as China, Egypt and India, and Chile and Peru in South America, have systems of medicine of their own and authentic records about many of these are still available in ancient literature from these countries. In India, Ceylon, China and Egypt, even today a large number of people still believe in the efficacy of their ancient systems of medicine.

In India the earliest mention of a medicinal drug is found in **Rigveda** which was supposed to be written about 2,000 B.C. It is in **Ayurveda** (500 B.C.) that one finds definite and systematic use of the various drugs. **Ayurveda** was later followed by two works of Charaka (1,000-400 B.C.) and Susruta (400-50 B.C.) Besides the use of indigenous drugs the practice of surgery is also mentioned in Susruta.

Hindu Medicine

Indian medicine progressed from the time of Charaka and Susruta to about 1,200 A.D. Even anaesthetics in some form were known. For example in a treatise 'Bhoja Prabandha' written about 980 A.D., one finds a mention of the use of inhalation before surgical operations. Many effective remedies for the cure of snake bites, fevers of all sorts, mental diseases, leprosy, diabetes, tuberculosis etc. are also found in the age-old Indian materia medica. The impact of Hindu medicine of this period was clearly evident on the local systems of medicine in distant lands such as Egypt, Greece, Rome and Arabia.

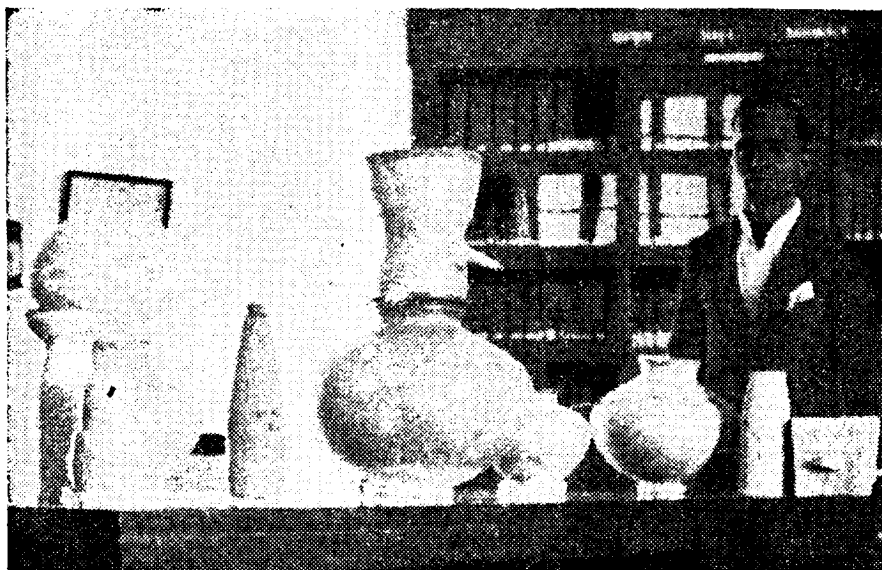
Hindu medicine declined rapidly from the time of Muslim invasion of India. Because of the successive invasions of Greeks, Scythians and Muslims much of the original indigenous materia medica was mutilated and lost. The Muslim rulers introduced the Arabic system of medicine and during this time a lot of intermingling between the Hindu and Arabic systems of medicine took place. With the coming of Europeans in India and till today the indigenous system of medicine became a mixed materia medica of all systems of medicine. When one mentions the indigenous system of medicine now, one refers to this mixture of different systems of medicine.

With the coming of the British into India, the local systems of medicines were not only neglected, but discouraged for political as well as commercial reasons. In spite of all this, even today, 70-75 per cent of the population of India still believe in their ancient system of medicine. India has a population of roughly 400 million and the majority of people are poor. The cost of medicine according to western system is not only beyond their reach but also excessive. It would be beyond the competence of any government even if it was to undertake the sole responsibility of public health. Though the ancient system of our medicine has suffered many setbacks, still it has stood the test of time.

Screening Remedies

During the last 75 years or so, sporadic attempts have been made all over the world including India to explore the ancient materia medica and to screen therefrom the worthwhile and reputed drugs. There have been plenty

Science Reclaims Ancient Cures



Ancient Ayurvedic apparatus on view at the museum of the Jannagar Research Institute

of difficulties in this work e.g. the original name of the plant has been mutilated in the course of time or the same plant had differ-

progressive practitioners such as Watt, Dymock, Warden, and Hooper in the closing years of the last century. But the lack of sys-

B. MUKERJI

Director, Central Drug Research Institute, Lucknow

ent local names attached to it. Certain amount of interest in the researches on indigenous drugs was taken by some of the

tematic methods of investigation resulted in conflicting data being recorded. The workers became discouraged about the future poten-

tialities of indigenous remedies.

In the last 25 years or so, more discoveries and inventions have been made than in all the previous years put together. This is true of therapeutics achievements also. To mention a few, we have paludrine, the sulphonamides, gamma-globulin, various insecticides like D.D.T., antibiotics, Rauwolfia etc. One of the main causes of this difference in the quality and number of discoveries in the above two periods was the lack of collaboration in the earlier period. The importance of joint effort is particularly felt in drug research. Before a remedy is put in the market a complete evaluation of its toxicity, dose, specific action, mode of reaction etc. is necessary. For this sort of work is needed a team of botanists, chemists, microbiologists, immunologists, biochemists, pharmacologists and experimental therapeutists. Lack of this type of collaborative effort was another factor for the sad state of affairs as far as drug research and drug industry in India were concerned.

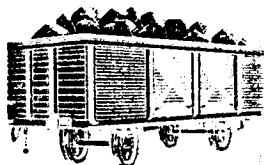
New Interest

Around 1923-24 new interest was revived in indigenous drug research by the Indian Research Fund Association at the School of Tropical Medicine, Calcutta, and also by Bombay Government in the Haffkine Institute, Bombay. Recently the Central Drug Research Institute at Lucknow (1952) and the Central Institute for Research in Indigenous Systems of Medicine have been start-

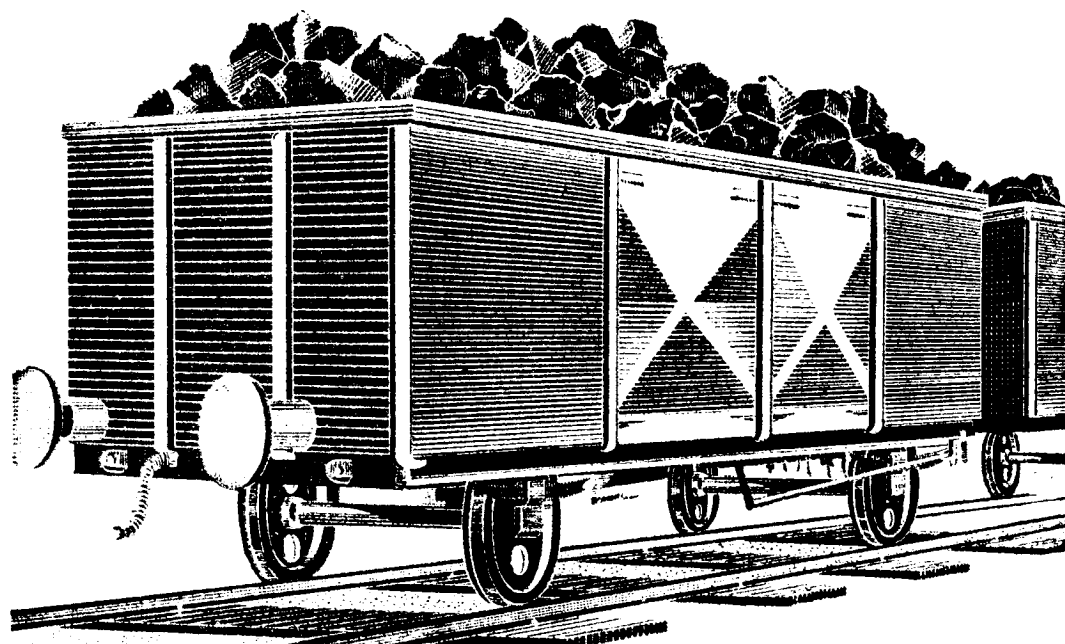
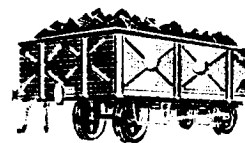
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Coal is the largest single commodity handled on the Eastern Railway. It is anticipated that, at the end of the second Plan period, out of 7,000 wagons which this Railway will load daily in the busy months, 4,300 will be loaded with coal and the balance with other goods traffic. The Eastern Railway will load five wagons every minute, three of them with coal.



three
coal wagons
a minute



EASTERN RAILWAY

PETROLEUM IN INDIA'S PLANS

FUEL is as necessary for a machine as food is for man. It is no exaggeration to say that the modern world moves on wheels which depend in turn on petroleum products. Both in times of peace, when it is a necessity of life, and in war, when it is a vital commodity, petroleum plays a significant role in making or marring the fortunes of many nations.

Strangely enough, while little-known countries of the Middle East have shot into prominence overnight because of their oil riches, no great industrial nation, except probably the Soviet Union, is self-sufficient in oil today.

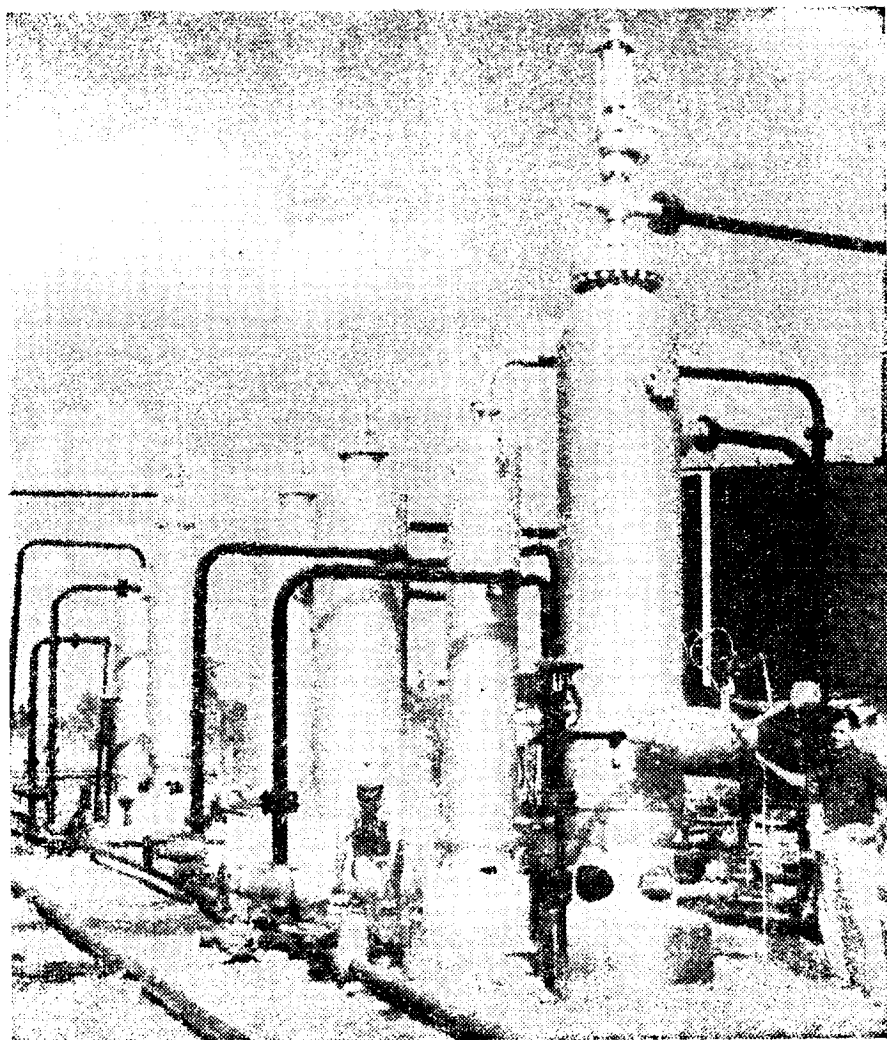
Oil In Daily Life

Oil affects our lives in a thousand and one ways. The motor cars that cruise along, the diesel trains that whizz past on rails, the aeroplanes that roar overhead or the ocean liners that plough through the high seas all move because of oil. The paint on one's door, the plastic portfolio in which one carries one's papers, the nail polish and the lip-stick used by ladies or the gramophone discs all have something to do with one or the other of the thousands of petroleum products. Every wheel that turns needs a lubricant for smooth running, candles are made of paraffin, better roads are covered with asphalt—all these useful products are derived out of crude oil.

Untapped crude oil in the bowels of the earth and oil in its crude form are not of much use to man unless tapped and refined. The crude oil has to be split up into its various useful components—kerosene, petrol, aviation spirit, lubricating oil, furnace oil, etc., then only it becomes 'a useful servant' to man.

Possible Sites

It is estimated that nearly one million square kilometers (roughly 4,00,000 square miles) of area covered by sediments or sedimentary rocks deserve exploration for petroleum in India. Nearly two-thirds of this area is covered by thick mantles of alluvium or desert sands or salt pans. Some parts of the off-shore regions along the East and West Coasts of India are



Oil wells produce both oil and gas. These two substances are separated in giant 'test-tubes' like these.

There are four refineries in India, the oldest being the Assam Oil Company's refinery at Digboi in upper Assam which was established in 1920. The remaining three are modern refineries established during this decade. They are the Burmah Shell and the Stanvac Refineries located at Trombay in Bombay and the Caltex Refinery located at Visakhapatnam on the East Coast.

The total refining capacity of these four refineries is to a great extent meeting the demand for petroleum products in India. Even then the country faces shortage in some products as the refinery yield and demand for products do not balance themselves for some of the petroleum products.

The Government of India will

energy requirements. In addition about 72 million tons' crude equivalent of animal dung and wood and about 54 million tons' crude equivalent of human and animal effort are being expended to meet the additional energy requirements of the country. An annual rate of increase of 8 to 10 per cent is predicted by experts in our energy requirements, till about 1966. Even if there is a small shift from non-commercial sources to the commercial sources, the total demand for petroleum and petroleum products is bound to increase considerably. If we were to meet the extra demand by imports, the country has no alternative but to face a foreign exchange drain of nearly Rs. 500 crore per year by 1976 or so. In view of this, despite the risks involved, intensive exploration for oil within the country for discovering new potential oil fields is the only way out.

Output and Demand

The present production of crude oil in India is about 400,000 tons a year whereas petroleum products derived from about 5,700,000 tons of crude oil are being consumed annually in the country. The deficit is made up by importing crude oil from the Middle East and the Far East and refining it in the refineries of India and also by the import of some refined products at an estimated

(Continued on page 30)

A. M. N. GHOSH

Member, Oil and Natural Gas Commission

also considered as suitable for oil exploration.

These areas can be classified under the following categories on the basis of their petroleum potentialities:

Proved Petroleum Province: Upper Assam (north-east Assam and Brahmaputra Valley)

Potential Petroleum Provinces: Cambay in Bombay State (Potentialities are being assessed) Jawalamukhi in the Punjab (Probable gas field, potentialities still to be assessed).

Possible Petroleum Provinces: 1) East Punjab, 2) Kutch, 3) Rajasthan, 4) Bengal Basin, 5) parts of East and West Coast of India, 6) Andaman Islands, 7) Ganga Valley, and 8) Offshore regions (near Cauvery Delta, Gulf of Cambay, West Bengal and Orissa).

The Indian oilfields whose potentialities have been proved are located in the north-eastern part of the State of Assam.

be establishing two refineries in the public sector, one at Gauhati in Assam and the other at Barauni in Bihar, for refining the crude oil produced from the newly discovered Nahorkatiya-Hugrijan and Moran fields of Assam. The construction of a pipeline from the Brahmaputra Valley oilfields to the proposed refineries at Gauhati and Barauni (approximately 720 miles in length) is under way.

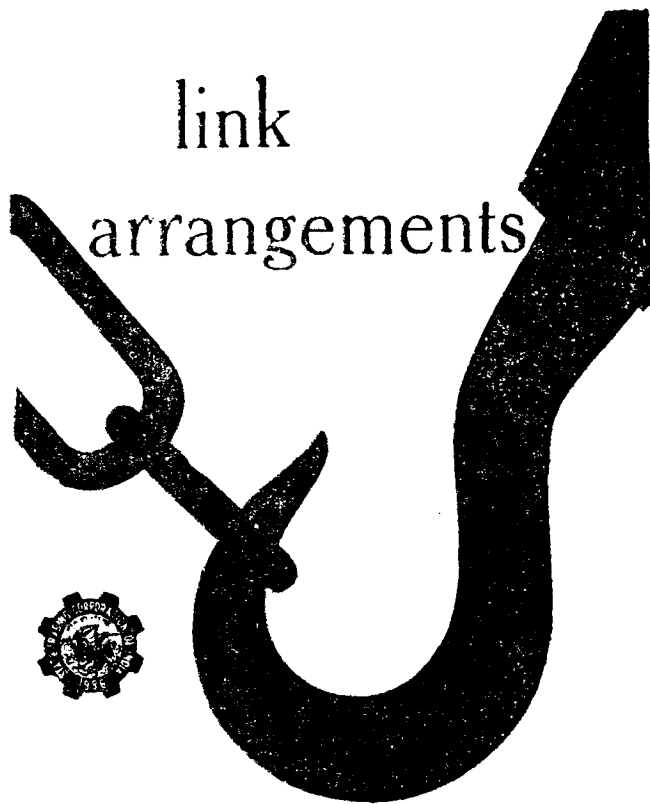
Energy Pattern Of India

The following are the approximate refining capacities of the four existing refineries and the two proposed refineries:

Burmah Shell	2.5	million tons
Stanvac	1.6	million tons
Caltex	0.675	million tons
Digboi	0.40	million tons
Gauhati	0.75	million tons (proposed)
Barauni	2.0	million tons (proposed)

Commercial energy sources (coal, petroleum, hydro-electricity) contribute about 31.5 million tons of crude equivalent to India's

link arrangements



Established mainly to organise and effect exports from and imports into India, the S.T.C. has sought to specialize in link arrangements, linking import of essential items with exports of Indian goods. Import of textile machinery and rice against export of Indian goods has been successfully effected in the past. General arrangement for sale & purchase of goods on similar link basis with countries of the world is negotiated to promote Indian trade and the business methods have been so devised as to afford to business organisations in the country, reasonable opportunities for participation in linked transactions. Among various items S.T.C. is exporting some are—Iron Ore, Manganese Ore, Chrome Ore, Handicrafts, Tea, Coffee, Coir, Cardamoms, Jute, Shoes, Salt Cement and other products and is importing—Caustic Soda & Soda Ash, Raw Silk, Textile Machinery, Chemicals and other essential commodities.

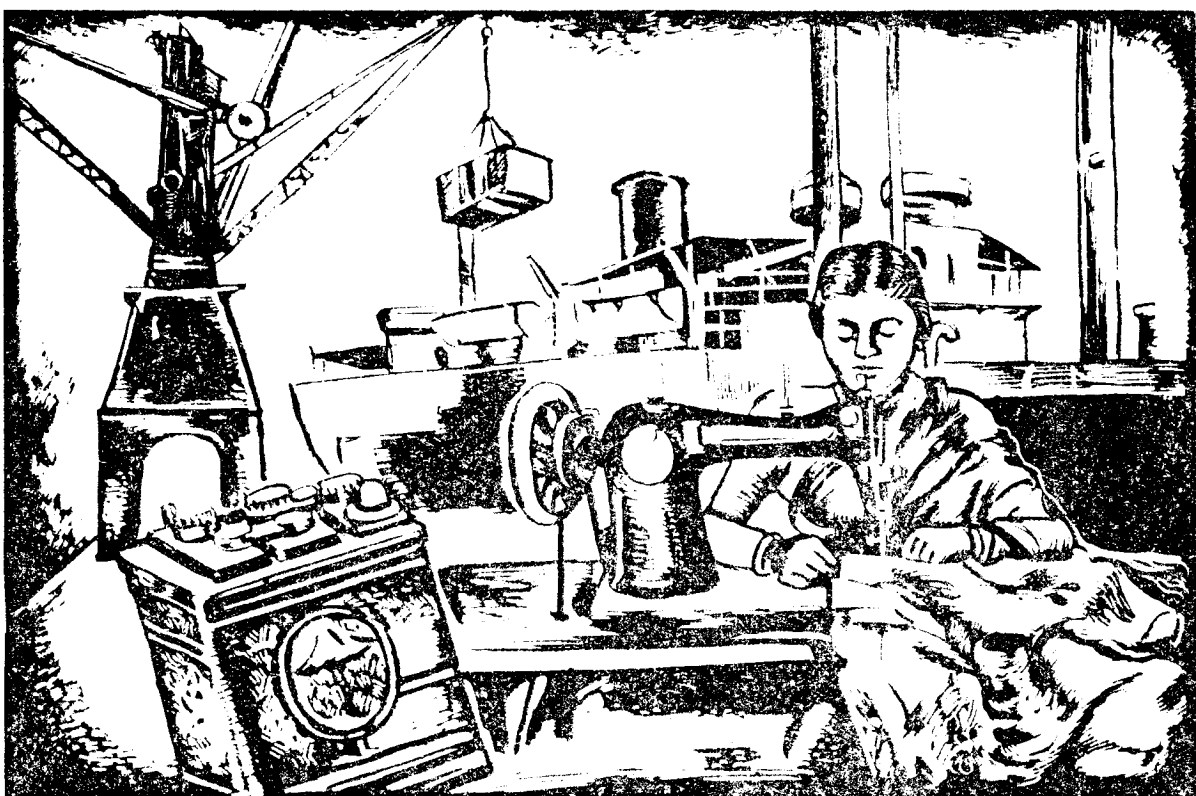
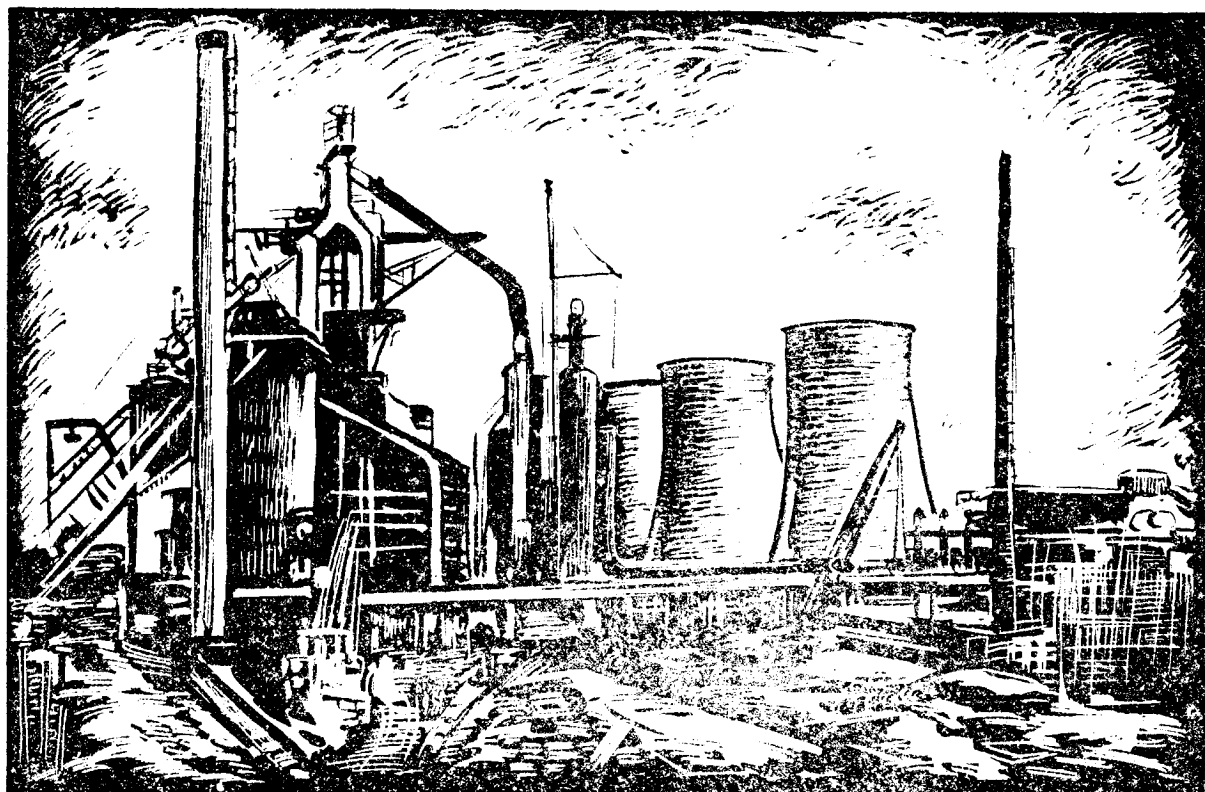
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A GOVERNMENT OF INDIA UNDERTAKING

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SUCCESSSES

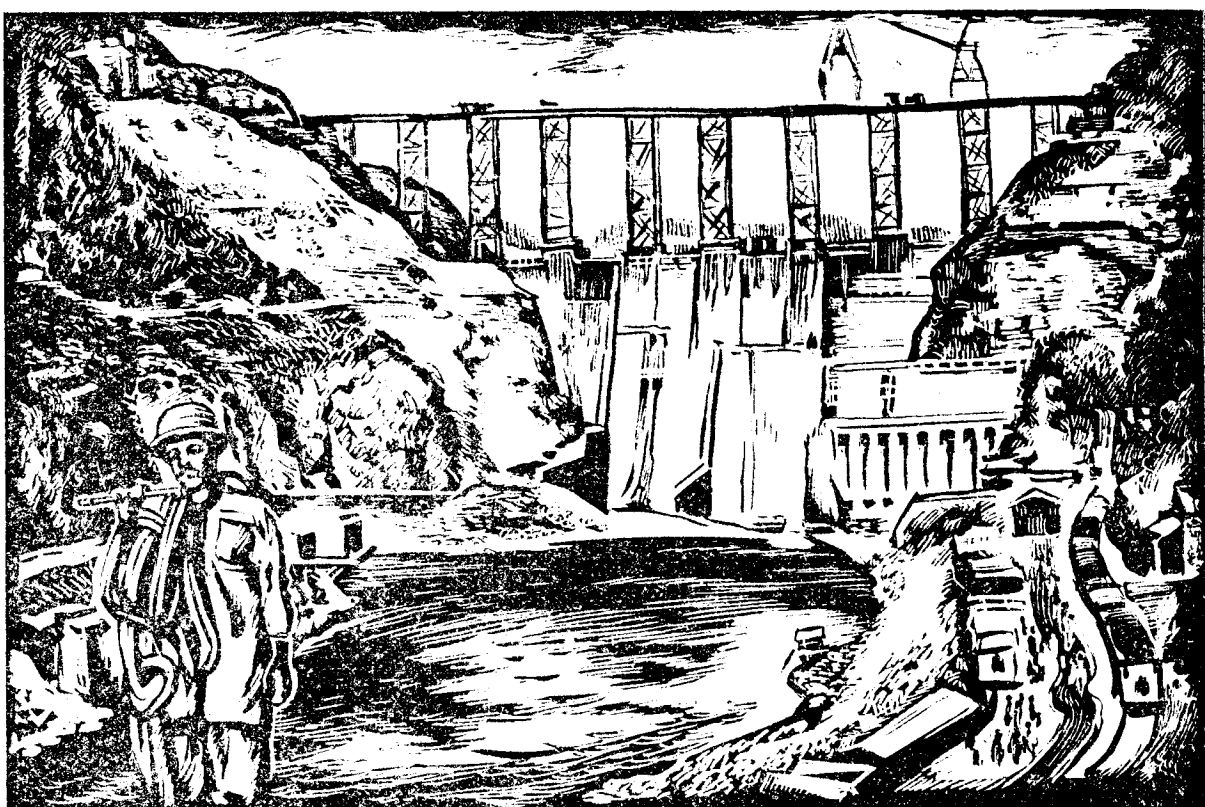
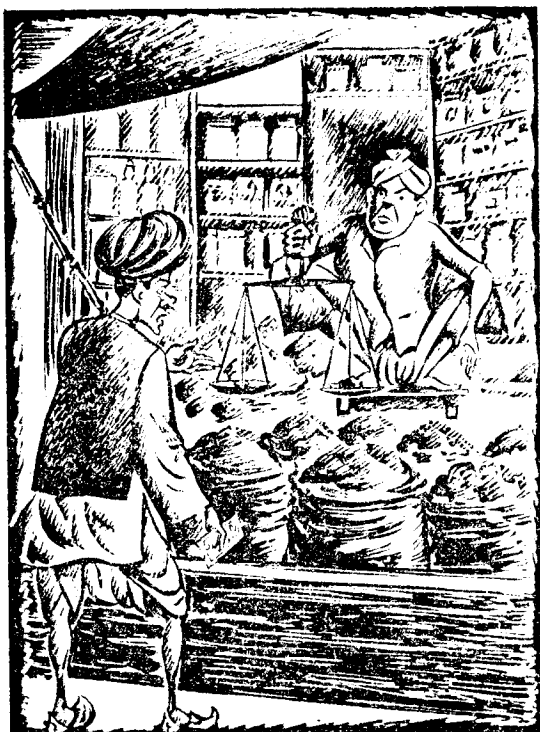


As in previous years, Yojana's Republic Day Number seeks to say graphically what the country achieved in the last twelve months and where it conspicuously failed. And, unlike the previous issues, we have taken the help not of the camera but of the artist's brush to say it.

The most notable achievement of the tenth year of the Republic, depicted in the panel at top left, is that the three great mills at Bhilai, Rourkela and Durgapur went into production. They have cost hundreds of crores of rupees already, but we have at last begun to reap the yield. Food production and industrial output also went up. The food-

grains harvest (girl with corn) constituted a record. In industry could be said that the stagnancy of the year before, was ended. Industrial advance is symbolised by the production of machine (top centre) which exceeded the Plan target long ago. Appropriately our exports also improved; and after a long period, our foreign exchange assets showed an increase. In addition to our traditional exports have begun sending abroad light industrial goods too, like sewing machines, bicycles and electric motors (left centre). Another of the year's achievements is the organisation of the World Agricultural Fair (left bottom). The year was good for sport lovers also. Seven

& FAILURES



our athletes and sportsmen won international honours: in particular, runner Milkha Singh, and the tennis ace, R. Krishnan (centre bottom). An Indian girl, Arati Saha crossed the English Channel and we even won a Test against the Australians.

But our failures too have been conspicuous. Our running sores, poverty, illiteracy and undernourishment, are still unhealed. Family planning efforts hardly made any impact. Among the particular failures, the mishap at Bhakra (top right), so unforeseen, caused great heart-searching. So did the floods in Bihar, which reminded us that

we have not done our best in the matter of river control (right bottom). Although the harvest was proclaimed to be a record, prices rose and there were scarcities (centre right). State trading plans did not work out the way they were expected to, and the Food Minister of the Union had to quit. Equally disturbing, there were student riots in several cities (right top) and many universities were closed. And ten years after the promulgation of the Constitution and formal outlawing of untouchability, caste discrimination continued to operate (centre bottom).

Drawings by B. N. JIJJA and B. D. SHARMA

Employment Trends In Second Plan

A BRIEF review of employment trends over a period of three years of the current Plan appeared in Yojana in May 1959. It is possible to carry forward that review in the light of later experience, which is largely the product of some special studies recently undertaken.

It is now common knowledge that because of the difficulties encountered by the Second Plan the employment target had to undergo a downward revision. As against 8 million non-agricultural employment opportunities, it now appears that we might achieve only 6.5 million. This would mean that in urban areas there will be increased unemployment and perhaps an increasing measure of under-employment. It also means that in rural areas a larger number than estimated earlier will have to depend on the existing insufficient opportunities for employment in agriculture.

The earlier trends had pointed out that in the first three years of the current Plan, non-agricultural employment of the order of 3 million was generated and there was an expectation of the remaining 3.5 millions in the last two years. The analysis of data available for the current year shows that about 1.5 million would be our achievement during 1959-60 leaving for the final year of the Plan a target of about 2 million. A corroboration of these estimates is available

in detailed surveys undertaken in recent months by the Directorate-General of Resettlement and Employment (Ministry of Labour & Employment). The experience of the First Plan had shown that substantial employment results were achieved in the last year of the Plan. There is thus a hope that the revised employment target could be reached. But even so, we will enter the Third Plan with a larger backlog of the unemployed as compared to the be-

technically qualified personnel shortages continue to be reported in spite of a very large expansion of facilities for training technical personnel in recent years. Very often unemployment among the technically educated is used as an argument to curb further expansion of training facilities. But the latest analysis in two important categories of such personnel, namely medical and engineering, shows that in spite of continuous increase in the number of ex-

denced by the reports received from Advisers of the Planning Commission.

Skills Over-Stated

A recent study of craftsmen registered with the employment exchanges has also very clearly brought out the fact that 50 per cent of the persons registered as craftsmen did not hold any certificates of proficiency. The same enquiry has also shown that only 10 per cent of them had received recognised apprenticeship or in-plant training and in trades like draughtsmen and overseers, more than 60 per cent of them were new entrants to the employment market. It would thus be observed that the tendency on the part of the non-certified and inexperienced hands to overstate their skill and their insistence on registering for trades for which they are not actually qualified contribute to the paradoxical situation of a real dearth of craftsmen acceptable to the employers, in the midst of a substantial number of such persons being available on the live registers. Planning in this field will therefore have to take note of the increasing number of such persons being turned out by the educational institutions from year to year, and the consequent urgent need for extensive in-plant training facilities in order to divert them to various technical and vocational trades.

The employment situation is
(Continued on page 28)

B. N. DATAR

Chief, Labour and Employment Division, Planning Commission

gining of the Second Plan. This, together with a larger number of entrants to the labour force during the Third Plan period, creates complications in planning for the future.

Doctors And Engineers

A special feature of the unemployment situation in the country relates to imbalances in the supply and demand of 'educated' personnel. The number of persons seeking assistance from the exchanges in this category of employment in the last three years has more than doubled. This increase is mainly attributable to the increasing number of matriculates and intermediates who join the labour force every year. On the other hand, in respect of tech-

changes in the last seven years, the number on the live register has substantially gone down and even among the persons who are on the live registers more than 50 per cent constitute graduates of only six months' standing. The situation is somewhat similar in regard to the third category of employment-seekers, namely industrial and supervisory.

Further evidence of shortage of technically qualified personnel is available from the employment exchange organisation in the form of the unmet demand of such personnel to the extent of about 70 per cent, reported by the employment exchanges. In categories like draughtsmen, overseers, supervisors, etc. there has always been a heavy demand, as is evi-

PROSPERITY THROUGH MORE PRODUCTION AT LESS INVESTMENT

RAJASTHAN LAYS HIGHEST EMPHASIS ON SELF HELP PROGRAMME

Encourage Adoption of Improved Agricultural Practices for Stepping up Acre yields.

THESE PRACTICES ARE:-

- Make the field levelled and put *medhs* around to save soil and to collect water.
- Adopt Border strip method of Irrigation. Plaster irrigation channels with clay and cow dung.
- Apply adequate quantities of manures and fertilizers.
- Sow seeds in lines. Use less seed by dibbling and transplanting.
- Select healthy and disease-free seed for sowing.
- Remove weeds by hoeing and weeding.
- Prepare land thoroughly to make seed bed.
- Protect crops against the attack of Insect, Pests and Diseases.
- Use improved agricultural implements. Do not waste water. Maintain and repair all the means of irrigation.
- All operations in time is key to success. Follow the programme and induce others to follow suit.

PUBLISHED BY

AGRICULTURE DEPARTMENT, RAJASTHAN

THE PLUS AND MINUS OF INDIAN FILMS

SINCE 1956 India has entered the world scene of cinematography both as the producer of highly successful entertainment films and as the maker of three outstanding examples of the artistic film. Two highly contrasting film personalities—the actor-director Raj Kapoor and the Bengali director Satyajit Ray—have gained international fame in different areas of the world. Thus the Indian film is no longer confined to being thought of solely from the point of view of the reactions of Indian audiences. The Indian film has become a potential asset for export.

Most film-producing nations are today devoting some attention to the international distribution of their films. Business as well as cultural prestige is involved. Thus one finds that such countries as Japan, Italy, Poland, Czechoslovakia and Greece—countries which fifteen years ago were absent from the international film scene—are today distributing their films abroad on a considerable scale. One also finds that in South-East Asia there is an extensive distribution of Chinese films, especially the Chinese pictures produced in Hong Kong, Singapore and Formosa. In East Africa, the Middle East, and in most of the countries forming the Soviet bloc, there is a conspicuous presentation of Indian films. It is said that Raj Kapoor's picture "Awara" has proved to be the most popular foreign film ever shown in the Soviet Union; while in the last year one of the markedly appreciated foreign films presented in the United States, and also in England, has been Satyajit Ray's "Pather Panchali".

It is evident that different areas of the world are responsive to different types of Indian films. "Awara", for example, has not been shown in the West except to Indian audiences, while "Pather Panchali" has not been presented to the public in Communist countries. The explanation is that Communist countries are, for the most part, interested in importing foreign films which in their view have mass audience appeal, but the countries of the West are interested in importing foreign films which appeal to more specialised audiences.

SUNG ABROAD

India has not as yet developed to any great extent a differentiated distribution comparable to that currently organised in Western Europe and the United States. But this is not a special situation. It is not at all uncommon to find outstanding films produced by a particular nation more appreciated and acclaimed abroad than at home. The first instance of this was in the mid-1920's when the Russian films directed by Sergei Eisenstein captured the imagination of film-lovers in many countries. But while these films were being seen and discussed abroad they were better known as names in the Soviet Union than as pictures which had actually been seen by great numbers of Russian people.

Very much the same took place in the latter half of the 1940's and the early 1950's in

regard to Italy's most famous 'neo-realist' films: "Open City", "Shoeshine" and "Bicycle Thief". All these films which have brought great prestige to Italy have been more widely appreciated abroad than in Italy itself.

Now something similar has happened in regard to the trilogy of Indian films directed by Satyajit Ray. Because these films are in Bengali, and Bengali films do not receive wide national distribution, many more

devoted to the presentation of foreign films of the highest calibre.

DEVELOPING TASTE

The audiences that attend specialised cinemas whether in Western Europe, England or the United States are fully accustomed to seeing films in foreign languages with sub-titles in English, French or some other national language. For the most part these audiences do not want films to be dubbed

MARIE SETON

people have already seen "Pather Panchali", "Aparajito", and may see "Apar Sansar", abroad than in India. The first two films of the trilogy are in very great demand on 16mm. for showing at British film societies.

In each case the reason why these films have enjoyed wider distribution abroad than at home is the same. First in the countries producing these films, ap-

into their mother tongue and it matters little to these people what is the language spoken on the screen. Hence, from the point of view of the Indian film, it matters not if the dialogue is in Hindi or Bengali. The only thing that is of paramount concern is the cinematic qualities of the films shown. "Pather Panchali", which was minus in regard to finding distribution in South India, gained a

necessary quality for a film to make an impact in any country where there is appreciation of the specialised film. Apart from its artistic qualities, "Pather Panchali", "Aparajito" and "Apar Sansar" are all the right length of film for distribution in Western Europe and America. Indeed, "Pather Panchali" was the first Indian film to be of an acceptable length without the need of drastic editing.

TOO LONG BY A THIRD

Indian feature film production as it is constituted at present is faced with a serious minus in terms of world-wide distribution. The accepted length of pictures in India is as a rule one-third or more than the length acceptable in most countries. Except for a few exceptional films like Warner Brothers' recent film, "The Nun's Story," which is sixteen reels or 16,000 feet in length, the accepted length is nine to twelve reels. The entertaining Raj Kapoor film "Shree 420" ran to sixteen reels though the story could easily have been told in twelve or less. Here was a film which, had it been shorter, might have gained quite a wide foreign distribution. The same applies to Kapoor's "Jagte Raho" which won the award at the Czechoslovak film festival. Unless Indian films are conceived from their inception as requiring drastic editing for world distribu-



Subir Banerjee as Apu in the award-winning 'Pather Panchali'

preciation of the so-called "art film" had not, or has not, been widely developed. Similarly, distribution of the specialised film had not, or has not been developed as it was developed from the mid-1920's onwards in Western Europe, England and the United States where very early a distinction was made between the commercial entertainment film and the "art film." The moment the "art film" appeared, Western Europe—excluding Italy and Spain—organised a means to present the best of foreign films. The first step was the formation of film societies devoted to presenting the films that have since become known as "the classics" of cinema, and the second step was the opening of specialised cinemas

plus the moment it was considered for foreign distribution.

I hope that readers will forgive my egotism if I say that when I first saw "Pather Panchali" in December 1955, at a Sunday morning showing in Delhi, I was instantly convinced that if this film was entered in an international festival it would win an award and subsequently receive foreign distribution. For the next few months I kept repeating this prediction until the film was in fact given an award at the Cannes Film Festival. Anyone with knowledge of the kind of films that win international awards and gain international distribution, would in all likelihood have said exactly what I said about "Pather Panchali." This film had every

tion, random editing for foreign distribution will always show up and the film will have poor continuity.

MANY CLIMAXES

Another major minus element in most Indian feature films is that many scenarios build up to too many climaxes. Also a great deal of sub-plot is introduced because of the popular belief that Indian audiences want everything in a film to get double their money's worth. The inclusion of everything "from soul to nuts including the kitchen sink" goes against the acceptance of the entertainment film when it is considered for foreign distribution.

(To be concluded)

PLAN CONCIOUSNESS ON HIGHER KEY

THOUGH the outlines of the Third Five Year Plan are not clear, economic thinking and the statements made by Government spokesmen have made it plain that the Third Plan would involve a total investment of ten thousand crore rupees. This estimate is based on the present trends of manufacturing costs and the cost of imported raw materials. If the world economic situation is for any reason upset, and the price level rises beyond those levels which have been reached in the last three years, the total investment in the Plan would have to be placed at a higher figure.

The First Five Year Plan was a remarkable success because the planners contented themselves with a limited objective and we had a cushion reserve in the form of the accumulated sterling balances. The Second Plan ran into heavy weather because the foreign exchange crisis which descended on the country in 1956 depleted the reserves available for accelerated financing of various aspects of the Plan. If the Third Plan is to succeed, the first consideration that the Government of India and the State Governments must bear in mind is that there must be a brisk nation-wide development of Plan consciousness.

Plan Study In Schools

Though the country is generally aware of the objects of planning, a large number in our country do not know why planning is necessary and why sacrifices on the part of the people are called for. If the Third Plan is to succeed, I would suggest that at the Secondary School stage in all States there should be classes and compulsory papers on planning. We should try to reach the younger generation which may have to

shoulder the responsibilities of the Fourth and later Five Year Plans.

This still would not include a very large sector of India in which millions live, namely, the villages. It is unfortunate that the political awakening generated by free and fair general elections under the Constitution has been confined to the fighting and winning of elections. At every administrative level, whether it is the taluka or the district, there should be officials who would call upon non-officials in that area to take up the task of conveying the message of planning to the people. It is only in totalitarian countries

the Central Planning Commission. I would even suggest that the members of the State Planning Commission should be appointed by the President and should hold office during the pleasure of the President. It should be the duty of the State Planning Commissions to work as supervisory agents of planning at the State levels, co-operating with the State administrations in every possible way. The creation of State Planning Commissions will itself generate a certain amount of local inquisitiveness in regard to the execution of the various projects of the Third Plan.

A. D. MANI

Editor, 'Hitavada'

where the Communist parties are actively at work that almost twenty-four hours' continuous education of people is carried on by the party concerned for the promotion of its policies. In regard to the Third Plan, the country therefore requires continuous and persistent education of people at all levels.

State Planning Commissions

The experience of the First and Second Plans has shown that in regard to State spending of allocations, some of the States have not utilised their allocations in full, in respect of sanitation, irrigation and the like. A suggestion has also been made that there should be a State Planning Commission and this suggestion should deserve the consideration of the planning authorities at the Centre. Care should be taken, however, to see that the State Planning Commissions do not constitute themselves into authorities competing with

We have also to explain foreign aid to our people. The Second Plan has shown that without impressive foreign assistance, it may not be possible for the country to undertake the various projects and complete them within the requirements of Plan and within the time schedules. Foreign assistance during the Second Plan has been stepped up from Rs. 800 crore to Rs. 1,200 crore and the country is greatly indebted to the Commonwealth countries and Germany, Japan and the United States for their sympathetic help to India in its hour of economic need and crisis. Unfortunately, there are sections in the country which have not shaken off the phobias created by the period of British rule. India is independent and if she borrows money from abroad, it is not because she is a subordinate partner of an imperialistic alliance but as an equal member of the democratic community of nations. We require a climate for foreign investments in the country and it would be desirable, therefore, not to indulge in policies or slogans which will frighten foreign investment. In this matter, the Government of India has set up an impressive record of not only inviting foreign assistance but also making it possible for foreign investors to co-operate with Indian capital on terms of equality, giving pledges to train Indian personnel to carry on the work. This measure of co-operation with foreign industrialists should continue for the benefit of the country. It is perhaps interesting to note, in this connection, that India is among the very few nations of Asia to inspire confidence in foreign capital.

Spending Sprees

Stress should be laid on the need for the curtailment of 'conspicuous spending'. This requires a complete change in our approach to ceremonial occasions. Marriages, deaths, funerals, birthdays and engagements have constituted a heavy burden on the purses of the poor and the rich alike. It would be desirable for the political parties from now on to launch a vigorous drive for curtailment of futile expenditure in these matters. State Government officials and even Ministers should set an example by trying to board public transport vehicles like buses to

make people feel that the possession of a motor car is not the only sign of respectability and acceptability in the social world. It may be necessary also, as has already been done by some Ministers, for Ministerial spending to be cut down to the bare minimum because unless the example is set at the top, it is not likely to be followed at the basement level.

The Third Plan will call for high level austerity. Unless consumption is rigorously controlled, the precarious foreign exchange balance which we have now acquired by balancing our imports with our exports will cease to exist and the country will be plunged into a severe economic crisis, greater than what we have seen during the last three years. The enforcement of controls requires popular support because no policeman, even if he is armed with a submachine gun, can convert evil designs into honest designs. Fear can compel conformity but what is required is free and zealous public impulse to support austerity and the enforcement of controls. This requires a high measure of discipline; it will call for patient waiting in queues for ration cards, if they are introduced; acceptance on the part of the public of reduced quota of consumer goods and privation in many other spheres. Unless the public accepts such measures, no Government, however powerful, can enforce austerity in the interests of later plenty.

The Cripps Outlook

What India requires at the present stage is adoption of the spirit which prevailed in the United Kingdom during 1947-50 when Sir Stafford Cripps was Chancellor of the Exchequer. At the time Lend-Lease had been withdrawn; the U.K. had to continue subsidised food and clothing and the Labour Party was pushing through the first stage of its social security measures like free medical aid. The Britain of those days was a bleak Britain, which felt inferior to the United States in the matter of goods. Britain had been ravaged by the most disastrous war in the current century—but the British people took the sentence of austerity of Sir Stafford Cripps with the same grim smile with which they accepted the rigours of war-time administration. They have now climbed the hill and reached the summit of prosperity.

War Against Want

Our country so far, with God's blessings, has been saved from a full-scale war, but the ravages of an economic crisis in terms of unemployment, undernourished children and uneducated population, can be more acute than the disasters brought at the point of a Bren gun. The country's population is growing and every day more are born for whom there is no food. Agricultural production has to be stepped up and India has to be made fully self-sufficient in foodgrains in spite of the fact that this too depends on the quirks of fate like a good monsoon and the absence of floods. Whether we succeed or not will depend on a number of factors, but the country must get into the mood of waging what I should like to call a war against starvation and undernourishment. It should also be a war for opportunities of employment. Plan-consciousness can be built only if we get into a war frame of mind.

HELP THE PLAN AND HELP YOURSELF

Attainment of Plan targets is the Index of
Popular response

KERALA'S SECOND FIVE-YEAR PLAN

Kerala Records Encouraging Proof of Success
in Plan Implementation

		Rs. (in lakhs)
Total Plan Outlay	..	87.01
Allotment for 1956-57	..	10.82
" 1957-58	..	15.12
" 1958-59	..	18.55
" 1959-60	..	22.02
Total:		66.51

Kerala is Determined, Not Only to Get Abreast of
Sister States, But to lead.

Inserted by the Department of Public Relations.

Three Faces of old Indian Cities

DURING British rule most cities of northern India were a combination of three distinct cities: the city proper, the civil lines and the cantonment. Of these, the first was purely Indian, the city behind the ancient city walls. This the English used to describe as the native quarter. The civil lines were usually just outside the walls far enough to be spared the foul odours of the native quarter and near enough to get there within a few minutes in cases of riots. Not infrequently there was a large garden to separate the two, and more often than not, it was known after the East India Company, as the Kumpunee Bagh. Its centre-piece was the statue of Queen Victoria or one of the Emperors, with old cannon at its base.

The Civil Lines

The civil lines usually consisted of a colony of bungalows with large gardens built along well-maintained avenues of tarmac roads. The biggest of these bungalows was the residence of the Commissioner or his deputy. It had a police guard at its two gates and a Union Jack flying from a tall flag-pole planted in the centre of the lawn in front of the house. Alongside the Commissioner's residence were those of the superintendent of police, the engineers, civil surgeon and other senior officers, all Englishmen. They also had their own club, usually named after the town. The only Indians allowed in those were bearers who served them. There were also the official rest-houses or dak bungalows. One for the top administrators was known as the Circuit House where the Governor also stayed when he came on a visit; others were for officials of the Public Works Department or for canal officers. The bungalows of the Indian officials were smaller. So was their club which was exclusive in its own way. They kept out lawyers and city business men, and although there was nothing in their rules about debarring applicants of other nationalities, it was generally bruited about that if ever an Englishman applied for membership, he would be blackballed. No Englishman ever applied for membership to an Indian club.

The Cantonment

The cantonment, as its name signified, was an army establishment. It was a city apart, well removed from the other two which were out of bounds for all soldiers. The lay-out of the town was different. It had its command house for the commanding officer with its extensive lawns, its arm-

ed sentries at the gates and the flagmast with the regimental banner. There were a few other houses for married officers. The club and the mess were impressive buildings with bars, a library and an enormous dining room.

of politeness as they did when saying 'God bless ji'. Their wives did likewise. They learnt to waltz and jitter-bug. They learnt to drink, smoke and flirt with their husbands' colleagues. And they learnt to speak Hindustani like English memsahibs.

KHUSHWANT SINGH

They had oak panellings with coats of arms; heads of hog, deer, elephant, tiger and panther on the walls; swords or Garkha knives fixed above the mantelpieces; silver shields and trophies won at regimental sports in glass cases. The barracks of the soldiers, both English and Indian, were exactly alike everywhere, double-storeyed, of grey stone and green shutters for the English; single-storeyed, of dull khaki shutters for the Indian. There were several parade grounds and sports fields—as even as billiard tables with the surface plastered with mud.

The cantonment was self-sufficient and had little connection with its sister cities. It had a railway station of its own, its own little bazaar, its own Anglican and Catholic churches for the Whites, its own Mission House for the Indian Christians. It even had its own brothels: of fairer Anglo-Indian girls for the White officers, of darker ones and native women for the ranks. The cantonment people looked down upon the city and the civil lines populace. English officers seldom invited English civilians to their functions and referred to them as service wallahs, or if they were business men, as box-wallahs. (The civilians retaliated by referring to the cantonment dwellers as 'army types'). Indian army officers and their wives carried the snobbery a stage further. The symbol of their 'culture' was (in some cases is to this day) the money-plant whose bright green leaves hung down from flower pots fixed in the walls. If the husbands had been to Sandhurst, Woolwich or Cranwell, their way of living, manners, and above all, the language spoken by the wives, made it quite clear that the men had been to Sandhurst, Woolwich or Cranwell. Unlike their civilian counterparts, they mixed with the English officers' families on more or less equal terms. They expressed their gratitude for this by being more English than the English. Their English was pukha. They rarely spoke their own language, and when they were compelled to do so with their servants, they spoke it with an English accent and intonation. They put down their whisky with 'bot-toms up' or 'mud in your eye, old boy'. Even the more patriotic who drank to a 'Sat Sri Akal' pronounced it like Englishmen only adding the Indian suffix 'ji' out

The sweepers wore khaki turbans and shirts, walked like soldiers and like soldiers saluted people they wanted to greet. The 'ladies' felt superior because their sisters in the city knew nothing of the ruling class or its bedside manners. They could also flaunt the English names their patrons had given them. Thus Gulab was Rosie, Begum was Queenie and Champak Flo or Daisy. Many picked up sentences of English, flawless cockney. And everyone had a repertoire of four-letter words and phraseology necessary for their trade. 'C'mon Mister Tommy! Big nice time for big money, yes? What you no jiggy-jig? You no man, Tommy! C'mon!'

The real city behind the ancient walls had no clubs, no bungalows, or gardens to boast of. But it was the city. Its citizens had the sense of belonging and rightly regarded the others as upstarts and *nouveau riche*. Although the civil lines and the cantonments had the space and the fresh air, the people of the city preferred their congested houses in narrow, evil-smelling streets. Rich merchants came out to the Kumpunee Bagh on summer evenings in their phaetons. (Some had even built houses in the civil lines and the cantonments which they rented out or kept for trysts with their courtesans). Sometimes they went to the cantonment to watch regimental games and Highland dancing. But neither the games nor the gardens with their jasmynes and lady-of-the-night would persuade them to stay out much after sunset. Alas, the three-in-one, the Trimurti city of yesterday is no more!

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Extending your cooperation for keeping the surroundings clean and by availing of the services of Sanitary Staff provided at stations whenever required.

MINERAL SURVEY & DEVELOPMENT

(Continued from page 11)

were exported, realising but a trifling price. Since 1946, Government has imposed a ban on its export and regular mining of this mineral is being fostered in Rajasthan, Bihar and Madras. The entire output is purchased by the Atomic Energy Department for stockpiling, and manufacture of beryllium oxide and beryllium metal is being planned for use in the atomic energy reactors that are to be put up for nuclear power production.

CHROMIUM: The entire output of chromite, the chief ore, ranging from 10,000 to 12,000 tons per year, was mined from the richer deposits for export during the pre-war years. Only a small part of it was utilised for local manufacture of furnace-bricks and other refractories and chemical products. The raisings have now increased to 70,000 tons, a part of which is upgraded from the poorer ores by beneficiation. An increasing quantity is now being used for the manufacture of ferro-chrome, a valuable steel alloy.

Coal Production

COAL: In the last decade, the output of coal has recorded an increase from 29 million tons in 1943 to 46 million tons in 1953. This increase reflects in a measure the progress of manufacturing industries in India, in which minerals and metals have a big share. The total coal reserves of India have also shown an increase of several hundred million tons during the period by the discovery of new deposits and extensions of known fields as a result of the work of the Geological Survey and the Bureau of Mines. The Neyveli lignite field of South Arcot district, which is being put into production, will make a material contribution to the industrial growth of South India. Recent successful experiments in washing and blending of various grades of non-coking coal, will also help in ameliorating the country's deficit position in coking coal, the fuel on which the future of metallurgical industries largely depends. This is of great significance, because India's large reserves of the ferrous and alloy metals promise to make the country a leading metallurgical centre in Asia.

COPPER: The mining of copper-ores and manufacture of metallic copper have remained more or less static, copper being one of the deficit mineral products of India. An annual production of 6,000 to 6,500 tons in 1947 has increased only to 7,500 to 8,000 tons per annum, the product of the Mosabani mine in Bihar.

Annual consumption of copper in India is 63,000 tons.

GYPSUM: Owing to total lack of sulphur in India and its deficit position with regard to workable sulphides, the mineral gypsum assumes importance as a possible source of sulphur and sulphuric acid. The reserves of gypsum in India were small and confined largely to Rajasthan. But discoveries by the Geological Survey of India of important reserves lying at some depth in this area have greatly improved the position. Enormous amounts of pure gypsum remain unutilised in some mountainous districts of Kashmir. These, when processed for sulphur and sulphuric acids, will, with better transport conditions, materially improve the position still further.

IRON: A material change for the better has taken place in the iron and steel industry of India during the last twelve years. Possessing reserves of over 20,000 million tons of high-grade iron-ore (60 to 70 per cent iron), India was producing a little over a million tons of steel in 1947. The Second Five-Year Plan projected an output of 6 million tons of steel, together with a range of alloys—ferro-chrome, ferro-silicon, and ferro-manganese—by the time the existing steel plants and the new projected plants came into full production. After these developments, India will be nearer self-sufficiency in pig iron, cast iron and a wide range of steel products, reducing materially the huge annual imports of steel from foreign countries.

LEAD: Production of lead in India is still insignificant in comparison with imports of the metal, 20,000 tons. This dependence on imports is in contrast with the evidence that considerable amount of lead was produced in several parts of the country a century ago, to meet its demand for munition lead. A lead-zinc mine is in operation at the site of the old abandoned mines at Zawar in Udaipur. Only lately, after years of development, it has begun to produce yearly about 4,000-5,000 tons of lead and 1,000 tons of zinc.

MAGNESIUM: Over 100 million tons of magnesite of high chemical purity occur in Sider and Mysore, but very little magnesite is being used for the extraction of metallic magnesium. About 35,000 tons per year are mined for the making of caustic magnesite, sord cement, magnesia bricks and other refractories. Research on the preparation of metallic magnesium, light-metal alloys and magnesium-aluminium alloys is being planned.

MANGANESE: For over 30 years, India occupied a leading place amongst the world's suppliers of



Splitting mica sheets

manganese ores. Between the two World Wars, India's annual exports of high-grade manganese-ore often touched the million-ton mark. This export still continues, although in somewhat diminished proportion, and the country gets in return valuable foreign exchange. This is an improvement on past conditions, when the price realised by Indian miners was at times barely 1/7th of the present price. The low-grade manganese ores, the reserves of which are yet large, are now being treated by beneficiating processes, to convert them into metallurgical grade ores, both for export and for internal use. This has reduced the drain on the superior type of manganese-ore, the reserves of which are not considerable, computed only at 15-20 million tons. A healthy feature of the economies of manganese mining today is that a fair proportion of the output is being converted into ferro-manganese. The Second Five-Year Plan envisages the manufacture of about 50,000 tons of ferro-manganese in the country.

MICA: India's pre-eminent position as a supplier of 30 per cent of the world's demand, which it had secured four decades ago, still continues and the threat of synthetic mica has not yet challenged this position. The value of exports of standard-grade Indian mica during the last ten years has ranged between Rs. 3 crore and Rs. 10 crore and this position is likely to remain more or less static for some time. The indigenous use of mica in electrical industries, which was so far negligible, is now assuming a fair proportion and the employment of sub-grade mica from the huge dumps of waste mica tailings at mine-heads for fabricating micaite, mica board, bricks, etc., is increasing.

PETROLEUM: Against a consumption of about five million tons of petroleum products, India's indigenous production of crude oil is yet barely 6 or 7% of its needs. The recent discovery of three oil-fields in the Brahmaputra Valley by the enterprise of the Assam Oil Company has improved the situation to some extent and there is possibility of about 25 million tons of annual production coming in from these oil-fields in a year or two.

A very welcome development of the last decade in this field is the intensive survey being carried out by modern geophysical techniques of nearly one lakh square miles of potential sedimentary areas by the Oil and Natural Gas Commission. Survey, prospecting and drilling of the last three years has worked out promising basins where a considerable programme of drilling and up-to-date logging is being put in force. The work hitherto carried out by the geologists and geophysicists of the Commission has clearly demarcated a large structural basin, with repetitions of oil and gas sands in North Gujarat around the Gulf of Cambay. The survey has revealed possibilities which warrant optimism for the future of oil in India.

Atomic Minerals

THORIUM: India's reserves of thorium, a potential atomic fuel, are on a scale of world importance. Recent discoveries have greatly added to the known reserves of this metal in the coastal sand deposits which are now estimated at nearly half a million tons of thorium oxide. The source of this atomic metal is the mineral monazite, which occurs in the Ilmenite sands of Travancore and Madras coasts and in parts of Hazaribagh plateau as a surface placer. The Rana Khatia Factory and the Thorium Factory of the Atomic Energy De-

partment are planning to produce metallic thorium and thorium salts by treating monazite, liberating in the processes many rare-earth compounds and phosphoric acid.

TITANIUM: The chief ore of titanium, the mineral ilmenite which is widely distributed along the coasts of India, constitutes a valuable mineral asset of the country. A careful resurvey of ilmenite has been undertaken by the Atomic Energy Department, and the total reserves of ilmenite, which were formerly vaguely guessed, are now, on the basis of detailed investigations, put at about 200 million tons. The entire output of ilmenite continues to be exported and no attempt is yet made in the country for the manufacture of titanium oxide, a valuable material for paints and lacquers, nor of titanium metal, a metal which is going to play an important role in metallurgy in future.

URANIUM: Since the abrupt termination of the Second World War by the exploding of two atom bombs, uranium has sprung into a position of prime importance. The reserves of uranium-ore in India are of moderate size and involve costly and difficult mining and extraction operations. Since 1949, surveys of the Atomic Energy Department have brought to light reserves of the order of 30,000 tons of uranium oxide locked up in monazite, in pegmatite veins and forming a very minute constituent of ancient crystalline rocks of Bihar, Rajasthan and Madras.

ZIRCONIUM: This rare metal has come into prominence very lately as an accessory material for use in atomic energy and in alloy-metallurgy. The main source is the mineral zircon, found associated with the ilmenite beach sands of Malabar and Cochin coasts. The reserves are computed at about 10 million tons. So far, however, this mineral remains unworked, except for a small export trade.

Advance Satisfactory

The above review shows a measure of advance over the pre-War condition of affairs that must be considered satisfactory. The new policy has undoubtedly accelerated mineral development, but its implementation has brought some temporary negative factors which have tended to slow down the pace of development. These factors are: lack of uniform policy regarding mining concessions; unusual delays in the grant of mining leases and licences, the difficulty of obtaining supplies and delays in the issue of essential import and export licences. The respective roles of the Centre and States are yet not clearly defined in the administration of minerals. But the subject of co-ordination and integration of mining legislation between the States and the Centre is too involved to be dealt with in the present article. There is also lack of enterprise in the general public. Mining is yet an unwelcome field of activity for most sections of the people. They seek too many guarantees and securities for an occupation that must always have a large element of speculation. The unfavourable factors, however, are gradually being eliminated. Still, a change of outlook on the profession of mining in the people and a certain amount of liberalisation of present rules in respect of mineral tariff, taxation, royalty and lease-laws, must take place before the maximum return from underground natural resources can accrue to the nation.

PRIZE-WINNING PHOTOGRAPHS

The photographs which have won the first three prizes in the Photographic Competition of Yojana will be published in our next issue.



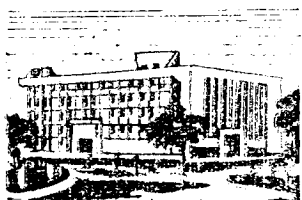
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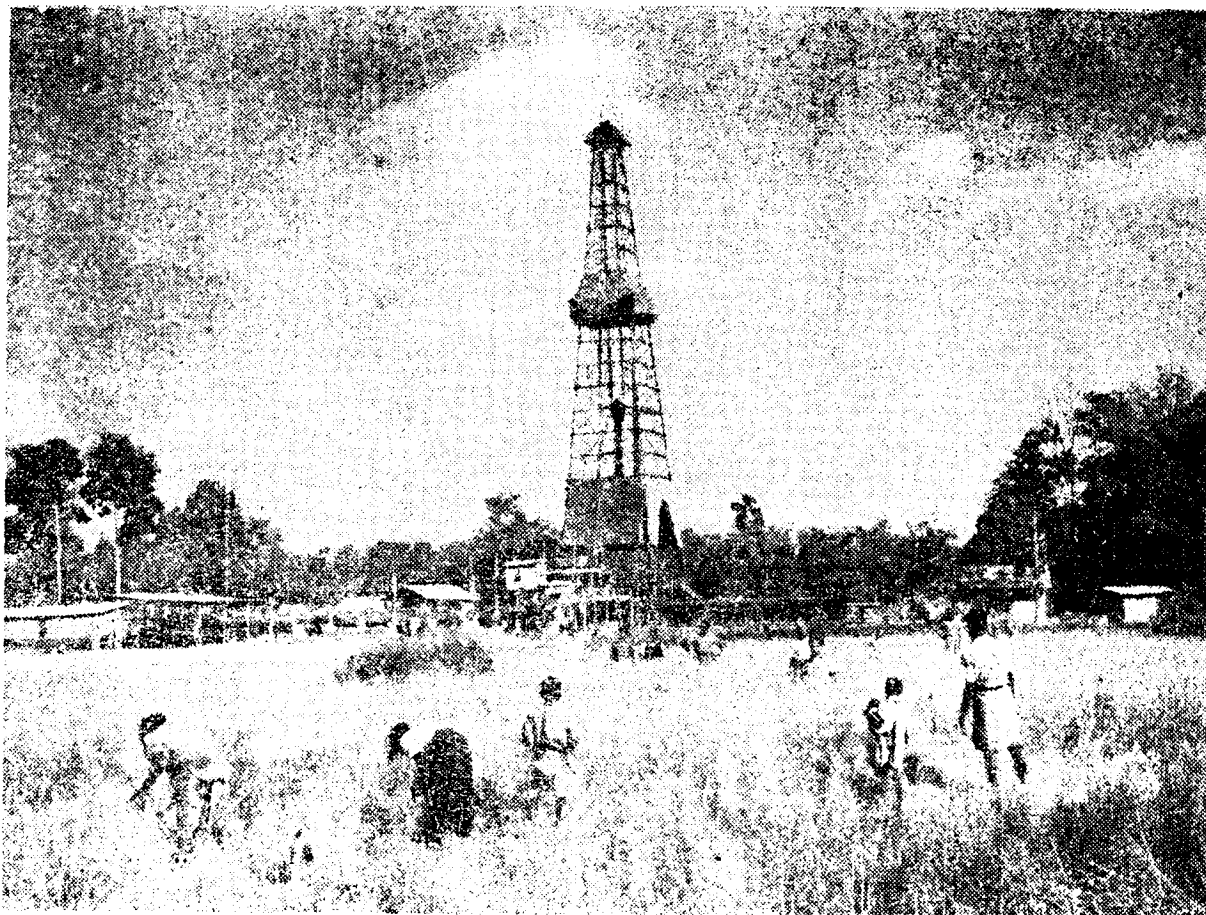
WHEN oil from the Nahorkatiya-Moran oilfields enters the market, India's crude oil production will rise, at one stroke, from half a million tons per annum to an annual figure around 2½ million tons. These oilfields were discovered by the Assam Oil Company and the story of this adventure in oil is given briefly below.

Nahorkatiya is situated on the bank of the Burhi-Dihing River, about 25 miles south-west of Digboi, the home of Assam's oil industry. In contrast to Digboi, the region is very flat and less densely forested. The road from Digboi to Nahorkatiya winds through picturesque country dotted with village huts and paddy fields.

Geophysical work in the Nahorkatiya areas was undertaken as early as 1923, when the modern method of exploration was still in its infancy. With the World War II prohibition on prospecting and the post-war shortage of equipment, it was only in 1951 that seismic work for locating oil fields started afresh in Nahorkatiya.

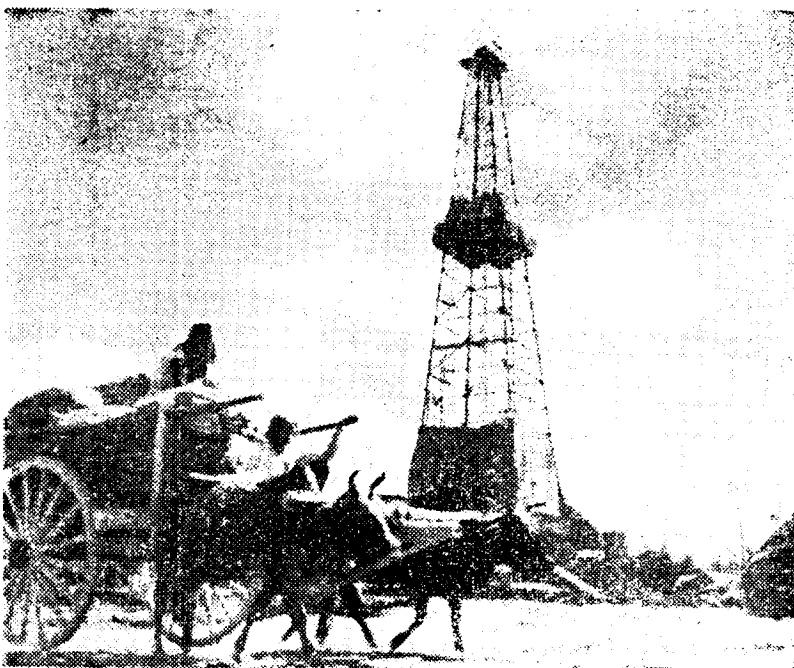
Drilling of Well No. 1 at Nahorkatiya began on May 26, 1952. In February 1953, the well was 9,740 feet deep—600 feet deeper than any well previously drilled in India. The first major event of interest occurred when a test of sandstone rocks encountered at 9,700 feet yielded signs of oil. The well was continued to a depth of 11,715 feet but it gave promise of being a satisfactory producer from around 10,000 feet.

Nahorkatiya's proof of oil was the key which opened the way for a new and extensive programme of geophysical surveys over



Work in the paddy fields goes on in the shadow of the steel derrick of the oil field. The scene is Naoholia in Upper Assam

The Nahorkatiya-Moran Story



A study in contrast—bullock cart and oil well

the entire alluvial areas of Upper Assam. New outfalls were put on the job to accelerate the drilling of extension wells; roads and bridges were constructed, a new

temporary colony created on both banks of the Burhi-Dihing and a pipeline to Digboi was laid.

The Moran oilfield lies about twenty-five miles west-south

west of Nahorkatiya. The region is flat and dotted with tea gardens. The national highway connecting Dibrugarh and Sibsagar runs through Moranhat, about twenty-three miles from Dibrugarh, a tea-growing area in Upper Assam.

In 1956, the drilling of a test well on a seismic 'high' was started about five miles from

By B. KRISHNA

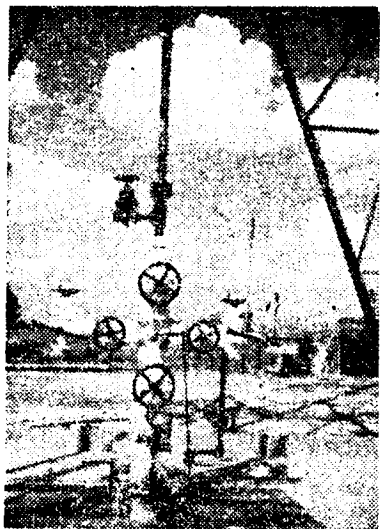
Moranhat. This well, drilled to a depth of 13,739 feet and completed in about six months, struck oil and heralded the opening up of the Moran oilfield.

All the wells in Nahorkatiya and Moran belong to Oil India Private Limited, which operates from its headquarters in Digboi. It has an authorised capital of Rs. 50 crore divided into 5,00,000 shares of Rs. 1,000 each. One-third of the capital is provided by the Government of India and two-thirds by the Burmah Oil Company Limited.

In order to facilitate construction of the pipeline from Nahorkatiya and Moran oilfields to the two public sector refineries which are to be located in Noonmati (Gauhati, Assam) and Barauni

(Bihar), the Burmah Oil Company Limited and the British Government have offered a loan of £23,000,000 which is estimated to cover the foreign exchange element of the total expenditure on this project.

The throughput of the two public sector refineries will be 7,50,000 tons per year for Gauhati (Noonmati) and 2,00 million tons per year for Barauni. The 16" section of the pipeline from Nahorkatiya to Noonmati will carry 2.75 million tons of crude oil per year and the 14" section from Noonmati to Barauni will carry 2.00 million tons.



Nahorkatiya No. 1—The first well to strike oil in the Brahmaputra valley

Nahorkatiya-Moran area, in addition to supplying these 2.75 million tons of crude oil per year to the two public sector refineries, is also expected to make available about 30.35 million cubic feet per day of natural gas.

These will be impressive achievements but it is necessary to see them against the background of a host of financial and technical problems that accompanied them.

The average cost of test wells in this region varies from Rs. 25,00,000 to Rs. 40,00,000 while the average cost of a development well varies from Rs. 15,00,000 to Rs. 20,00,000. Over 200 deep and shallow holes—all unproductive and therefore totally unremunerative—were drilled by the Assam Oil Company in India before discovering oil at Nahorkatiya.



The oil camp at Moran where the first and deepest (13,739 feet) test well was drilled in 1956

Capital Goods Sector

ITS SIGNIFICANCE AND NEED

FOR A GROWING ECONOMY

THE economic development of an overpopulated, underdeveloped country is normally associated with the process of industrialisation. This relative shift away from land arises out of a discrepancy between per capita incomes earned in industry and agriculture. As long as this condition prevails, per capita national income will rise by this transfer of surplus labour to industries. This is the main economic case for industrialisation.

Now it has been found that the basic period of industrialisation is a period of heavy accumulation of capital. In other words the period of industrialisation is a build-up period during which a very large part of production is, so to say, ploughed back into the economy. The rate of expansion of consumption is, consequently, severely curbed.

Different countries which have accomplished their industrial revolution have performed this basic task and this has been the crucial phase of their economic growth; the exact modes and mores have, no doubt, differed from country to country. The eighteenth century British capitalists' passion for profits and fierce struggle to keep wages down, fortified, of course, by Protestant ethics, or the twentieth century Russian Communists' zeal for hard work at low wages to safeguard the Proletarian Revolution seem to be poles apart, but they both were the midwives of successful industrial revolutions.

The length of this basic period of build-up depends primarily upon the spread of the build-up. When the build-up period is over, the period of rapidly increasing consumption can start.

Two Sectors

The mechanics of this process of economic growth can be appreciated easily if we break an economy into two sectors: Sector I, producing what are called producer goods or investment goods (i.e. goods which help in the production of other goods); Sector II, producing all consumer goods (i.e. goods which are required for final consumption), and study their interrelationships. The dividing line between the two sectors is not always precise but the distinction is fairly clear.

In the context of this highly simplified two-sector picture of the economy, a pre-industrial, underdeveloped economy may be defined as one which has, relatively speaking, a very small producer goods sector (Sector I above). This may also be described as a society that consumes most of what it produces; and what little it saves is just enough to keep its existing capital stock intact and provide the minimum means of sustenance for the increasing population.

But if such an economy possesses the relevant natural resources and labour power, then it can expand both its sectors at the same time. Accumulation of capital need not involve reduction in current consumption; indeed such accumulation can be accompanied by an increase in consumption.

This increase in consumption will be partly due to the increase in the number of workers (through activation of the formerly unemployed workers) and partly due to increase in their real income.

Let us now examine the interrelationship between the two sectors into which we have divided the economy. The interrelations between the two sectors involve several kinds of transactions and flows which have to be of certain dimensions to prevent dislocations in the economy as a whole. We shall not go into those complications here. We may merely note that both sectors are linked together to produce the final consumer goods. The expansion of Sector I, i.e. the demand for investment goods, will depend, in the final analysis, on the expansion of Sector II. The expansion of Sector I can therefore be said to be limited to what would be needed

ultimate aim of industrialisation. This is a purely economic argument which demonstrates the need for rapid expansion of capital goods sector to promote rapid economic growth. It does not take into account the political and strategic compulsions for a country to do so. These compulsions provide supplementary arguments for this line of policy.

II

Pioneering industrial countries which evolved modern technology as their industrial system developed, passed through three main stages, according to the importance of the capital goods industries in their total industrial structure. These three stages have been found to be distinguished by the predominance of consumption goods industries in the first stage, a relative increase of capital goods industries in the se-

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to meet the slowly rising demand from Sector II, apart from what it has to produce by way of replacing its own depreciated production facilities.

Large Investment

In practice, however, Sector I cannot expand slowly and continuously in the wake of rising consumption. Many basic industries, transport systems, and other social overheads will be required before secondary manufacturing industry could get started. Such industries and social overheads cannot, for technological and other reasons, be brought into existence bit by bit. Investment in such industries takes place in large lumps or not at all. For some time, therefore, the growth of Sector I must anticipate and be largely independent of the growth of consumption. This anticipatory and independent expansion of Sector I is precisely what we mean by industrialisation. In view of the smallness of their markets for consumer goods, underdeveloped countries have to bring this about deliberately. During the basic period of industrialisation, the demand for the products of Sector I, therefore, comes from Sector I itself. This means that the flow of goods is, largely, not from the investment sector to the consumption goods sector but within the investment goods sector itself. More coal, to produce more steel, to produce more machinery, to mine more coal and ores, and more railway and other transport to relate one to the other. In other words, a vast complex of metallurgical, mining, engineering and electrical industries comes into being.

Once these industrial complexes have been built up, the battle for industrialisation is won and the investment goods sector is in a position to divert its flow of goods, namely, the requisite producer goods to the consumption goods sector to enable it to expand its output and thus raise the consumption levels of the people—the

cond stage, and a balance between consumption goods industries and capital goods industries, with a tendency towards the predominance of capital goods industries, in the third stage.

On the basis of a statistical survey of different industrial countries it has been found that the ratio of consumption goods industries to capital goods industries fell significantly as industrialisation speeded up. The value of the output of consumer goods industries was roughly five times the value of producer goods in the first stage; it came down to about two and a half times in the second stage and in the third stage the value of consumer goods was even less than the value of producer goods.

This has been the pattern of industrial development of Great Britain, U.S.A., Germany and other countries where the process was evolutionary. But countries wanting to telescope the stages of development spread over longer periods in older industrial countries may reverse this process considerably. The Soviet Union is an extreme example of this second type. The greater speed of industrialisation in the U.S.S.R. is obviously due to the well-known emphasis of the Soviet planners on heavy and basic industry, requiring a technology which was more gradually evolved elsewhere but was ready at hand for a late-comer like the Soviet Union.

The ratio of consumption goods industries to capital goods industries changed in Great Britain from 6.5:1 in 1812 to 1.5:1 in 1924; in the U.S.A. from 3.5:1 in 1850 to 0.8:1 in 1927 and in the U.S.S.R. from 2.3:1 in 1923 to 0.56:1 in 1941.

III

India, despite a long century of industrial growth, was still in the first stage of industrialisation when the Five Year Plans started. The major emphasis in her industrial development had been on consumer goods industries. Summarising this position, it was noted in the First Plan that "the output of consumer goods indus-

tries such as cotton textile, sugar, soap, matches and salt may be said to be on the whole sufficient to meet the existing low level of demand in the country, in the present stage of development. In the case of capital goods industries and the industries manufacturing intermediate products, the available capacity in the country is in most cases inadequate for present purposes." The meagre dimensions of these 'present purposes' will be obvious from the fact that factory establishments, which provide the main market for capital goods, accounted for only 6 to 7 per cent of the total national income.

Before the Plans the main spurt of industrialisation in India came during the inter-war period. This industrial expansion took place under the aegis of 'discriminating protection' policies and merely developed existing industries, catering mostly for the internal demand for finished consumer goods. Such industries could extend only to the point where they met the whole or almost the whole of internal demand. This no doubt led to considerable increase in industrial output and increased the size of some of these industries significantly. Indian cotton textile industry, for example, became one of the largest of its kind in the world. Since, however, imports and consumption are small in backward areas, self-sufficiency was reached by these industries at a fairly low level. Industrial development of the type fostered in this period was, therefore, bound to reach a saturation point at an early stage. If one may use the currently fashionable analogy of 'take-off' and compare the process of industrialisation to the movement of an aeroplane, we could, perhaps, say that the plane went down the runway and even created the illusion of flight but it really never 'took off'.

Heavy Machine Building

The First Plan was primarily a rehabilitation programme for an economy which was severely hit by war and the partition of the sub-continent. The main increase in industrial output during this period came by way of increased utilisation of existing capacity and not by way of increased capacity. From this point of view the reversal of the Government's 1949 decision to set up an additional one-million-ton steel plant in the First Plan was unfortunate. The setting up of this plant would have substantially reduced the strain on foreign exchange during the Second Plan.

The strategy of economic development which aims at the building up of the capital base of the economy by rapid expansion of capital goods sector was, at long last, accepted in the formulation of the Second Plan.

The Second Plan, therefore, marks a sharp break in Indian industrialisation. This break is highlighted by the emphasis placed on the expansion of steel capacity—the real core of the capital goods sector. Around this core, various kinds of fabricating facilities, heavy foundries, forges, structural shops, etc., will have to be set up. Together, all these facilities constitute the primary phase of heavy industrial machinery. Unfortunately, in the Second Plan the heavy machine building and electric equipment projects have got delayed for one reason or the other. Whatever the reasons, the impact of this delay on the Third Plan will be similar to that of the postponement of a steel mill in the First Plan. Such delays unnecessarily prolong what we called earlier the period of build-up.

Growing More Through Co-operative Farming

MUCH has been written on this controversial subject. Service co-operatives have been welcomed, and there is general agreement about their necessity. But we are told that they must not lead to co-operative farming. Some even oppose service co-operatives because they fear that the next step will be co-operative farming. But this fear is groundless. Nowhere in the world have service co-operatives by themselves developed into co-operative farming. Like any other development activity, co-operative farming needs a sponsor if it has to be brought about. The sponsor may be a political party, the State, or the whole nation when there is agreement amongst the political parties. But sponsoring there must be, if the development of co-operative farming is to become a movement. One may ask, "Why should this be so? Is not co-operative farming good? Does it not increase production? Why then should it not be taken up? Why must it be sponsored?"

Because it is like a medicine for a particular disease. Is there a patient who does not know that medicine should be taken when he is ill? But how many in practice will take unpleasant medicines on their own initiative even when they know they will be cured? They have to be coaxed into taking them, be they children or be they adults. For, whether we like the simile or not, we must face the fact that co-operative farming is like the bitter medicine. A peasant is so much attached to his land and the traditional method of operating it himself, that he is bound to look askance at any method which would blur the former right and obliterate the latter practice. Group farming robs the peasant of his independence which, not infrequently, can be an excuse for idleness or irregularity. The peasant cannot sell his land to a purchaser if it is pooled in a co-operative farming society. The purchaser will have the right to share in the profit, not the right to cultivate that particular piece of land. Likewise, the peasant understands individual operation of land. The crop rewards an industrious and enterprising cultivator, or penalises an indolent one. But how would all that be in co-operative farming? Why co-operative farming at all?

LOCAL LEADERSHIP

Wherever co-operative farming has succeeded in making headway, conviction has been carried to the farmer through the intelligentsia, through a party, or through propaganda, rather than through demonstration of successful instances. The latter are certainly necessary. Patients, who have taken the medicine and benefited, always help to advertise the efficacy of the remedy. But the initial resistance has to be overcome through persuasion. This is where local leadership comes in. The farmer is sceptical and does not believe your statistics, but he will follow the village leader if he takes the initiative and agrees to pool his land. Co-operative farming must therefore become an agreed programme on which all political parties are united.

REAL INCENTIVE

The necessity for co-operative farming arises today because of the great extremes in our pattern of land holding. On the one side, nearly 20 per cent of the people in the villages (this is an all-India average) are completely landless; they labour on land belonging to others, in the cultivation of which they have no interest except their wages. As with all uninterested labour, their output is unsatisfactory. Another 28 per cent are practically in the above category. They have land, but it is so small as to be nominal. They also maintain themselves mainly by agricultural labour. On the other side is a group of 4.5 per cent of people who own nearly one-third of the land. In between are the small farmers, with holdings so small that they have to supplement income from it by additional labour outside their hol-

dings. There is no surplus left to improve these holdings, nor can they attract outside credit for their improvement. Some 20 to 25 per cent of the total holdings (by area) would be in this category. Co-operative farming, thus, (i) seeks to offer an inducement to the agricultural worker to work more intensively by giving him an interest in the result of his labour; (ii) provides a chance to all uneconomic holdings to improve their holdings and increase production; (iii) makes for better utilisation of the village labour on

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land improvement and cottage industries, and (iv) gives the country the benefit of all the economies that large holdings imply.

BENEFIT TO COUNTRY

It may be useful to illustrate these with a few instances. It is well known that if the land is ploughed immediately after the crop is harvested, its manurial content is increased. But a single cultivator cannot do so because he is engaged in threshing and bringing home the harvested crop. In a co-operative farm it is possible to undertake both these operations simultaneously. In China, a certain area grew only a single crop of

CLIMATE OF COMMON ENDEAVOUR LACKING

rice, because the interval between the harvesting of one crop and the sowing of the next was only a fortnight or so. The co-operative detailed a team to prepare the land, soon after another team had harvested the first crop. And the whole area started growing two crops. In periods of drought the co-operative mobilised all the village labour, and through a relay system irrigated the crops on the banks of rivulets.

In our country, quarrels over irrigation of small fragments are frequent. They lead not only to a poor crop but also to avoidable waste of irrigation water. Above all, in the underdeveloped condition of our agriculture, development work like terracing, contour bunding, ploughing, construction of irrigation channels, etc. has to be undertaken systematically. There is also a large amount of unutilised labour in the village which could do it. There is no known method of co-ordinating the two, the surplus labour of the village and the village land to be developed, other than co-operative farming. The intelligentsia must be convinced of its advantages, and, in turn, the farmers must be persuaded to adopt it.

NO ALTERNATIVE

The question is frequently asked if it is not possible to increase production in any other way. The question is asked, for example, why Japan, with one of the smallest land-man ratios in the world, ranks in the forefront of the agriculturally developed countries. There is no co-operative farming in Japan. How have they managed to achieve this miracle? Agricultural development in Japan started in the seventies of the nineteenth century under a system of landlordism which provided for the maximum exploitation of the tenant. Rents varied from 60 per cent to 80 per cent of the produce. The landlords therefore had an active interest in developing their lands. Outside capital was thus mainly responsible for Japanese land development, which has now reached such a high stage of efficiency that nearly 90 per cent of the low lying rice-land

can admit water to and discharge it from the fields at will.

Our conditions are different. Capital for land development must be secured from our unutilised man-power and from agricultural surplus itself. Otherwise our industrial development will be retarded. On the economic plane it is clear that, for a large number (about 60 per cent) of our cultivators, co-operative farming is inevitable, as the size of their holdings is so small that it cannot be an independent unit of cultivation. The Nagpur session of the Congress has, after mature deliberation, prescribed co-operative farming as the pattern for the reorganisation of our agriculture. If land must belong to the tiller, with our numbers it will lead to a low land-man ratio. Such small holdings cannot form an economic unit of cultivation. There appears to be no escape therefore from the co-operative pattern in a country which has to develop itself by utilising its surplus labour power.

COMPULSION FATAL

Would force and compulsion be necessary for promoting co-operative farming? The answer is definitely in the negative. Both co-operative and individual farming can exist together; that is, they can co-exist. While the cultivators must be told what is good for them and urged to adopt such a course, there must be no coercion or compulsion. In fact there is ample evidence in the history of co-operative farming to indicate that the use of coercion is the surest way to court a failure. Of course, in the sponsoring process, co-operatives will have to be assisted with loans, technical assistance, etc., but grants should be avoided. In no country has the co-operative movement shown a healthy development on the basis of

grants and subsidies. Loans and technical assistance should also be available to private cultivators who do not join the co-operatives. Stopping of such help would amount to indirect coercion. This must be avoided.

In order to encourage farmers to join co-operatives, there must be a co-operative atmosphere in the country. The farmer must feel that in joining a co-operative he is doing what everybody else is doing in their respective spheres. Thus, trade, industry and all public and private concerns must be run on co-operative principles. There must be decentralisation, local initiative, and the operation of the slogan, 'All for one and one for all'. Then alone can a true co-operative spirit pervade our life. Today there is a conspicuous absence of such a feeling.

This is the main difference in the external atmosphere between a socialist country and ours. In these countries one notices much more equality between different classes and grades of people, between remuneration for intellectual and manual work, between the educated and uneducated and between the rural and the urban areas. It is very difficult, if not impossible, to generate a co-operative atmosphere when certain sections of our population are in enjoyment of an income and living standard which is not warranted by the average per capita income of the country. Without this there cannot be an atmosphere of austerity and economy which we all desire in order to render more efficient and effective service to our people.

The co-operative approach is a group approach in which the interest of the last and the least must come first. In such an atmosphere alone can we expect the development of co-operative farming societies on a large scale in India. Otherwise, there is the real danger that we shall have some joint stock farming societies and not genuine co-operative farming societies. The difference between the two should be obvious. Cooperation can only be between people with the same interests. A textile mill is not a co-operative endeavour, though it is a group activity. Let our co-operative farming be genuinely co-operative. Then alone it will release the latent energies of our people.

Drug Research

ed in Jamnagar (1955) and investigations on indigenous medicine have been undertaken in a systematic and modern way.

More than two thousand plants have been enumerated in the literature on indigenous drugs as having medical properties of some description or the other. Researches have been done on many medicinal plants and useful results obtained. Some of these indigenous drugs have found a place in world medicine. It will be difficult to enumerate or give an exhaustive list; but mention is being made here of a few important indigenous drugs which have promising future because of the encouraging results obtained from them.

1. ACONITE CHASMANTHUM STAFF: (Ranunculaceae).

Hindi—Mohri, Pium; This plant is a source of aconitine. Aconite is one of the oldest remedies used both by Hindu and Muslim physicians in India. The root is ground into paste and is spread on the skin as a remedy for neuralgia and other painful affections. Its preparation *Lini-mentum aconitum* is used as a popular counterirritant liniment.

2. ALSTONIA SCHOLARIS R. Br. (Apocynaceae):

Hindi—Chadun; source of many alkaloids. This drug is reputed to be a valuable remedy in chronic diarrhoea and in advanced stages of dysentery. In malarial fever, tincture or decoction of the bark gives favourable results. It is also used in skin diseases. *Tincture alstoniae* is one of its important preparations.

3. SARACA INDICA LINN. (Leguminosae):

This is largely used as an astringent and uterine sedative. It may prove useful in all cases of uterine haemorrhage where ergot is indicated viz. menorrhagia, metrorrhagia, post-partum haemorrhage etc. Its important preparations are *Extractum Asokae Liquidum* and *Decoctum Asokae*.

4. AEGLE MARMELOS CORR. (Rutaceae): Hindi—Bael

The Bael fruit is mostly used. Besides mucilage and pectin this fruit contains another very useful substance called imperatorin.

Bael is an invaluable remedy in obstinate cases of chronic diarrhoea and dysentery. The active principle imperatorin can be profitably used in the treatment of leucoderma. One of the preparations is called *Extractum Baelae Fructus Liquidum*.

5. SWERTIA CHIRATA BUCH. HAM. (Gentianaceae).

Hindi—Chirayata. This plant contains two bitter substances chiratin and onelic acid besides a horde of other substances. Chirata has long been used as a bitter tonic, stomachic, febrifuge and antelmintic. An infusion of the drug is generally employed. But it forms part of many compositions. It may be given in powder infusion, tincture or fluid extract. The important preparations are *Tinctura Chiratae Composita*, *Infusum Chiratae Compositum*, and *Infusum Chiratae Recens*.

6. HOLARRHENA ANTIDYSENTERICA WALL. (Apocynaceae).

Hindi—Kurchi, Kura. The bark contains many alkaloids. It is principally used as a remedy for amoebic dysentery. The most important and active alkaloid is conessine used in the form of its hydrobromide. The other useful preparations are *Extractum Kurchi Liquidum* and *Kurchi Bismuthi Iodidum*.

7. PSORALEA CORYLIFOLIA LINN (Leguminosae).

Hindi—Babchi. The seeds of this plant yield a mixture as psoralen and isopsoralen. These have given very satisfactory results in the treatment of leucoderma as indicated by the clinical trials being conducted in Central Drug Research Institute at Lucknow. On account of the importance of psoralen and iso-psoralen which are now considered to be therapeutically active principles of the drug, different workers have attempted to work out processes for the large-scale extraction of these furcoumarins. In connection with the systematic chemical trials of psoralen—iso-psoralen mixture in leucoderma in the Central Drug Research Institute, Lucknow, economic processes for their extraction have been developed and are protected by patents.

With the finding of this drug for the use of curing leucoderma we have found a good substitute for *Ammi majus* Linn. which is of Egyptian origin and is not found in India. The preparation from Babchi is called *Lini-mentum Psoraleae*.

ADHATODA VASICA NEES (Acanthaceae)

Hindi—Adulsa, Vasaka. In acute bronchitis it affords relief especially where the sputum is thick and tenacious. The dried leaves smoked in cigarettes are intended for the relief of asthma. The important preparations are *Extractum Vasakae Liquidum* and *Syrupus Vasakae*.

Other examples in the above class of drugs are:

a) **ACALYPHA INDICA LINN** (Euphorbiaceae): Hindi—Khokali, Kuppi. This plant is useful remedy in bronchitis, asthma, pneumonia and rheumatism.

b) **TERMINALIA ARJUNA W & A** (Combretaceae): Hindi—Arjun. The plant is a reputed heart tonic.

c) **BACOPA MOONIERI PENNEL** (Scrophulariaceae): Hindi—Brahmi. The plant acts as a cardiac tonic.

d) **DATURA METAL LINN** (Solana- ceae): Hindi—Dhatura. The leaves are used to relieve the spasms of bronchial asthma.

e) **EPHEDRA GERARDIANA (WALL) STAFF** (Gnetaceae). The extract of the stems is effective in controlling asthmatic paroxysms and also acts as an excellent cardiac stimulant.

f) **PLANTAGO OVATA FORSK** (Plantaginaceae): Hindi—Isabgul ki Bhui. The seeds as well as the husk are used in acute conditions of gastro-intestinal tract e.g. in chronic constipation.

g) **VALERIANA WALLICHII D.C.** (Valerianaceae): Hindi—Mushkbala. This is prescribed as a remedy for hysteria, hypochondriasis, nervous unrest and similar emotional states.

The mention of the plant *Rau- volfia Serpentina*, Benth. ex Kurz (Apocynaceae), Hindi—Surpangadha

is very necessary. This is a very important Indian plant which has attracted wide international attention. It was mentioned in the oldest literature almost one thousand years before Christ. A lot of research has been done in India and abroad, and amongst its various alkaloids, reserpine is considered to be the most important. The initial pharmacological researches were initiated by Chopra and Mukerji at the Calcutta School of Tropical Medicine as far back as 1933. Later on Mukerji with his associates carried on his researches on this plant in the Central Drug Research Institute, Lucknow and came to the conclusion that the total alkaloids of this plant may be a more useful remedy both in hypertension and in other mental conditions than the individual alkaloid reserpine. Active researches are still going on in this field and we may perhaps get something more important in the near future from this sovereign indigenous drug.

There is a host of vegetable drugs from indigenous sources which have been found useful and have been employed in the Indian Pharmacopoeia published for the first time in 1955. In the Indian Pharmaceutical Codex published by the author (1953) standardised preparations containing adequate amount of active principles have been described. They are meant to help pharmacists to prepare processed drugs from indigenous medicinal plants for ready use by modern practitioners also.

Some of the drugs mentioned in this article have already found place in the modern world medicine. As already discussed, there are more indigenous medicinal plants which have proved their efficacy in various ailments and diseases. It is, therefore, suggested that there is further scope of many more plants to be included in the modern system of medicine.

Conclusions

In the last decade or so researches on indigenous plant remedies have not yet shown results worthy of international attention except in the case of *Rau- volfia*. But one should not forget that in the comparatively earlier period, modern science has made use of century-old remedies from all over the world e.g. opium, nux vomica, hemp, datura, spices etc. from India, cinchona from Peru, ipecacuhana from Brazil, strophanthus or kombe arrow poison from Africa, coffee from Arabia and a host of others from other countries. If modern science could salvage so much from ancient cures of different lands there is every justification to do further research in indigenous drugs and also hope that further work in this direction will bring more nuggets of gold in the shape of life-saving and life-prolonging drugs. In the past, India did not have the necessary equipment, apparatus and the personnel to handle this problem effectively and on a large scale. But now with increasing facilities and some of the original obstacles and handicaps being removed we should be able to add to the newer sovereign remedies from the rich heritage of Indian materia medica.

CONTRIBUTIONS WELCOMED

With this issue, Yojana enters its fourth year of publication.

Yojana will be happy to consider articles of developmental interest, whether they examine a planning topic seriously or tell of ordinary persons' achievements.

Photographs are also welcomed.

—EDITOR



It's Quicker by RAIL

The Central Railway has made special arrangements for the quick transit of your cotton traffic from stations on the Nagpur, Secunderabad and Bhusaval Divisions to Bombay (B.P.T. Cotton Depot). A Fast Goods Service to the Cotton Depot picks up the loaded wagons from the important cotton booking stations in the Nagpur and Bhusaval Divisions. Supply of wagons is immediately made on indent.

Likewise, cotton from the Nizamabad-Aurangabad-Metre Gauge section moves into Mammad by Fast Goods where it gets transhipped into Broad Gauge for quick transit to Bombay.



CENTRAL RAILWAY

Of the Villages, for the Villages

Vallabh Vidyanagar Shows How Education Changes Rural India

THAT the rural areas should become prosperous and that people living in villages should lead an industrious, contented and happy life is something no one disputes: indeed people vie with each other in proclaiming this to be the main objective of all planning. Few, however, wish to live in the rural areas and among the villagers, once they have tasted of the comfort and amenities of the cities. That is one important reason why not much of what those in authority and office legislate or say on the subject gets converted into effective action. The idea of community

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Chairman
Charutar Vidyamandal

development, for instance, is unquestionably excellent and full of possibilities. But after a superb start, it has failed to live up to that early promise, only because not enough account was taken of the difficulties in the field. In any event, it postulated workers imbued with deep conviction about the vital importance of rapid rural development for the country, and a missionary zeal to achieve it. It called for almost a movement towards the rural areas, of educated men to counteract the continuous and steady exodus of the majority of vital and promising youngsters from the rural areas to the cities.

It was with the object of serving the rural areas in a concrete manner that, in 1945, under the inspiration and guidance of Sardar Patel, two very practical men, Bhailalbhai and Bhikhabhai Patel, decided to establish a centre for higher education in the heart of a rural district. On the one hand, they argued, the children of the cultivators would then have higher education brought close to them; on the other, highly educated men would come and live among them. The exodus from the villages might then at least be slowed down and it might become much more feasible to help the villagers and farmers to absorb new ideas, methods and practices. Not everything hoped for has yet been achieved, but something significant has already been accomplished, and a good foundation laid for more to be achieved in the future. Nevertheless, it is no exaggeration to say that Vallabh Vidyanagar is a fine example of what can be accomplished by the people on their own, if they are determined enough.

Two Men of Action

Vallabh Vidyanagar, today, is a university township in rural surroundings. It is situated five miles from Anand in the Kaira district in Gujarat. Its permanent population is less than 5,000 and during the academic term, when the students are in residence, it increases further by 3,000 or so. The total strength of the students studying at the ins-

tutions in the campus is a little over 4,000 and over a thousand come daily from villages in the neighbourhood. Some come daily from villages situated as far away as 25 miles. Within the campus are located a science college, an arts college, a commerce college, an engineering college, a polytechnic, a technical institute, a higher secondary school, a primary school and a kindergarten. All these are managed by the Education Society known as Charutar Vidyamandal. It is this organisation which, under the leadership of Bhailalbhai and Bhikhabhai, brought the township into existence. Bhailalbhai, the moving spirit, is still active, though since December 1953, his energies have been directed towards politics. Bhikhabhai, his co-worker, is alas, no more; he died three years ago. He was the educationist and practical-minded organiser, while Bhailalbhai was the one who dreamt and looked far into the future. But he was no visionary; he was a man of action. Sardar Patel inspired the two as indeed he inspired so many others and enrolled them in the service of the people.

Industrial Adjunct

The township houses a number of small and small-scale industries which are managed by an industrial co-operative society which is a sister organisation of the Charutar Vidyamandal. They are running at present a tiles factory, a Hume pipe factory, a foundry, an engineering workshop, an electric wire cable plant and a pre-stressed concrete factory. Besides these, the industrial co-operative society also maintains an engineering organisation which undertakes construction of buildings within the township and neighbouring villages. It has, for instance, been responsible for constructing water works in over a dozen villages.

The Finances

Since December 1955, there has been established in Vallabh Vidyanagar a University which is known as the Sardar Vallabhbhai Vidyapeeth. The jurisdiction of the University extends only to an area within the radius of five miles of the township and therefore it is concerned at present only with the colleges within the township and a college and an institute of agriculture which are situated a little over three miles away from Vallabh Vidyanagar.

Thanks to very generous grants by the University Grants Commission and the State Government, a number of spacious buildings will soon come up to house the University office, library, the post-graduate departments as well as hostels. But whereas the University and the post-graduate institutions will thus have received substantial financial assistance for construction and equipment, nearly everything else in the township owes its existence to the operation of the principle of enlightened self-interest—private



Statue of Sardar Vallabhbhai Patel on the Campus

donations and private enterprise. The State Government commenced giving grants to the various institutions after they started functioning in accordance with its normal policy of aid to all approved colleges and other institutions throughout the State. Even so, the assistance does not cover the entire gap between the expenditure that has to be incurred on these institutions and income derived from them.

The Educational Society has, therefore, to shoulder the responsibility for meeting a significant proportion of the total running expenditure. It had, of course, to find funds for the entire capital expenditure of about two crore rupees and all this has had to be met from private donations. Only recently, during the last two years or so, has the policy of the State and Central Government changed, and for the establishment of the Polytechnic they gave, for instance, substantial and generous assistance towards capital expenditure as well.

The location of the township on a site which was until then the haunt of dacoits and robbers, has had a most stimulating and vitalising effect on the people of the surrounding villages. The township was given a fine start by the very generous donation of 300 acres of land by the people of the three surrounding villages—Karamsad, the village to which the late Sardar Patel and the late Vithalbhai Patel belonged, and Bakrol and Anand. Roughly 200 acres were set aside for the educational institutions and administrative buildings, and a further 100 acres for water works, roads and other public requirements of the township. The balance of the land was divided into building plots of 500 and 1,000 yards and except for a certain number of plots placed at the disposal of the Society, the rest were allotted to persons who had donated their land.

Once the colleges came into existence, it was confidently expected that the price of land would go up; and today, in fact, each of the relatively small building plots is worth at least as much as, if not more than, the value of the land surrendered or donated by each land owner. The value of the plots allotted to the Educational Society brought in a good sum with which they

were able to make a start with their educational activities. The Science and Arts Colleges started functioning in 1947 and there followed in quick succession the other institutions, the Engineering College in 1949, the Commerce College in 1951 and so on.

Rural Students

The students are drawn from all over the country in so far as the Engineering College and Polytechnic are concerned. The bulk of the students in all the institutions are drawn from the villages and come from families whose annual income does not exceed a thousand or so. In fact, the Colleges are residential in character since the bulk of the students attending the colleges live in the hostels attached to the colleges or in private houses built in the township. Only such students do not reside in Vallabh Vidyanagar itself as belong to villages within easy reach of the township; to them may be added a few from villages further away who are too poor to bear the additional cost of hostel life, low as it is.

The University is rural strictly in the sense that it is located in rural surroundings. There are, however, certain aspects which distinguish this University and its institutions. For one thing there is the intangible influence of the rural atmosphere reinforced by the fact that the vast majority of the students come from the homes of cultivators and from villages. There is also the more direct influence exercised by the existence of a considerable body of well-educated persons in the rural areas. Inevitably there are occasions for meeting the leading personalities from the villages in the neighbourhood and an exchange of ideas takes place. Also some direct contact with the villagers is established through the activities of the industrial co-operative society. The students and the staff of the colleges have begun to take close interest in the villages and now that the Engineering College has been made one of the six centres in India for research in rural housing under a scheme initiated with the help of funds made available by the Ford Foundation, opportunity has been afforded for a purposive and detailed study of conditions in the neighbouring villages. Villagers in turn have opportunities of attending the social functions organised by the students and the villages.

Vallabh Vidyanagar thus contributes in a direct sense to the solution of educational and allied problems which face the villages of the Kaira and neighbouring districts. But few villagers could afford the expense of sending their sons and daughters to towns and cities, even if these were situated at not too great a distance. Because of Vallabh Vidyanagar, a number of villages which ten years ago did not have even one graduate and possibly not even a matriculate, today can boast of a number of engineers and doctors. Even more significant is the number of girls receiving education in the institutions in the township. Over a hundred live in the hostel within the township itself while not less than three hundred attend the colleges as day-students. As to the indirect, intangible influence of Vallabh Vidyanagar, it is not easy to assess: all one can say with confidence is that it has been and is very great.

RURAL WATER SUPPLY

Continued from page 12

expenditure every year. The plea of "financial limitations" can have some sense only when allocations are fully utilised and found insufficient. There is something radically wrong in the procedures of sanctions and expenditure. I almost suspect that the Government at its highest level does mean what it says but at lower levels has not the urge to give "top priority" where it is obvious.

Why Less For Rural Areas?

What almost staggers me is the allocation of Rs. 63 crore for urban areas where only 13 per cent of the population lives and just Rs. 28 crore where the 82 per cent live. One would think India was mostly urban and incidentally rural. This impression grows when one realises that there is likely to be a heavy shortfall of 50 per cent of the allocated fund for rural areas. The gap between urban and rural allocations, the gap between rural allocation and rural sanctions, the last gap between rural sanctions and actual expenditure are so wide that they are inexplicable. And yet we wish rural people to stay in the villages without drinking water, without roads, without electricity. The result is the frightening rate of growth of urban areas with its challenge of host of problems, social and political.

Defects In Allocations

Looking closely at the nature of allocations one finds that there

are radical defects in the manner they are made. The allocations to urban areas in the Second Plan are only for "spill-over" schemes of the First Plan. The result is the largest slice has been appropriated by a few big abominable cities, leaving the second and third class municipalities low and dry. This only helps the bigger excrescences to grow bigger. Worse still one finds that hardly anything is being spent on drainage, surface or underground creating other problems of insanitation while solving one of water supply. Unless one-third or more of the allocation is earmarked for sanitation, the increased water supply will result in increased insanitation and malaria, not withstanding the programme of "malaria eradication".

Unrealistic Conditions

What piques and hurts me are the conditions attached to expenditure on rural water supply. The terms on the face appear exceptionally good. The pattern of Central assistance in the Second Plan is as follows:

Out of Rs. 63 crore for urban schemes, a sum of Rs. 30 crore is in the Central and a sum of Rs. 23 crore is in the State sector. There is also a sum of Rs. 10 crore for corporations in the Central Sector. It is all loans because such schemes can be easily made self-supporting by imposition of a water rate. But the pattern of Central assistance for rural schemes is more favourable. It is 50 per cent subsidy by the centre and 50% loan (or subsidy) by the States. So

far so good. But there is a condition that this subsidy will be made available only for "piped water supply" schemes for villages. As these schemes are intended only for populations of 5,000 and under, they can apply only to "groups of villages." Both these conditions are a drag on implementation. It is known that the total production of pipes is only 1,20,000 tons. Naturally the condition becomes a joke at the expense of rural areas.

The third meeting of the Central Council of Local Self-Government held at Srinagar in 1957 resolved that "all other villages with a population of 5,000 and above are denied this facility... and the scope of the scheme should be extended to cover all the panchayats. The scheme should not be confined to protected water supply for a group of villages but Central assistance should be available for construction of surface wells..." In the following year the Conference held at New Delhi repeated the suggestion and also appointed a sub-committee of Ministers to wait on the Planning Commission to waive this impossible condition. A similar resolution was passed by the Conference of Housing Ministers held at Darjeeling in 1958. The Estimates Committee was of opinion that it would be advisable to utilise the amount provided under the scheme for supplying water even by constructing surface wells rather than allow the funds to lapse year after year. In answer to a question put by me in Parliament on December 2, 1952, the Health Minister replied that "we were not permitted to relax this condition" of piped water supply. And this in the face of the Estimates Committee's hint that "in schemes of this nature the discretion should be left with the Ministry concerned."

One utterly fails to understand

the reason for this stubbornness of the Planning Commission, except on the basis that it is manned by urban people or that the Commission wants to save resources out of this "top priority" problem. In fact, there is lack of sympathy on the part of the Planning Commission and utter lack of co-ordination with other Ministries—Home, Community Development, Agriculture, Health—in creating a single agency with staff at the village level, for dealing with this matter with any sense of urgency.

Employment Trends

(Continued from page 18)

likely to continue to be a source of serious concern in the immediate future. It must receive added importance in the Third Five Year Plan, though it has come to be recognised that full employment will have to wait till a series of three or four plans gets successfully implemented. What has happened so far is not so much the achievement of a fair level of employment in the economy, but a consciousness in the community that employment will have to be an instrument of social policy for the future. With the gradual spread of education the problem of educated unemployed will get merged into the general problem of unemployment. Experience of other countries indicates that as the economy moves forward the scope for absorption of what are known as white-collared groups in trades and services, laboratories and research organisations and in the welfare activities undertaken for the community, will grow. But a careful mapping out, well in advance, of the areas where such opportunities expand and those where they may contract, will be needed. It is only then that any reorientation in the educational system with a bias towards development of man-power resources could be planned.

Problems Of Progress

(Continued from page 8)

A rough estimate this proportion would go down to 7.6 or 7.7 per cent by the end of the Third Plan if no additional taxation were imposed. The need clearly is to increase this proportion from 8.3 per cent to somewhere between 10 and 11 per cent.

EXTERNAL RESOURCES

A developing economy is bound to need a substantial inflow of external resources for some time. The problem cannot be looked at solely from the point of view of the needs of the underdeveloped countries; the availability of surpluses in the more advanced countries is a no less relevant factor. In the post-war period there has been a growing readiness on the part of industrially advanced countries to play their part in helping this process, and international agencies like the World Bank have mobilised substantial sums for investment in economic development. The prospects for an increased flow of private investment to countries that are hungry for capital and have the necessary environment of economic and political stability are also promising.

But there will be need, for several years to come, both for an enlargement of the flow of resources from international agencies and on a government-to-government basis.

REPAYMENT PROBLEMS

An important problem is the burden of repayments of the liabilities the recipient country incurs. The capacity for repayment grows relatively slowly, for while the demand for machinery, equipment and raw materials required to accelerate the tempo of development tend to grow more rapidly than the import saving resulting from increased domestic production, the export potential develops only after a time.

Some of the countries that developed in the nineteenth century had the advantage of being able to re-

volve their external obligations by recourse to the international capital market. Whether this situation can be re-created, it is difficult to say. But it is clear that to the extent development has to be financed by loans from abroad, the maturity pattern of repayments has to be matched to the growth in domestic production. It follows also that developing countries would do well to finance some of their projects through equity capital from abroad.

In the final analysis, however, the question is how far domestic consumption can be restrained and an export surplus built up. It would be anomalous if the external resources that come in initially to further the process of development should create liabilities which a developing country can meet only by slowing down development. This is a problem, in the main, of the terms on which such assistance could contribute best to the fulfilment of its essential purpose. The fact nevertheless, must be faced that large and progressive increases in exports are vital for preservation of the climate so essential for continued inflow of resources from abroad. A well-worked out programme for exports will thus have to be an integral part of the Third Plan.

Planning in a democracy and within a system that relies on the functioning together of a public sector and a private sector and uses various techniques, like exhortation, incentives as well as regulation and control, for achieving the desired rate and pattern of development presents inevitably difficult problems of choice. Economic policy in this context involves a delicate balancing of conflicting considerations. But there is, in this type of planning, scope for pragmatism and adaptation such as might not be possible in the more rigid patterns of development.

Summary of presidential address to the All-India Economic Conference, Annamalainagar, December, 1958.

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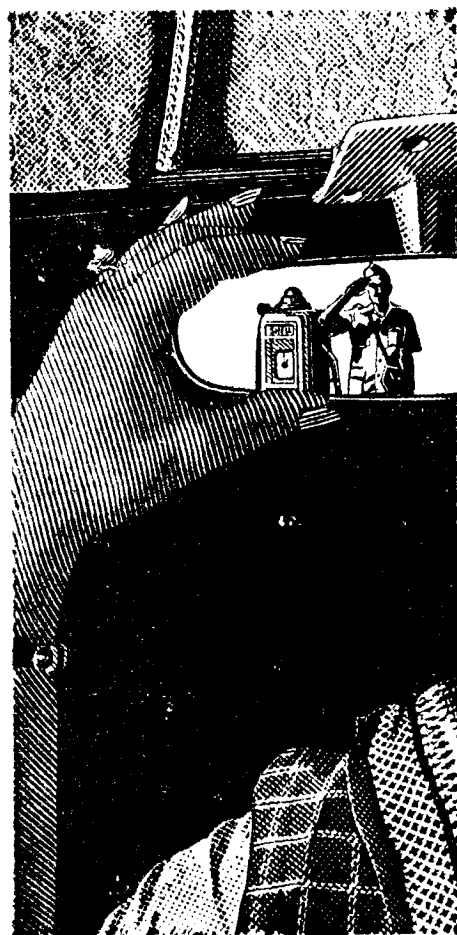
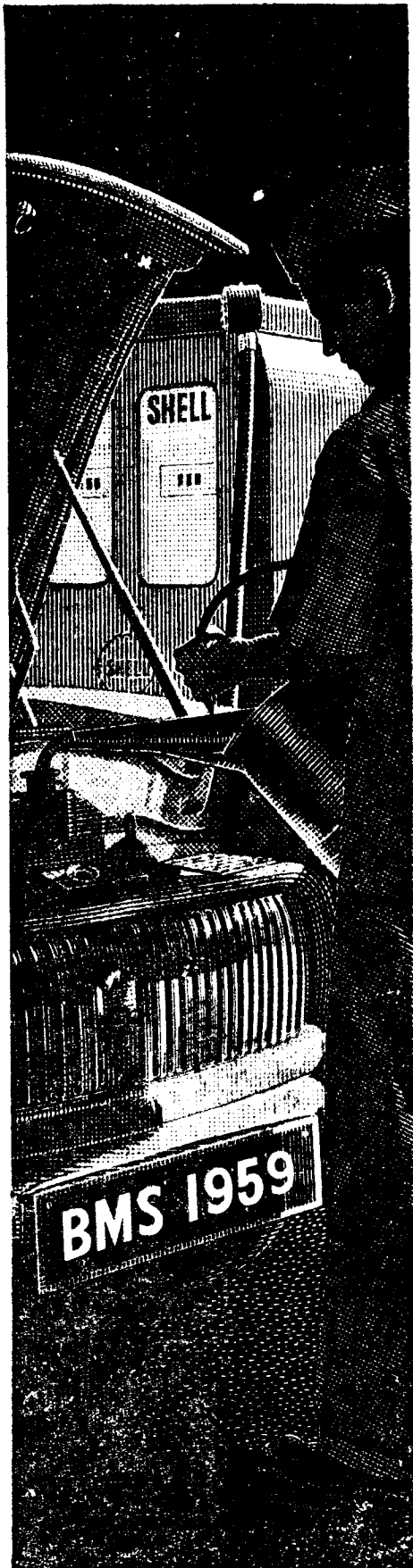
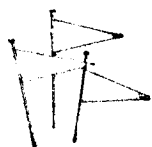
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Petroleum In Our Plans

(Continued from page 15)

cost of nearly Rs. 100 crore (in foreign exchange). The estimated annual production from the newly proved oilfields of the Brahmaputra Valley (viz. Nahorkatiya-Hugrijan field and the Moran field) is of the order of 2,500,000 tons. Thus a total production of about three million tons could be expected by the beginning of the Third Five-Year Plan period, by which time experts estimate that the country's requirements of crude oil will reach a figure of 7 or 8 million tons. This figure at the end of the Third Five-Year Plan period is predicted to rise to over 14 million tons, because of the rapid progress envisaged in the industrial sector.

The demand for petroleum products in India has been steadily rising. The marked increase has been mainly in kerosene, the basic illuminant for India's over 5 lakhs of villages. The rapid industrialisation planned for the Second and proposed for the Third Five-Year Plan periods, which include river valley projects, railway development, expansion of civil aviation and road development, to mention only a few,

require ever increasing quantities of petroleum products. In addition, the coal, jute, iron-steel, textile and tea industries need various petroleum products—batching oils, tea drying oil, furnace oil, lubricating oils, etc. The demand for motor spirit, diesel oils, lubricants and aviation spirit has been growing and the varying rates of growth in the demand for these products causes an imbalance between consumption and refinery yield pattern.

The following figures indicate the approximate present consumption and the output from the four existing refineries of India:

	Consumption 1958	Output in 1958 from refineries (Estimated in thousands of tons)
Motor & spirits	810	940
Middle distillates (aviation, turbotfuel, kerosene, diesel oil)	3410	1800
Fuel oil	1350	1400
Total (including products not shown above)	6230	4130

Till the middle of the last century, the major portion of energy needed for producing the basic necessities of life (food, clothing

and shelter) was being produced mostly by human and animal muscular power. Since fossil fuels (coal and petroleum) began playing their part as sources of mechanical energy in the age of machine, man has found leisure to pursue arts, sciences and technology and contribute many things useful to civilisation.

The presence of good oil reserves in a country adds to her security and military strength, influences her political and economic background and brings in impressive changes in her social and cultural patterns. Deficiency of this commodity has considerably hampered the industrial progress of many nations.

The petroleum products derived from crude oil have made available to man many comforts and conveniences which were not known about fifty years ago. As

The variety of useful products that can be made from crude oil are innumerable new products are constantly being discovered by chemists every year.

Amongst the various petroleum products that are being used, gasoline, kerosene, fuel oils and asphalt are some of the most important. Besides lighting and heating, transport, lubrication of machines, surfacing of roads, and manufacture of fertilisers, petroleum chemicals are used in the manufacture of articles like brushes, combs, radios, dishes, adhesives, artificial silks, velvets, fabrics, synthetic rubber, insecticides, detergents, cosmetics, dyes, paints, photographic films, cellophane, printing inks, leather and in wood treating. The Army, Navy and the Air Force use, in times of war and peace, millions of gallons of fuel oil and gasoline and considerable quantities of special greases, rust preventives, etc.

Refineries play a significant part in the economy of India. They provide employment to thousands of people and help develop the regions where they are situated. Crops worth crores of rupees are being saved by using insecticides derived from petroleum products for the control of pests.

All these benefits add their small share towards raising the standard of living of the people of India and meet to some extent "the physical needs of the people."



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MACHINE TOOLS

Vital For Future Plans

MACHINE tools find use directly or indirectly in the production of all the goods and services that contribute to the maintenance of modern standards of living. They are directly employed to produce such essentials as the means of transport and communications, and since they are the machines which make the machines, all articles of daily use indirectly depend upon them. Attention to this industry is a matter of high priority in any country seeking to realise self-sustained growth. Even the advanced countries pay continuous and sustained attention to it to raise productivity by improved designs and incorporation of new inventions, as for example in electronics.

Machine tool manufacture in India hardly existed before the Second World War and the imports during the pre-war years were of the order of Rs. 2 crore a year. A few firms, of which mention may be made of Kirlskar Brothers Ltd., Satara, were engaged in the production of very simple machines such as cone-pulley head lathes, shaping machines, presses and hacksawing machines. The output of none of these firms exceeded two or three machines per month.

Government Assistance

The industry received Government's attention and fostering care for the first time during the Second World War when imports became difficult and India was forced to rely on her own production. With active Government assistance, rendered by way of supply of balancing equipment and technicians, there was substantial expansion in machine tool manufacture in the war period. Compared to 1,300 machine tools a year in 1942, the production rose to 11,000 machine tools (of which 3,700 were graded) valued at Rs. 160 lakh in 1945. During the six years of the war (September 1939 to September 1945) about 20,000 machine tools, worth about Rs. 6 crore, were produced in the country for supply through the D.G.M.P. as against about 28,000 machine tools valued at about Rs. 33.6 crore imported from abroad by the same organisation.

Despite this progress, the bulk of the machine tools manufactured in the country were simple and primary types of old models. They were suitable for small-scale manufacturers where operations were intermittent and high output and rigid adherence to specifications were not essential. These machine tools have not been found suitable for use in Class I Railway workshops, Ordnance factories and certain other key industries where the manufacture is essentially on production basis and where floor-to-floor line is fixed for each article to be machined and where the production series cover large numbers and have to be completed economically within the shortest possible time.

The future of this industry received the attention of the Ma-

chine Tool Panel which analysed the inherent problems and the possibilities of expansion and recommended a target of 7,325 (graded and ungraded) machine tools for 1947-48 and the doubling

of this figure by March, 1953 on the basis of a rate of 20 per cent annual increase. The forecasts had to be revised later to allow for the somewhat restricted off-take of post-Partition India—the the Panel's estimates were for the undivided India—and the changes in business conditions which supervened.

The target under the First Plan for indigenous machine tools, as distinct from the modern precision and heavy duty machine tools proposed for manufacture in a new Government factory, was envisaged at 2,170 numbers (valued at Rs. 65 lakh) by 1952-53 and 3,300 numbers (valued at Rs. 100 lakh) by 1955-56. The objective under industries in the First Plan being chiefly consolidation and preparatory work for a major 'leap forward' in the following Plan the impact of big development was not felt and therefore the progress of machine tools output was, not unexpectedly, quite modest up to 1955-56.

The establishment of the first and most modern precision machine tool works in the country, the Hindustan Machine Tools (HMT) factory at Jalahalli, near Bangalore, is undoubtedly a major landmark in the industrial development of independent India as well as the expansion of the public sector in the field of heavy industries. The importance of HMT lies not only in ensuring indigenous availability of some of the precision machine tools which otherwise would have had to be imported, but also in underlining the many-sided effort required to establish, and successfully operate, a basic machinery manufacturing industry the problems of which are different from those faced by the traditional producer and consumer goods industries. play the role of a nursery for new factories for machine tools which are envisaged in the Third Five Year Plan.

The history of the progress of machine tools industry in India since 1951 is virtually synonymous with the story of the HMT. No doubt there have been delays in the commissioning of the HMT plant compared to the schedules set, but it will be noted that on the basis of its operational performance since May 1956, the Hindustan Machine Tools has vindicated itself. It has also justified the confidence of our policy makers in the public sector, of which a good deal is expected in the industrial field in future years. By the adoption of techniques and methods normally followed by successful undertakings in the private sector such as

diversification of production multiple-shift operation, incentive bonus and technical sales promotion and development efforts, the Company has increased its turnover, lowered the selling prices and steadily improved its financial results year after year. The output of machine tools from HMT

has risen as follows since the beginning of the Second Plan:

Year	Numbers	HMT Value of output (Rs. crore)	Overall production in the country (Rs. crore)
1956-57	135	0.47	1.08
1957-58	402	1.55	2.35
1958-59	552	2.00	3.04
1959-60 (estimated)	700	2.5	3.82

Whereas only Oerlikon lathes were produced in 1956-57, the range of manufacture was widened by the addition of six types of milling machines in 1957-58 and ten types of radial drills and 44 types of lathes of the Batignolles type in 1958-59. A notable feature of the operation of the factory is that even at the commencement of production, only a very low proportion of the components was of imported origin—10 per cent for lathes, 20 per cent for milling machines in the second year and 20 per cent for radial drills in the first year.

A major problem faced by HMT in expanding its output concerns indigenous procurement of quality castings at reasonable prices. Steps have been taken to overcome this impediment through the setting up of its own foundry at a cost of about Rs. 60 lakh.

The progressive reduction of sale prices effected by HMT is as under:

Hindustan lathe: original price Rs. 36,000; reduced by Rs. 3,000 on June 1, 1957; further by Rs. 3,500 on June 1, 1958.

No. 2 Vertical milling machine: original price Rs. 40,500; Reduced by Rs. 1,500 on June 1, 1958.

No. 3 Horizontal milling machine:

original price Rs. 1,00,000; reduced by Rs. 2,000 on June 1, 1958.

Since March 1956, the gross fixed assets of HMT have risen from Rs. 2.82 crores to Rs. 3.93 crore on March 31, 1959. Against the background of the achievements of the last three years and the perspective of the future, the Hindustan Machine Tools Ltd. has under consideration a programme for stepping up its output from 1,000 machines in 1960-61 to 2,000 by the final year of the Third Plan.

Large-Scale Demand

The impetus given to the development of industries, mining, power and transport under the Second Plan has generated large-scale demands for machine tools, direct as well as indirect. These could only be met mainly through larger imports as shown below:

IMPORTS OF MACHINE TOOLS

Year	Rs. crore
1954	3.86
1955	5.29
1956	8.37
1957	14.64
1958	15.31
1959	8.56
(Jan.—Oct.)	

The steep rise in demand and the foreign exchange shortage have prompted many private industrialists to develop indigenous machine tool production. Several schemes have been licensed in recent past. The future growth requirements of this industry has also been under study during 1959 in the context of the Third Five Year Plan. The assessments point to the need for as high a target as about Rs. 30 crore per year for this industry by 1965-66 in terms of value. The view has also been expressed that a competent technical mission may soon have to study the development of this industry, at least the public sector programme, for ensuring that new units are established on a viable basis and with a product-mix which is justified from technological as well as economic considerations.

Details apart there is general acceptance of the crucial role of machine tools in promoting industrialisation and economic development. There is agreement also, on the need to canalise investments and effort into this industry. Both public and private sector have to share this responsibility. Their activities and programmes must be properly co-ordinated to ensure rapid and adequate progress. The Development Council for Machine Tools functioning under the Commerce and Industry Ministry is a valuable instrument for achieving such co-ordination and joint effort.

In Andhra Pradesh—

Many projects have been completed which have brought benefit to new areas already, like the Krishna Barrage, the Tungabhadra Low Level Canal, the Upper Pennar Project, the Romperu Scheme and the Rallapad Project.

The great Nagarjunasagar Project is progressing entirely under the direction of Andhra Engineers.

Four hundred new villages are being electrified every year.

Coal output has risen to over 2.1 million tons per year from 1.7 million tons in 1956.

Four new medical colleges, two new engineering colleges and several other technical institutions have come into being....

The Community Development movement is making phenomenal progress....

And in the "Andhra Pradesh," the journal issued monthly in English, Telugu and Urdu by the Directorate of Information and Public Relations of the State, one can regularly have vivid glimpses, in pictures and print, of various aspects of this progress. The journal has a nominal price of 0.18 nP per copy or Rs. 2.16 nP per year and can be had of the Directorate of Information and Public Relations, Andhra Pradesh, Hyderabad.

DEPARTMENT OF INFORMATION AND PUBLIC RELATIONS, ANDHRA PRADESH.



Madras Fishermen

I CAN remember the foreshore at Madras as it was forty years ago, when I was very young. Madras was a much lovelier city then (it was, you know—this is no case of fond recollections of childhood) and its celebrated Marina was very different from what it is today, with a wattle-back riding track all along its length, far fewer buildings, dimmer lights, and trees and shrubs of a kind no longer there. But the fishermen, and the way they lived and fished, the shape and size and colour of their boats and catamarans and nets, scattered on the sands to lend authentic foreground detail to the magnificent old sea, and even their colonies of huts, were very much the same as now.

They use two kinds of craft in their profession, and a net to go with each. The catamaran is a remarkably simple and ingenious raft, made of a few buoyant logs, some 12-foot long, almost a foot across and in depth, lashed together. The logs are somewhat tapered at each end, and notched to provide a more secure hold for the binding ropes. They are invariably stored individually (never tied up in a raft) above the hightide-mark on the beach. In minutes they can be lashed together with strong rope from a raft whose buoyancy and ruggedness can be depended on even in heavy seas. Catamaran logs are never tarred or painted, or decorated in any way; they are always of the light indyke-brown tint, with a touch of silver-grey that the porous wood acquires with long exposure to sun and sea, and made of special timber, only two or three trees yielding the kind of wood needed for catamarans. Incidentally, the name catamaran comes from the compound Tamil word, 'Kattumaram'; 'kattu' means tied or lashed together, and 'maram' in this context denotes logs.

The commodious 'Masula boat' is a very different sort of craft. It cannot be handled by a small family party of two or three, as the catamaran can be, and its oars and sail are much bigger. Both the boat and the raft are propelled, when the wind favours it, by

a sail as well as by being rowed or paddled, and of course the prevailing tides are also fully exploited. The boat has a deep keel,

M. KRISHNAN

and is built of light, tough, well-seasoned planks, with rows of holes along their edges through which string is passed to bind them together—they are, actually, stitched in place. The joins are made water-proof with caulking; spars at the top, running from side to side like ribs, add structural strength to the boat, which is tarred and painted periodically.

The reason for using coir rope and string to lash a catamaran into shape, and to build a boat, is this: in the heavy seas that these craft might well encounter, logs nailed rigidly together, or planks so rigidly nailed together, would soon get splintered and torn to pieces by the buffeting waves. Some 'give' in construction is needed to insure against this possibility, and that is why the wise, conservative fishermen favour the old-fashioned rope and string.

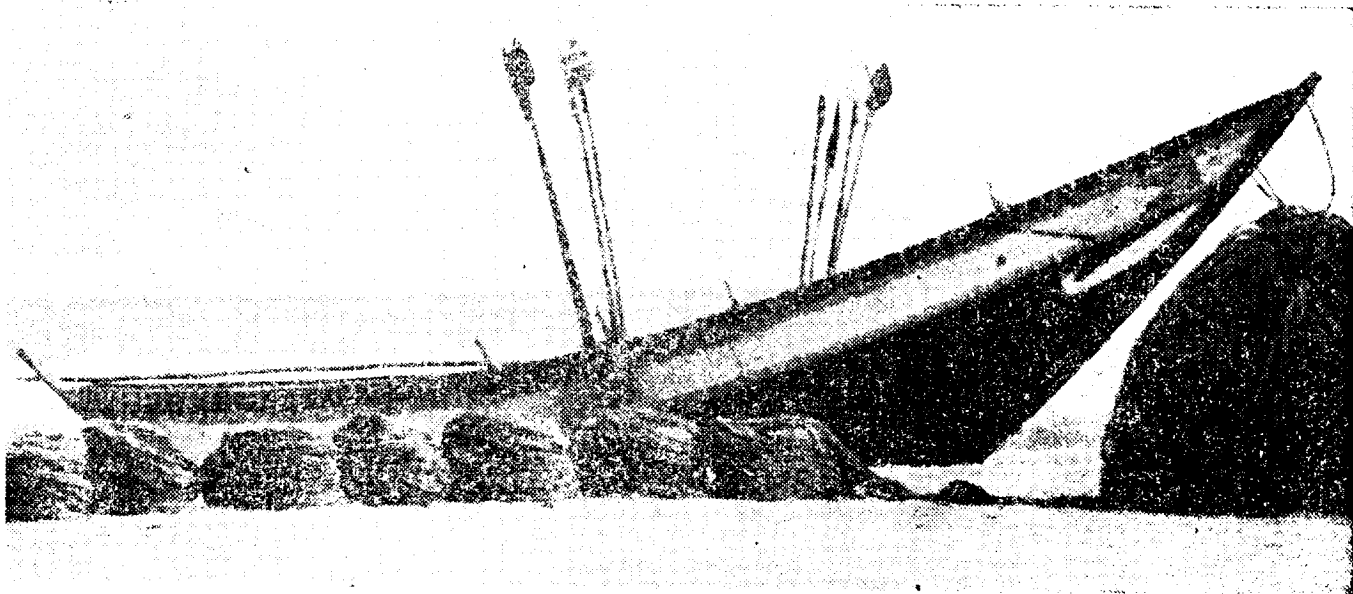
People setting out in catamarans use a light, small net that can be handled by an unaided man. When it is known that a shoal of fish is at sea, not too far out, or when a heavy catch is hoped for,

the big nets are taken out and the boats are used. You can see these nets lying besides the boats in huge, coiled, brown mounds, often protected by a cover of matting. They are termed 'peri-yavalai' in Tamil (which term, naturally, means 'big nets'), and much man-power and co-operative effort are needed for their effective use. They are very long and fairly wide, and weighted with lead sinks along their lower edge, to make them reach down into the sea—each end of the long net is attached to a stout, long coir rope, capable of holding a recalcitrant elephant. The boats go out in formation to cast the net, then, in formation again, they drag the net shoreward. When near enough, the rope at either end is carried ashore, and people haul on these ropes in regular tug-of-war teams to slowly drag the big net in. Since the net is so unwieldy and heavy, it is not easy to judge the catch purely by feel. I have seen these nets being dragged in, after an effort involving the combined muscular power of thirty men, only to reveal half-a-dozen small fish entangled in their meshes. However, a good catch (and such hauls are not too rare) can mean positive affluence for the entire community taking part in the enterprise—for almost a week!

It is a life of hard labour, relieved by spells of enforced inactivity (when the sea is too rough) and occasional windfalls—but assured affluence is beyond its scope. The fishermen put out to sea at dawn or earlier, and sometimes they get back only in the evening. There is a measure of collective security in their lives, and definitely the strength of age-old tradition, but there are risks as well. The sea is unpredictable.

They live in primitive insanitary huts, cluttered together in colonies. The children rarely go to school, and have to learn things the hard way, but they are among the few children in India that eat fish regularly, and their diet compensates in a way for their lack of means.

The current trend, towards providing these seafaring fishermen with better living conditions, neat, sanitary colonies, and education for their children, has not elicited any enthusiastic response so far. Today, the small-time, communal and individual coastal fishing is the monopoly of these people, their birthright guarded by generations of unbroken pursuit. It could be that in the future mechanised competition will force their hands, and perhaps then they will take to education and the softer, more civilised life.



'Masula boat' with its oars resting against its side

INDIA PLAN WEEK

YOJANA

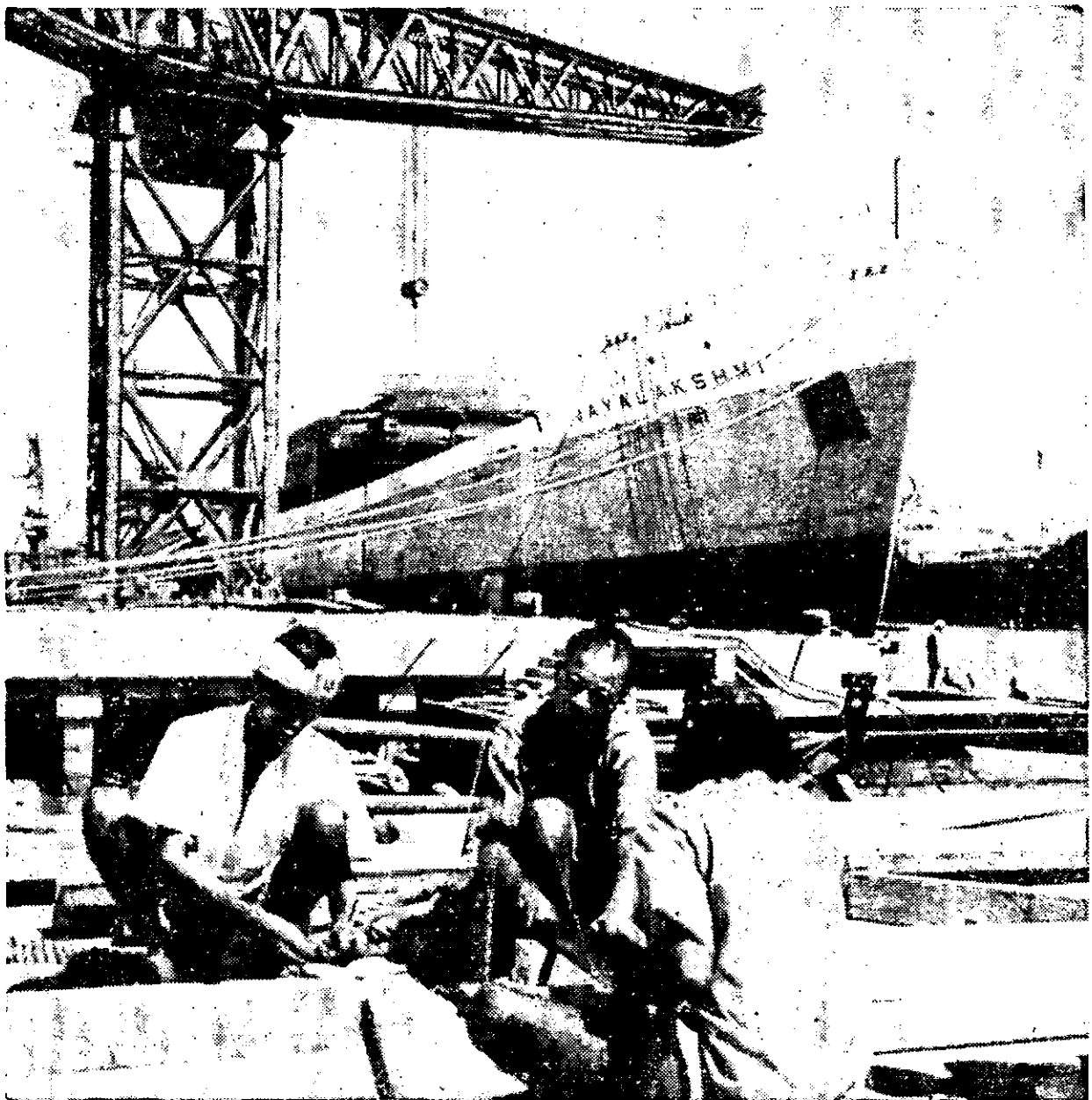
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NEW DELHI, JANUARY 8, 1961

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SUNDAY, PUSA 18, 1382



INDIAN SHIP BUILT IN INDIAN YARD. SEE ARTICLE ON INDIAN SHIPPING, PAGE 6.

YOJANA

YOJANA seeks to serve the Plan by carrying its meaning and message to all sections of the people, by telling the story of our progress, by pointing out the shortcomings, by stimulating on open debate and an objective appreciation of the problems of development, by increasing the intellectual communication among the various States and regions and by offering significant material for the use of other journals and publications.

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Over To You

PRESERVATIVE FOR HUTS

IN your article on treatment of materials like thatch grass, bamboos, timbers, etc., I would like to point out the following:

- i) Rot is not caused by insects but by fungi belonging to low forms of plant life.
- ii) Creosote is not used for sap displacement, because it is an oil and does not dissolve in water.
- iii) Ascu treatment does not give fire resistance.
- iv) Creosote is an indigenous material, produced by distillation of crude-tar.

Dehra Dun

Dr. A. PURUSHOTHAM

Wood Preservation Branch
Forest Research Institute.

II

I AM glad to see the new Yojana. It is much better. It will be more attractive if the title page is improved.

I was very happy to go through the article under the title 'Fruit of Research' on the preservation and improvement of thatched hutments (December 11, 1960). We have just now requested the authorities of the Forest Research Institute to supply us detailed information, so that we could avail ourselves of their work. We are at present engaged in the rehabilitation of many thousands of people affected by floods in the Kosi. They are poor people, and the money advanced by the Government to them to rebuild their houses will be put to better use if they can get the preservatives developed at the Institute and make their houses stand longer.

MOHAMMAD SHEES

Assistant Engineer, Rehabilitation, Kosi Project,
Supaul, Dist. Saharsa.

PRIZE BONDS

I WAS surprised to learn from a recent issue of the Bihar Herald, a local journal, that the Government of India were the lucky winners of the first draw of the Prize Bonds, winning more than 59 per cent of the total prizes. It is said that even those bonds which had not been sold were included in the draw. On the reasoning that they belonged to the Government of India and thus were eligible for the draw. Many such bonds are claimed to have won prizes in the draw which were credited to the funds of the Government of India. It is against all principles of established justice, equity and convention for unsold bonds to be included in the draw on the pretext that they are the property of the persons running the lotteries. In fact, the inclusion of unsold bonds is clearly a violation of the very terms and conditions of the Prize Bond scheme which proclaim, without leaving any reason for doubt, "This Bond will be eligible for participation in all the draws held after the expiry of two calendar months from the month of its sale as shown at the bottom on the face of the Bond."

If bonds are included in a draw even though they are not sold, one may take the extreme view that a series may be suppressed for general sale but included in the draw so that all the prizes would naturally be won by the Government in a row and credited to its funds. I hope the authorities will remedy the practice with immediate effect.

Patna

B. C. ROY

PLAN CONSCIOUSNESS

I WELCOME the new Yojana. But it has one lack. There are no articles on Plan consciousness.

Recently we conducted a tour of villages around Bhopal. The results were shocking. The villagers had heard very little about

(Continued on page 31)



118 Months Of Plan And Freedom

An India Plan Week is being celebrated by the Information and Broadcasting Ministry from January 14

A MATTER OF FACTS AND FEELING

IMAGINE a child born when the First Plan was launched. He would soon be turning ten. Let us call him Gopal. Gopal's baby prattle has now grown to schoolboy talk. He who used to walk a few steps and stumble can now ride even a bicycle. He has shed his milk teeth and has grown the set which will see him through life. He has had his share of cuts and scars, of fever and measles. He has given his parents their fill of anxiety and of joy. Gopal will soon be a young man.

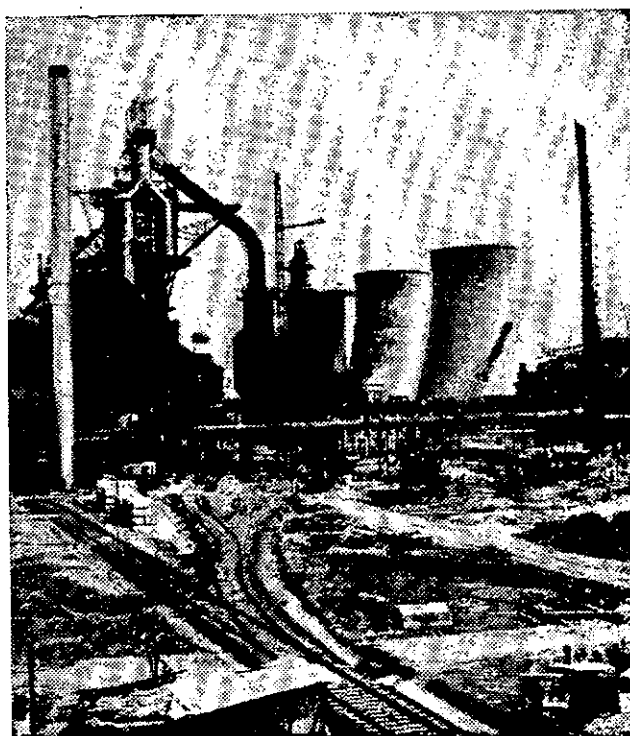
And as a young man he will have a much better time than his own father had. In the first place, he has many more kinds of careers to choose from; more courses of study to prepare for the career; greater chances of winning a scholarship and better facilities of library and laboratory. He gets better medical care.

What is true of Gopal is also true of Govind and Lachman and Yeshwant; of Sharat and Balle and Gundoo; of Abbas and Harkishen and Subbu; of Joseph and Venkat and Bhikabhai; of Suman and Kamal and Achamma; of Fatima and Renu and Parvati; of Alice and Vimla and Kaveri. All of them have a better future because as they

have grown, so have our Five Year Plans.

The most signal achievement of the Plan is the hope it holds out to our young people of good education and medical care and careers. Whether they come from town, village or forest, and whether they have chosen their parents well or not, they all have better opportunities. That truly is the meaning of the socialist pattern.

One of the most talked about topics just now is Panchayati Raj. And rightly too, for it represents the fusion of our tradition and the dictates of democracy. Since our country consists predominantly of villages, the villagers' voice must



RIGHT: A view of the blast furnace and cooling towers of the Durgapur Steel Plant. The Second Plan might well be called the Steel Plan, but it is also the Plan which saw Panchayati Raj.

prevail in the governance of the nation. In the old days the villages were autonomous, but 'Delhi was far away'. Democracy can become real in our country only through Panchayati Raj, when the officials no longer are 'bosses' sent out from the capitals of States, but technicians who sit down with the villagers and come to agreed decisions. Panchayati Raj thus could be called the second most important achievement of planned development.

WHAT WE PUT IN AND WHAT WE GET

These two points have been highlighted because most descriptions of the progress of the Plans are apt to go statistical and forget what the Plans mean in our actual, daily life.

But the facts and figures themselves are by no means unimpressive. Let us briefly survey what has been achieved in the last ten years.

The First Plan was only a preparatory effort at planning. It brought together, into a co-ordinated scheme, several schemes that had already been approved or taken up.

It is in the Second Plan that purposive economic planning, imbued with a long-range vision, was undertaken. The Second Plan went ahead to build the framework of a truly modern India—basic industries on which all other industries depend.

So we have built three of the world's largest steel mills; we have begun making 'mother machines which make other machines'; we are manufacturing large electric motors, generators and transformers. We have also built up, equipped and staffed laboratories where problems connected with our industries could be studied and solved.

But let it not be thought that planning has meant industry alone. A neighbouring country, aiming at a much faster industrial growth, has found itself bogged down in its farms. We have been more cautious, having from the beginning aimed at steady and not spectacular advance. We are growing larger crops than ever before—particularly of food grains.

AND now to a few figures. But before we do so, a word about our statistics.

Statistics, it used to be said, are State Arithmetic, a device of the rulers to fool the people into believing what they, the rulers, want them to believe. Statistics have indeed been so employed in dictatorships. But we are an open democracy in which Parliament and the press ask for and get at things as they are. There is no scope at all to cook up figures and to hoodwink us, because ours is a system in which the truth must and will out. And statistics serve as a useful index of achievement. And this is what we find.

In 1950-51, the year before the First Plan, the output of food grains was 50 million tons; last year it was 75.5 million tons—that is, an increase of half. In 1959-60, the total agricultural produc-

tion (food, oilseeds, sugarcane, cotton, jute, spices and other cash and plantation crops included) was 33.1 per cent higher than in 1951. Likewise, the industrial production today is 50 per cent higher than in 1951, employing 50 per cent more people, and the value of mineral production nearly double. We are producing nearly three times the electricity and carrying nearly 75 per cent more goods on the railways. Further, there are more roads and post offices and telephones; more banks and co-operative societies. The number of students passing high school examinations or taking degrees and diplomas has more than doubled. There are today one and a half times the hospital beds and doctors there were ten years ago.

We are working with a little more determination, and we are building up the wealth of the country. Our own incomes also are going up. The prices have gone up too, yes. But it must be noted that income has gone up at a faster rate than prices. That is why most homes are able to afford a few more things than before.

To revert to statistics, the national income (at constant prices) has risen 32.8 per cent over what it was in 1950-51. In 1959-60, it was Rs. 11,750 crores while in 1950-51, it had been only Rs. 8,850 crores. The per capita income has gone up by 17 per cent.

All this has been possible, as we just said, because of effort on the part of our people. They have still to go without many things they need. Poverty in our villages and towns is not much less grinding than before, but no longer do we find a general feeling of helplessness. If we have begun moving upwards it is by demanding that the Government take the initiative, and by giving it the means to do so. The well-off and the not-so-well-off are both paying the Government a larger share of their income so that the Government in turn can spend money on starting new factories, schools and hospitals, on building new dams and power-houses, on digging wells and drains and on distributing fertilisers and better seeds. In fact the Central Government is now spending double what it did before the Plan. Taxes have not risen in the same proportion.

THREE THINGS IN WHICH WE LAG

IT has not been success, success all the way. We have our share of failures. Although we have achieved more progress in the last ten years than in the whole preceding century, our achievement is less than our own capacity. We are even now forced to import food and cotton, not to speak of machinery. The second failure has been in employment. Although the total number of jobs in the country has been growing, so has the total number of people without work. This is mainly because our population has kept burgeoning. And of late it is increasing at a more rapid rate—because improved health measures have checked disease and reduced the number of deaths of mothers and babies in childbirth. We cannot.

(Continued on Page 15)

PRICES IN FIRST DECADE OF PLANNING

Level Not Much Higher Now Than In 1951

DR. RAM GOPAL AGRAWAL

Federation of Indian Chamber of Commerce
and Industry

ONE of the main yardsticks by which the common man judges the achievements of planning is the price at which he is able to obtain the essential supplies needed by him and his family.

The money supply at his disposal is always limited, and he is apt to compare what he can afford now with what he had been able to come by a few months or years earlier. If he finds that after making the most essential purchases he is able to set apart a certain amount for savings and for buying a few other things which according to him raise his standard of living, he feels satisfied. On the other hand, if with the limited means at his disposal, he cannot even maintain the standard of living to which he has got used, he naturally feels a certain amount of frustration and may jump to the conclusion that all is not well with economic planning. If he finds that there are others who have improved their standard of living, while he has not been able to do so, he might even become a vociferous critic.

When we think of the living standards of a family, several factors have to be considered, such as the increasing size of the family, illness or certain other social obligations which have to be fulfilled. Keeping aside such factors, it is primarily the prices of the essential commodities which determine the attitudes of the people to what planned effort has meant for them. The index numbers of wholesale price, compiled and published regularly by the Government, mean little to the average householder. In the first place he cannot understand the index numbers, secondly, it is the retail prices rather than wholesale prices which affect him. And in a period of rising prices, often the retail prices tend to rise even more than the wholesale prices.

THE LAST DECADE

The debates in Parliament on the need to hold the price line, the appointment of a sub-committee of the National Development Council, and the none too clear enunciation of the price policy in the Draft Outline of the Third Five Year Plan, have all combined to focus attention once again on the problem of prices. The forthcoming Budget Session of Parliament will no doubt provide yet another opportunity for discussion of the question, for economic commentators are quick to point out that there has been a considerable rise in the index of wholesale prices and the cost

of living in the year which has just ended. Even the Draft Outline admits that coupled with the problem of unemployment the rising price level during the Second Plan holds important lessons for the future—a roundabout way of saying that the problem is causing concern.

Let us examine for a moment whether the rise in the price level has been of an abnormal nature. Actually, during the First Plan period as a whole, the index of wholesale prices fell by 19 per cent, food production in the period having gone up by 27 per cent and money supply by only 10 per cent. It is true that the rise in food production during the First Plan period appears to be high mainly because in the year 1950-51 the food production stood at an abnormally low level and that the prices at the commencement of the First Plan were fairly high because of the impact of the Korean War.

Be that as it may, the price level at the commencement of the Second Plan admitted of some rise. During the last year of the First Plan, the Government was concerned about the fall in prices of food grains, and had favoured price support measures. The overall rise in the price level in the Second Plan might be nearly 25 per cent. What is even more important is that the rise has been most marked in the last two or three years: the index rose by 6.6 per cent in 1958-59 and 5.7 per cent in 1959-60. Yet the price level obtaining at present with the index around 126 (with base 1952-53=100) is only slightly above the average of 125 for the year 1951. Also the rise in prices in India is not abnormal as compared with the situation obtaining in foreign countries. On the basis of indices published by the International Monetary Fund, India has done better than the United Kingdom, France, Australia and New Zealand and almost as well as Western Germany and Japan since 1953. The first point to emphasise, therefore, is that the rise in prices that has taken place is not something to cause undue alarm. One cannot of course ignore the various social, political and economic implications of the rise, as increase in prices has tended to affect the essentials of existence for the common man. The expected rise in the standard of living consequent on the rise in national income has been counterbalanced, at least to some extent, by the rise in prices.

WHY PRICES RISE

It is necessary for us to examine the various components of the general index of wholesale prices. While the tendency for prices to rise has abated in the last few months of 1960, an earlier tendency for rise in the prices of good grains caused some concern because food articles constitute nearly 50 per cent of the total weight in the index.

The rise in the prices of food grains which occurred in the early part of 1960 was the combined result of various factors. Money supply increased while the production of food grains did not rise at the same rate, measured in terms of the rising needs of an increasing population. The harvest

(Continued on page 30)

SHIPPING IN THE THIRD PLAN Larger Allocation Necessary

A. P. SRINIVASA MURTHY

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THIS brief article attempts to review the present position of Indian shipping, in the light of its recent progress and the importance attached to the development of shipping in the Third Five Year Plan. Although such a study should deal with shipping tonnage, port and harbour development, the ship-building industry and arrangements to train personnel, for the present article only shipping tonnage has been taken up.

An appraisal of the present strength of the Indian mercantile marine could be made by studying 1) the rank of India among the maritime countries of the world, 2) the shares of the Indian and the foreign ships in carrying the coastal trade of India, and 3) the relative shares of the Indian and the foreign ships in carrying India's overseas trade.

Table 1 given at the end shows the relative position of several countries in respect of the mercantile marine in 1958. Of the world's total shipping tonnage of 118 million gross registered tons (GRT) in 1958, the United States and the United Kingdom accounted together for about 46 million or 42 per cent. Italy and Liberia come next in importance, each with about 10 million tonnage. Thirteen countries have a tonnage ranging between 1 to 5 million GRT. All others have less than a million. India, with 6.7 lakh tons in 1958, occupied the twentieth rank. This tonnage represents just a little over one-half of one per cent of the world's shipping tonnage.

Coastal Trade

The coast-wise trade of India handled by the Indian and foreign ships at the ports of Bombay and Calcutta is presented in Table II. This table shows that in 1957-58, the total coast-wise cargo was about 56 lakhs of dw-tons of which the cargo of about 32 lakhs was carried by Indian ships and 24 lakhs dw. tons by the foreign ships. This means that about 43 per cent of India's coastal trade is still in the hands of foreign ships.

As against the above correct position, the Ministry of Transport, in

their Report for 1953-54, claimed: "Government were able to implement their coastal reservation policy in full. In other terms, practi-

As on	No. of Ships
April 1, 1951	95
April 1, 1956	126
November 30, 1959	157
April 1, 1961	..

cally the entire trade on the coast was carried by Indian ships." This hides the correct position and is misleading. Presumably the Ministry's claim applies only to dry cargo, i.e. cargo other than oil cargo. The export of refined mineral oils from the refineries at Bombay and Vishakhapatnam constitutes the bulk of the total coastal cargo. Owing to insufficiency of Indian tankers the country has to engage the services of foreign tanker fleet. It is on account of this that, of the total coast-wise trade, was much as about 43 per cent is still being handled by the foreign ships.

Table III presents an analysis of the relative shares of Indian and foreign ships in the carriage of India's coastal and overseas trade. This analysis brings out the fact that only about 20 per cent of India's trade, both coast-wise and overseas, is carried by Indian ships, depending for the other 80 per cent on the services of foreign ships. If the coastal trade is separated, the dependence on the foreign ships for our overseas trade is roughly 91 to 92 per cent of the total carrying trade. Thus about 8 to 9 per cent of the overseas carrying trade is all the contribution by Indian shipping (see Draft Outline page 250). If it is recognised that about 50 per cent of the country's overseas carrying trade is a fair share to be claimed for the national shipping in the case of any maritime country, we get an idea of the lee-way that Indian shipping has to make up.

The extreme inadequacy of Indian shipping tonnage is borne out by the brief picture of the present position given above. Before we discuss the allocation for shipping proposed in the Third Five Year Plan, it is well to note the tempo of progress during the last decade.

For Tables II and III see page 27

With hardly two lakh tons of shipping in 1947, consisting of ships largely over-worked during the War, the country today has nearly eight lakh tonnage showing a four-fold increase in the last twelve years. Compared with the long period of stagnation before 1947, due chiefly to the vested interests of British shipping, this growth appears somewhat impressive. Nevertheless, under the altered political atmosphere and the vigorous planned drive for rapid economic development, a much larger increase in shipping is both necessary and feasible.

The following table shows the trend of increase in the number and tonnage of Indian ships since the inception of economic planning:

Tonnage — Lakhs GRT			
	Coastal	Overseas	Total
April 1, 1951	2.17	1.74	3.91
April 1, 1956	2.40	2.40	4.80
November 30, 1959			7.41
April 1, 1961	2.92	6.13	9.05

It can be seen from this table that during the First Five Year Plan, 31 ships of a total tonnage of less than a lakh were added. The target set was an addition of 2.15 lakh tonnage bringing the total to 6 lakh

TABLE I
Relative position of the Maritime Countries of the World as regards shipping tonnage, 1958.

S.No.	Country	G R T (Million)
1.	U.S.A.	25.80
2.	U.K.	20.29
3.	Liberia	10.08
4.	Norway	9.39
5.	Japan	5.47
6.	Italy	4.90
7.	Netherlands	4.60
8.	Panama	4.36
9.	France	4.34
10.	W. Germany	4.08
11.	Sweden	3.30
12.	U.S.S.R.	2.97
13.	Denmark	2.04
14.	Greece	1.61
15.	Spain	1.60
16.	Canada	1.52
17.	Argentina.	1.03
18.	Brazil	0.91
19.	Finland	0.76
20.	India	0.67
21.	Australia	0.63
22.	Belgium-Luxembourg	0.60
23.	Turkey	0.60
24.	Portugal	0.55
25.	China	0.54
26.	Costa Rica	0.51
27.	Poland	0.46
28.	Hong-Kong	0.44
29.	Yugoslavia	0.44
30.	Honduras	0.34
31.	New Zealand	0.26
32.	Venezuela	0.23
33.	Chile	0.23
34.	Israel	0.21
35.	S. Africa	0.19
43.	Others	0.79
Total :		118.03

Source: Lloyds: Register of Shipping (Lond)

Quoted in: Statistical Year Book—1959: United Nations: Pp 338-9.

G.R.T. The achievement, therefore, fell below even 50 per cent of the target and it cannot be held out as a satisfactory rate of growth.

The tempo of progress during the Second Plan period is more encouraging than in the First Plan period. On present indications, the target of about 9 lakh tonnage stands a good chance of being fully realised. With the addition of 4.2 lakh tonnage it amounts almost to doubling the total tonnage in five years. This, indeed, is a substantial improvement in the rate of growth of shipping tonnage over the rate of increase in the First Plan period.

Third Plan Allocations

It is against this rate of growth that we must assess the target and provision proposed in the Draft Outline of the Third Five Year Plan. The following table shows the targets and financial outlays in respect of shipping under the three Plans:

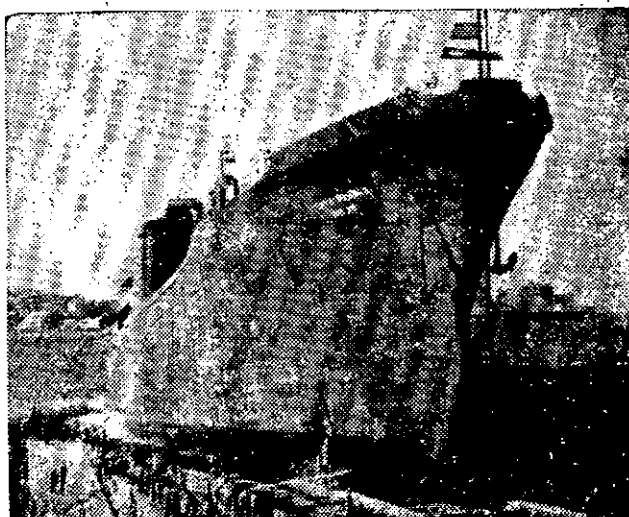
	PHYSICAL TARGETS (Lakhs GRT)	
	From	To
I Plan	3.91	6.06
II Plan	4.80	9.05
III Plan	9.05	11.05

It is seen above that the targets of additional tonnage for the three successive Plans have been 2.15, 4.25 and 2.00 lakhs. In terms of percentages, these would mean increase by about 55 per cent during the First Plan, 90 per cent during the Second Plan and only by about 22 per cent during the Third Plan. The outlay proposed for shipping in the Third Plan is one crore rupees fewer than the Second Plan outlay and represents only 0.8 per cent of the total outlay as against 1.25 per cent in the Second Plan and 1.30 per cent in the First Plan.

The proposal in the Draft Outline will amount to a halting of the momentum in the growth of shipping. Three considerations argue against slowing down the rate of growth of shipping: 1) that the total outlay for the Third Plan is nearly double the Second Plan outlay; 2) that the national income is estimated to increase to Rs. 17,000 crore in 1965-66 from Rs. 13,000 crore in 1960-61 (at 1958-59 prices); and 3) that the value of the foreign trade to be handled is showing an upward trend, its annual value for 1956-57 to 1958-59 being about Rs. 1,500 crore as against the annual average of about Rs. 1,230 crore for the period 1952-53 to 1955-56.

It is relevant to note that the diminished importance given to shipping in the Third Plan is part of the diminished importance to "transport and communications" in general, as is shown by the allocations in the three Plans:

	I Plan	II Plan (Crore rupees)	III Plan
1. Total Outlay	2,013	4,500	7,250
2. Transport & Communications:			
a) Amount...	532	1,340	1,450
b) Percentage	26.4	29.8	20.00



"Vishva Prabha" being built in Yugoslavia for State-owned Western Shipping Corporation.

OUTLAYS (Crore Rupees)	PERCENTAGE of total outlay	
	Provision	Actual
	26.30	18.71
	56.00	56.00
	(Estimated)	0.80%
	55.00	..

That is, increase in the Second Plan has been converted into a drastic cut in the Third

In planning for the "take off" stage of economic development, "transport" must be included among the "leading sectors" and accorded high priority in resources allocation. The crucial role of all forms of modern transport in the transformation of the subsistence sector into the money sector hardly needs emphasis.

The Exchange Angle

Apart from the case for a larger allocation along with other forms of transport, shipping has an independent claim for better treatment. This is the balance of payments criterion. In the present context, the guiding principle should be to maximise the ratio of net exports to investment, by devoting investment to promote export-capacity and reduce import-dependence. The development of shipping secures the latter directly and the former indirectly chiefly through adding to the 'external economies effect' of the growth of adequate transport.

The country's dependence on foreign shipping services involves, on the basis of figures for recent years, a payment of Rs. 130 crore per year. With a possible increase in the total foreign trade of the country, unless there is a corresponding increase in national shipping, the strain on foreign exchange would increase further. Thus, as an important import-competing enterprise, Indian shipping deserves a greater allocation than is proposed.

In deciding upon the size of allocation for shipping for the Third Plan we may base our estimates on what the Shipping Policy Committee found feasible and desirable even in 1947. Among other things, this Committee had recommended: a hundred per cent share for Indian ships in the coastal trade, and a target of 20 lakh tons in about five years. With the improved shipping position today compared to 1947, these two recommendations may be adopted as the minimum targets for achievement by the end of 1966.

As regards a tanker fleet a nucleus has been created with the acquisition of three tankers. If speedy implementation of the coastal reservation policy in full is meant, the building up of a tanker fleet adequate to handle the coastal oil cargo should form a target deserving the top-most priority.

An increase of shipping tonnage to 2 million during the Third Plan would mean a little more than doubling the tonnage in five years, even as the tonnage is being doubled during the Second Plan period. It is not suggested that this tempo of growth is to be maintained all through. It will be sufficient if doubling the shipping tonnage is accepted as the target for each of the next two Plans so that by 1971 India could have a tonnage of about 4 million, a little less than the tonnage which countries like France, Germany, Italy and Panama have today. This should be deemed necessary in order to reach the target of carrying 40 to 50 per cent of our overseas trade in Indian ships—say by 1971-75. After this rapid building-up stage is reached we may afford to slow down the rate and think in terms of maintenance. Heavy investments during the next ten years needed for the acquisition of ships and for creating all the necessary complementary conditions and services to ply them efficiently may be expected to bring commensurate returns both in the short and the long run.

YOJANA

JANUARY 8, 1961

THE PLAN WEEK

AS we approach Republic Day and the start of the Third Plan, do we find in the country that sense of total dedication that will take us onward along the path of planned development? The critics of the Plan are far fewer now than before, although the remaining few are very vocal. The doubters have largely been converted. But with the tacit acceptance of planning, grousing also seems to have grown in the country.

In fact a very acute foreign observer—an editor and professor of political science in London—who visited India a few months ago after an interval of six years, noticed remarkable advance in our economy, and also found, to his surprise, that dissatisfaction had grown simultaneously with the achievements of the nation.

This is our paradox. In our heart of hearts, each one of us knows, and is proud of the fact, that we are moving forward and have reached somewhere in the right direction. But when we speak we grumble or we swear.

Do we, like the maligned Frenchmen, see things in a worse light the better they are?

The Plan has been with us for ten years; and our free democratic Constitution for eleven. Are we allowing the freedom of speech we cherish so much to do injustice to fairness of thought that we ought equally to cherish?

Dissatisfaction by itself is not bad. The frog may be perfectly content with his well and a villager with his mud hut and mossed-over pond. But the first step in planning is precisely to shake off such smug contentment. We want our villagers to feel dissatisfied, so that they will act. We want our industrial workers not to sit back the moment they make a few more rupees.

There is thus a discontent which makes people strive, seek and not yield, and another which corrodes the will. Some might feel that this latter sort of discontent is to be found to a greater extent in our cities than in our villages. It may be true that the coiled spring of expectations has uncoiled in our crowded cities, but it will be only a matter of time for this to happen in the villages too. And the motives and feelings of our own villagers are more remote to our townsmen than the goings on in Congo.

Now is the time, therefore, to analyse the cause and nature of this discontent, and to devise ways of harnessing it to forward action.

After ten years of the Plan we have still not achieved a homogeneous economic society in our country. The political system has not yet fused and become one with the economic system.

Politics have not yet come to be understood as the means of securing desirable economic results. The articulate and the vocal—the young teachers, students, traders and small industrialists—feel left out of the game. In turn the administrator feels he is not receiving enough co-operation or appreciation from the people he works for. More than all, the villager has not yet become fully conscious of his rights. Town or village, there is need for greater education in duties.

To bring this about is the task for the India Plan Week which is being celebrated from January 14 by the Information and Broadcasting Ministry. Any such celebration, to be useful, must not only tell the villages what Delhi is doing, but must report back to Delhi what the villages feel.

NEXT ISSUE

ONE of the purposes of *Yojana*, as we said in our recent restatement of the aims of the journal, is to 'ask questions about the best ways to reach the accepted goal.' Our accepted goal is a socialist society. The means we have adopted are a democratic Constitution and planned development. Planning will soon be completing ten years in our country, and, on Republic Day, the Constitution will be entering its twelfth year.

In our next issue, to be published on January 26, 1961, authors eminent in their fields will ask several stimulating questions on how far our formal and informal institutions—political, economic and social—are helping us to go forward steadily towards our accepted goal. The issue promises to provoke informed discussion on these important problems to the same degree as our Third Plan Special Number did six months ago. We urge you to make sure of your copy.

FROM THE HEART

NOT marble nor the gilded monuments of princes, Shakespeare claimed, would outlive his powerful rhyme. True greatness can command the gratitude of later generations without the aid of metal and stone. The Prime Minister is therefore right in advising the Motilal Nehru Centenary Committee that it should concentrate its energies on building a town hall for Allahabad rather than erecting a statue.

One way of telling ourselves that we remember the great is to give their names to useful things we make for ourselves—like the Gandhi Chowks, Subhas Roads and Tagore Theatres. But is utility enough? And are monuments invariably to be deplored? Statuary and architecture are civic arts, and are often a true measure of the abilities and aspirations of a race and a period. Artistic integrity, and not expense, is the justification of any monument. The most moving monument of our times has been the *Samadhi* at Rajghat—with its simplicity not further simplifiable, a simplicity which makes it kin with the pure air, the clear sky and the forgiving earth. Rajghat is now being remodelled. Let us hope that after the architects and engineers have done their work, the unadorned radiance of the place will not have been impaired.

THIRD PLAN DRAFT

N.D.C. to Consider Proposed Changes

AT its meeting on the 13th and 14th January, 1961, the National Development Council will consider the changes in the outlays and targets set out in the Draft Outline in the light of discussions with States and Ministries and the review of the financial resources. It will also consider agricultural production programmes and employment aspects in the Third Plan.

Since the last meeting of the National Development Council held in September, 1960, the Draft Outline has been discussed by five committees of Parliament consisting of 300 members, by the Panel of Economists and the Panels of Agriculture and Housing. A series of detailed discussions on agricultural programmes and targets have also been completed with States. As a result it should be possible to realise the agricultural production targets without substantial changes in the allocation for Agriculture and Irrigation. It has also been found that if the power development programmes, which have been drawn up by the States, are implemented quickly and efficiently, the prospects of increased employment will improve. In considering changes in outlays proposed in discussions with States, the main consideration was that the major targets were not allowed to suffer.

The main problems at present in determining the total outlays in the public sector in the Third Plan arise from the assessment of the requirements of the Central Ministries. This has since been carried out. While ultimately the National Development Council might favour a slight increase in the outlays, the emphasis will be on implementation rather than on increased allocations.

In reviewing the financial resources of the Centre and the States together, it is realised that in relating the total outlays to the total resources available, it is desirable not to stretch the size of the Plan to the farthest extent which estimates of resources might suggest, as there are always many uncertain factors to be reckoned with in the course of the Plan.

In the industries and mineral sectors while the accepted programme is implemented, there has to be a major flexibility in regard to the financial provisions which may be made, having regard to the resources available and the allocations under different heads in the Plan.

In the agriculture and social services, it would probably be desirable to supplement the financial provisions which can be indicated at present with the assurance that within certain strictly defined limits, physical targets could be worked out beyond the financial provisions and larger resources may be provided from year to year through the annual budgets.

In planning for the future, the broad industrial plan including power, transport, scientific research and technical education has to be thought of as a continuous and integrated process going beyond the limits of any particular five-year plan. Keeping in view that the actual commitments in relation to accepted programmes had not to in-



volve an expenditure above the limits that may be set, the implementation of these programmes can proceed on the basis of a given order of priorities and the availability of internal and external resources. In other words, the phasing of the programme of implementation will have to be continually adjusted to the availability of financial resources.

THE PLAN AND OUR INSTITUTIONS

HOW far are our political system and planning machinery strengthening each other? Have the new social movements and institutions we are building up been able to meet the challenge of the time? How well have our parties, legislatures, the executive and the universities succeeded in translating our aims into practice?

Eminent contributors will examine these and other questions in the

Republic Day Special Number of Yojana

JANUARY 26, 1961

Some of the Contributors: Shri Jayaprakash Narayan, Shri Gulzarilal Nanda, Shri Asoka Mehta, M.P., Dr. A. Krishnaswami, M.P., Miss Jean Joyce, Dr. A. K. Das Gupta, Dr. K. N. Raj, Dr. A. M. Khusro, Dr. S. C. Dube, Dr. Surinder Suri, Shri Tarlok Singh, Shri M. R. Bhide, Shri C. B. Rao and Shri A. N. Jha.

64 Pages Special Cover 25 nP

EMERALD MINING HAS JUST BEGUN IN INDIA

P. V. RAO

Geological Survey of India

EMERALD ('marakatha' in Sanskrit), one of the precious stones held in high esteem in India and other countries, is a rare, rich green, transparent variety of beryl, a silicate of beryllium and aluminium. The characteristic emerald-green colour, which has a velvety sheen in the better examples, is considered to be imparted by traces of chromium present in the gem. Emerald, having a specific gravity of 2.6 to 2.8 and hardness of 7.5 to 8 in the 'scale of hardness', occurs commonly as hexagonal prismatic crystals. Another gem variety of beryl, having a lovely blend of blue and green, is known as aquamarine.

The popularity and value of the gem are dependent more upon the exquisite colour and sheen than on the fire and brilliancy which in fact are not looked for in assessing its worth. Although emerald has been in use in India as a gem-stone for centuries, there is no known record of any indigenous find till 1944, all the stones being imported from foreign countries.

The world's most important source of better quality emeralds at present is Colombia, where it is reported to have been mined from the tenth century. The average annual production from this country during recent years is about 14,000 carats. Other important producers of emerald at present are South Africa, Russia, Brazil and Egypt.

OCCURRENCES IN INDIA

The occurrence of emerald in India was first noted accidentally in 1944, during the course of prospecting operations for beryl and mica in the Kaliguman area in the former Mewar State of Rajasthan. The area was soon leased out and production started after a short time. Two new

deposits were found in 1945 and 1951, at Tekhi, 16 miles north-north-east, and Gum Gurha, about 23 miles south-south west, of Kaliguman. About the same time two other occurrences at Bubani and Rajgarh, twenty miles apart, also in Rajasthan, were located. Emeralds in all these deposits are associated with metamorphosed schistose rocks (Delhis and Pre-Aravallis) specially in the vicinity of granite or pegmatite intrusions with which it is genetically connected. In this and in respect of other related minerals like beryl, tourmaline and apatite which occur with emerald in India, the Indian occurrences are akin to most of the other ones in the world.

Emerald in Rajasthan is mined mostly by open cast workings but underground mining is in vogue at some places. The Rajgarh deposit is known to have yielded the best type of emeralds. The emerald crystals range from a small fraction of an inch to four or five inches in length, but large ones are rather rare and often have flaws, cracks and inclusions; flawless stones are, however, extremely rare and fetch fabulous prices.

Not all the emerald found in Rajasthan, as in the case of other countries, is of gem. variety. The major portion is of inferior semi-precious variety. The gem variety is steps-cut, brilliant-cut or *en cabochon*. Depending upon the quality, cut emeralds fetch prices ranging from Rs. 300 to Rs. 2,500 per carat. Jaipur is world famous in regard to emerald cutting.

The value of the annual production of emeralds in India, between 1945 and 1958, varied very much, being about 2.5 lakh in the earlier years, 3.5 lakh in 1948, over six lakh each in 1954 and 1955 and less than one lakh in 1957 and 1958.

As can be judged from the distribution of the present occurrences in Rajasthan, the emerald-bearing tract is seen to be about 125 miles long with an uncertain and variable width. The present workings in Rajasthan represent mere scratches on the surface having gone barely to 100 feet in depth. Further detailed geological mapping of the region, followed by exploration to estimate the quantities at greater depths are necessary. With well planned, systematic and intensive work, there is every likelihood of locating large and valuable deposits.

FACE OF NEW INDIA

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Plight Of Farm Labour

Second Agricultural Inquiry Underlines Need For Positive Action

G. S. KAMAT

THE conclusions of the Second Agricultural Labour Inquiry Report recently placed on the table of Lok Sabha (December 21, 1960) give rise to depressing thoughts. Despite the efforts of planning, agricultural labour in India seems to have suffered a decline in wages and an increase in indebtedness and unemployment between 1950-51 and 1956-57.

These inquiries are conducted by the Ministry of Labour in collaboration with the Central Statistical Organisation, the National Sample Survey and the Indian Statistical Institute. A third inquiry of this type is proposed to be conducted during the Third Plan to assess impact of the Second Plan on conditions of agricultural labour.

According to the present inquiry, there were 16.3 million agricultural labour households in 1956-57, as against 17.9 million in 1950-51. "The decline is probably due to a conceptual difference in definitions." The agricultural labour families comprised a population of 72 million in 1956-57. It was found that 57 per cent of the households were totally landless. Nearly 83 per cent worked as casual labour households on daily wages for short unspecified periods. The remaining were 'attached' labour households on a contract of employment for specified periods.

The reason given for the rise in the ratio of 'attached' labour is the resumption of personal estates for self-cultivation by the erstwhile intermediaries like the zamindars, jagirdars and talukdars in different States. The estimated 33 million agricultural labourers consisted of 18 million male workers and 12 million and three million female and child labourers respectively in 1956-57. The corresponding figures for the first inquiry were 19 million, 14 million and 2 million respectively, giving a total of 35 million.

Casual employment for the adult male worker was for 197 days, for the adult female worker 141 days, and for the child labour 204 days. It is noteworthy that the casual male worker was unemployed for 128 days in 1956-57 as against 90 days in 1950-51. His average daily wage rate also shows a decline from 109 nP. to 96 nP. (1956-57). Pressure of population on land is in-

creasing and fragmentation and subdivision continue. The tendency to employ family labour and the prevalence of mutual self-help among the landholders are progressively limiting the scope of the use of hired employment.

Wages and Expenses

Forty per cent of wages were paid in kind in 1956 as against 31 per cent in 1950. The wage bill for this sector of the economy worked out at Rs. 520 crore for 1956. Payment was based on the wholesale prices that were prevalent in 1956 and not on the ruling retail prices as was done in 1950. Retail prices are always higher than the wholesale prices. "On the whole, therefore, we see a trend towards a decline in the wages of agricultural labour and a shift in favour of payment of wages in kind. The wage difference between male and female labour has also widened. Agricultural wages were higher in 1950-51 than non-agricultural wages. The Second Inquiry indicates a reversal of the situation. The average annual household income of agricultural labour has gone down from Rs. 447 to Rs. 437, and the per capita income from Rs. 104 to Rs. 99.4 in 1956-57. At the same time, the size of the average household has increased. It is interesting to compare this per capita income with the national per capita income which stands at Rs. 291.5. This means that the agricultural labourer makes only a third of the national average.

As against the average household income of Rs. 437, the expenditure of the family amounted to Rs. 617. Indebtedness has increased from 45 per cent in 1950 to 65 per cent in 1956 for the agricultural household. The average accumulated debt per household shows a rise from Rs. 47 to Rs. 88. The estimate of the total volume of indebtedness for the agricultural labour households stood at Rs. 143 crore. It had been Rs. 80 crore in 1950. The debts were incurred for meeting consumption expenditure (46 per cent), social purposes (24 per cent), production purposes (19 per cent) and for certain miscellaneous purposes (11 per cent). Amongst the agencies supplying finance, money-lenders accounted for 34 per cent, relations and friends 44 per cent, employers 15 per cent, shopkeepers 5 per cent and co-operatives hardly one per cent.

The agricultural labourers, parti-

cularly the landless, come from the backward communities. They suffer from various social disabilities and are exploited. Their levels of living, therefore, are very low. Further, they are dependent on the earnings of primary producers who themselves are generally poor because their earnings are also uncertain and meagre.

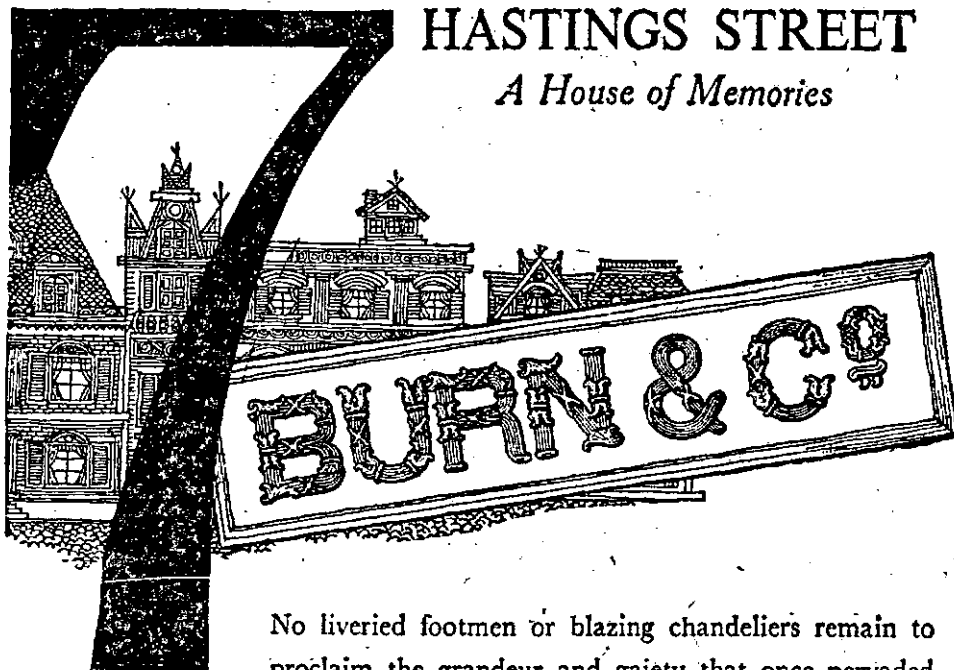
The report mentions various measures taken for the amelioration of conditions of the agricultural labour such as land reforms, money-lending legislation, debt relief measures, prevention of forced labour, fixation of minimum wage, welfare measures (education, health, housing), land reclamation for settling the landless labour, Bhoodan and Gramdan, co-operative farming and development of cottage industries.

Challenge to Planners

Absorption of the growing army of agricultural workers has been one of the major problems of Indian agriculture. It may not be wrong to say that in addition to increase in the rural population, an overflow of the urban population growth also finds its way into agriculture. In fact, agriculture has always been working as an unemployment insurance system.

While we want to draw away some of the surplus labour force from agriculture, the numbers supported by land seem, on the contrary, to be growing larger. The Second Plan stated that although there is no sharp distinction between unemployment and underemployment in rural areas, there is a general agreement that under existing techniques, agricultural production could be maintained with about 60 to 75 per cent of the number of workers now engaged in agriculture. It must also be borne in mind at this stage that there is going to be a further rise in the total working force by 1966, with the population around 462 million.

The task of providing employment to the entire labour force is a challenge for the country. As maintained by Dr. P. S. Lokanathan in his presidential address to the fourth All-India Labour Economics Conference "the rural over-population in India is perhaps the most outstanding challenge to the efforts for rapid growth." The problem before the planners is to convert the vast surplus manpower into an asset. Even if new industries start working in urban areas, they can absorb only a small part of the surplus rural labour. The Planning Commission has rightly suggested that irrigation, flood control, land reclamation, soil conservation, afforestation and road development projects should provide employment to the local population during the slack periods. Expansion of rural industries on a planned basis and the execution of public projects with the help of the local people will go a long way in providing a solution to the problem of an increasing number of men without work.



HASTINGS STREET

A House of Memories

No liveried footmen or blazing chandeliers remain to proclaim the grandeur and gaiety that once pervaded the large red brick mansion that still stands in Calcutta's Hastings Street and which Warren Hastings, India's first Governor-General, built for his charming wife as her town house. For many years this fine residence was the scene of glittering assemblies and balls, the entrée to which was considered a high social privilege.

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OFFICIALESE

Where Would We be Without This God-sent Jargon?

R. L. MEHTA

IN his Life of Johnson, Boswell tells of a Scottish Earl who had tried to cultivate an English pronunciation. That he was not successful appears from his experience with a shopkeeper in London.

"I suppose, Sir," remarked the shopkeeper, "you are an American."

"Why so, Sir?" asked his lordship.

"Because, Sir," replied the shopkeeper, "you speak neither English nor Scotch, but something different from both, which I conclude is the language of America."

This was in 1772. What was true of the English of America in those days is true of some of the expressions used in Government files in India today. They are neither the Queen's English nor what is popularly known as Indian English.

How each expression in the official jargon originated would be a fascinating study for a research scholar. Here, however, I can only describe how the uninitiated react to some of these expressions when they first meet them. For instance, when I first saw the two words "Please Speak" scribbled on one of my files by a boss, I asked the walls of my room: "Speak about what, and to whom?" My sense of English grammar was hurt at not finding the "object" to the transitive verb "Speak".

"What could the boss mean?" I wondered. My Personal Assistant came to my rescue: "Perhaps, Sir," he suggested timidly, "the boss wants to discuss the matter with you." "Discuss what?" I exploded. "The note on the file is clear; it speaks for itself; there is nothing further 'to speak' or 'to discuss'."

However, I took the P. A.'s advice and saw the boss. After I had "spoken" to him, I found out the true significance of this particular officialese. Simply stated, the words "Please Speak" mean this:

"I do not have the inclination nor the time (it is generally the inclination that is wanting) to read the file or to study the problem discussed in it. Will you please come to my room and explain what it is all about and make up my mind for me?"

When I had done this, I returned to my room, wrote "Spoken" on the file and added a brief rehash of my earlier note as the orders of the boss. But let me hasten to add: all bosses do not always use "Please Speak". Most of them study the files and pass orders.

Officialese is as much a jargon as journalese, commercialese or legalese, and one of the ways in which words degenerate in their emotional value is by becoming part of a jargon. The other is when a word, a phrase or a figure of speech falls into conventional use. For instance, when every poet compares all lips to cherries, both lips and cherries lose their freshness, their sweetness and their dewy charm for the reader. The simile fails to conjure up the young, red, pouting lips which first inspired the comparison.

But whereas in a convention or a cliché, the shine of a word or a metaphor gets rubbed off by indiscriminate use till the word or the metaphor ceases to have any meaning at all, a jargon gives special significance to certain words and phrases. This significance has nothing in common with the pristine glory in which the word or the phrase was born or what the dictionary may have to say about it. One such word is "Speak" to which I have already referred. The other is "Pursue". While we try to hide all cases of delay from the eyes of the word at large by saying that the matter is "under consideration," we hoodwink our bosses by saying, "I am pursuing it, Sir", by which we really mean that the paper, the concerned paper, has not yet left our table. When I first saw myself caught in this eternal chase of what seems a will o' the wisp, I was reminded of those famous lines of Keats from the Ode on A Grecian Urn in which the lover is for ever pursuing his beloved but never attains her:

Bold Lover, never never canst thou kiss,
Though winning near the goal—yet, do not
grieve;

She cannot fade though thou hast not thy
bliss,

For ever wilt thou love and she be fair!

After all, even seemingly fruitless pursuits have their compensations!

Another instance of this kind is the expression "May see". In an elaborate note the Under Secretary examines a point from all angles and suggests a line of action. The Deputy Secretary agrees with the Under Secretary but has not the guts to take a decision. So he passes the buck to the Joint Secretary with the endorsement: "J.S. may kindly see." When I first came across such a transcription on a file, I hurriedly noted on it, "Seen, but alas, not read", and returned the file. Immediately walked in the Deputy Secretary to explain what exactly his endorsement was meant to convey!

Every jargon has its advantages. So has officialese. It hides various sins of omission and commission. For instance, a matter can remain "under examination"—for months. For twice that period it can "receive considerations" of various kinds—considerations that are active, personal, vigorous, and considerations which are not so active, not so personal and not so vigorous.

(Continued on page 30)

THE PAY THAT PEOPLE DRAW

PARLIAMENT was told recently that there were 43 'crorepatis' (shall we translate it into decamillionaires?) in India—27 of them industrialists and business men and 16 from the old princely class.

Jiggs, the hero of the popular comic strip 'Bringing Up Father', was a multimillionaire who became a millionaire. Like him, as our socialist pattern becomes more and more real though purposive taxation, our 'crorepatis' will one day become only 'lakh-patis'. Not a matter for regret, as long as the poorest, the lowliest and the lost among us can break out of being poor and lowly.

Prof. Lydall of Cambridge who spent some months in India came to the conclusion that while the distribution of Indian income before taxes was not very different from the typical pattern in western countries, the final distribution of real income was a good deal more unequal in India. The top five per cent of our population receives 23 per cent of the total incomes before taxes and 22 per cent after taxation. The corresponding figures in the United Kingdom are only 21 per cent and 15 per cent (in the year 1954). Prof. Lydall's prescription is a more progressive tax-system and larger expenditure on social services.

There is no escape from such measures if we are to be true to our professions of socialism. At the same time we must also take positive measures to narrow down the wage differences between the whales and the pilchards, between the big and the small. In India the top man in a firm often gets a pay which is 50 times higher than that of the average manual worker in the same firm; in Britain, Prof. Lydall tells us, this multiple is not likely to be more than 10.

It is not as though this problem hasn't exercised the Indian mind. To narrow down the distance between the floor and the top had always been the aim of Gandhiji. Hence his injunction that Ministers should not receive more than Rs. 500 a month as pay. Hence also the decision to reduce the salaries of top civil servants progressively from the pre-war 4,000 rupees to the present-day 1,800.

The Hindu has published an article recently which explains the pattern of Central Government servants' pay and how the total salary bill is divided into people of different groups. Of the 19 lakh civilian employees only 3,192 people—that is, only 0.17 per cent—drew a basic pay of Rs. 1,000 and above. But people drawing less than Rs. 50 per month as basic pay, were nearly 54 per cent of the total. In the last ten years, the relative proportion of this lowest group is steadily decreasing (from 58.9

per cent in 1951 to 54 per cent in 1959) and the percentage of people in the 101-251st salary group going up (from 11 in 1951 to 15 in 1959).

The Sea's Secret

ANYONE who has read Rachel Carson's book, *The Sea Around Us* knows that the deep has withheld from us as many secrets as outer space has. There is a great deal we have yet to know not only about the plant and animal life that flourishes in the sea, but its very geography.

The journal "Indian Shipping" reports the work done by the skipper of an Indian vessel, s.s. *Jag Vijay*, in locating a shoal in the Java Sea. Acting on his finding, the Hydrographic Department of the British Admiralty surveyed the area and put it down on the maps. In gratitude, the shoal has been called "Jag Vijay Bank."

Who's The Father?

THE columnist 'Archer' who writes regularly in *Commerce*, has an interesting tail-piece. He says that candidates, who had applied for a job were asked the following question: Who is called the Father of the Nation—Mahatma Gandhi, Shrimati Indira Gandhi, Shrimati Vijayalakshmi Pandit?

He adds: A few candidates did choose Mahatma Gandhi.





After Decades

We Have

Began Moving

(Continued on page 4)

however, afford this increase in population. We need to reduce the number of births through careful methods of family planning. A home with four happy, healthy children is better than a home with six weary, half-educated wastrels. Not to have brought down the birth-rate is our third major failure.

FUTURE: MORE FRUITS WITH MORE EFFORT

WITH two Five Year Plans behind us, we shall soon—within the next nine weeks—be taking up the Third.

What do we hope to do in the Third Plan?

In the Second Plan we really saw the beginnings of a true industrial society in India. In the next ten years, that is in the Third and Fourth Plans, we hope to reach what the economists call the 'take-off' stage.

The 'take-off' stage simply means that our political freedom will become real economic freedom. It means that we shall be able to build up our industries with our own money, men, machines and minds.

Our becoming free has not meant that we live in a world cut off from other countries; in fact, our contacts with the outer world have increased. So also, economic freedom does not mean that we will have no dealings with other countries. As a matter of fact we shall have *more* dealings—because we shall be having *more* trade. But we shall not depend on them for the basic things that an industrial society needs—steel, fuel, large machines, and the knowledge to design machines of our own. We are now in a position to make within the country all the steel we need. We have also begun making power plants, railway engines, chemicals, important medicines, and the machines that manufacture cloth, sugar, paper, cement, plastics and so on.

"Why do we make steel? Can we eat it?" one may be tempted to ask. Neither does one eat paddy right off the stalks. People do not live by their mouths alone. Iron and steel are needed to make the sickles with which wheat and paddy are reaped; they are needed to make hoops for bullock-cart wheels; they are needed to build the bridges on which the carts run; they are needed to make the mills which hull paddy or grind wheat; and they are needed to make the girders and sheets with which godowns and sheds are built. In doing all this, at countless workshops, steel provides jobs to thousands and lakhs of people from the villages.

If industry thus helps agriculture, agriculture in turn is essential to industry. Expanding industries need more raw materials. We also have to export agricultural commodities to buy some of the industrial goods we need from abroad. The Third Plan lays cardinal stress on agriculture also.

If in the last ten years we have increased our food output by one half, within the next five years we propose to increase it by another half. To help the farmers to grow more, service co-operatives are being opened in every village of the country—and these will provide farmers with credit, fertilisers, seeds, tools, etc. Also, the whole Community Development organisation—Gram Sevaks and Block Development Officers—will become our *kisans'* helpers.

To achieve all this in the Third Plan, we have to put in more money than we did in the First and Second Plans together. Most of this has to come from us. Some will come from friendly foreign countries. Even these countries will help us only if they are sure that we shall put the money to good use and repay them. In other words, as important as the money is the faith in our hearts and the strength in our arms. We receive but what we give.

IN TEN YEARS OF PLA



Men have been given advanced technical training. Picture from the Machine-Tool Prototype Factory at Ambarnath.



There has been a great addition to public and private buildings during the two Plans.

BELOW: Scientific agriculture is being extended, with maximum use of soil conservation and pest control devices.

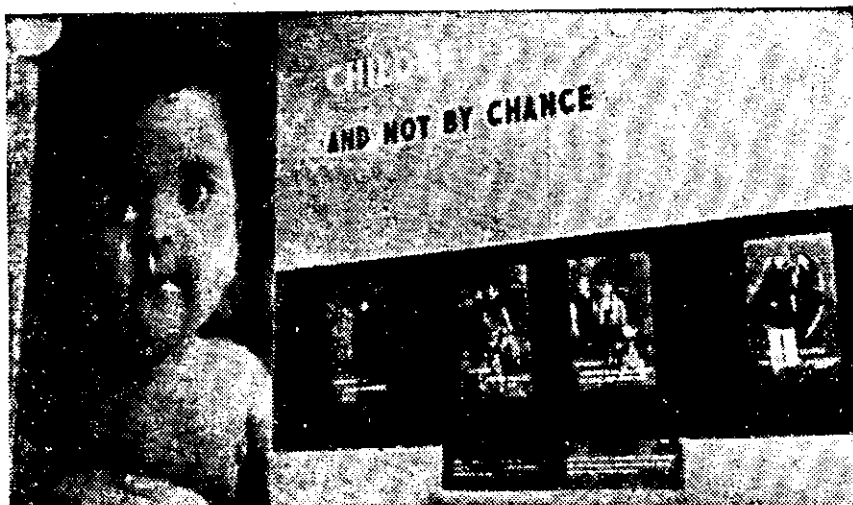


A major achievement of the first Plan: the Jammu and Kashmir Dam between Kashmir and India.



India has been a major beneficiary of the Canada-India Agreement, which is being inaugurated.

NING



A beginning has been made in educating the people in the need for family planning.



The laboratory has been an important aid in solving many of our problems, agricultural, industrial and medical.

BELOW: More and more people have realised that things are not done for them but they have to do it.



nt in road engineering in
Tunnel at Banihal pass
and the rest of India.



leading nuclear country.
actor which is formally
January 16.

INDEX NUMBERS OF AGRICULTURAL PRODUCTION

group indices and the all-commodities index.

The table gives the index numbers for recent years. The first column shows the weights for each crop which are based on the value of output at (harvest prices) of each crop as a proportion of the total value of output of all crops in 1949-50. Agricultural output as a whole was 27 per cent higher in 1959-60 as compared to 1949-50. This was as a result of an increase of 24 per cent in food grains production over the decade and an increase of 33 per cent in the production of crops other than foodgrains i. e. the commercial crops. It can be seen that a comparison of just one year with another does not re-

THE quantity of agricultural output can be measured in terms of a uniform unit—say, tons. This, as was noted earlier, is not true of products of industries. It may, therefore, be asked: why is it necessary to compute index numbers of agricultural production? Would it not be sufficient to measure the change in the quantity of output by merely looking at the absolute figures of production? The answer to these questions is two-fold: In the first place, even if there were no other complications, a ton of, say, rice is not the same thing as a ton of, say, Ragi or a ton of cotton. The prices of these crops differ because they are not all equally valuable. It becomes necessary, therefore, to measure changes in agricultural production by compiling index numbers in which the weight given to each group is proportional to the value of each crop. This is a general consideration. In our country, there is a special factor which makes it necessary to compute index numbers of agricultural production. This is the fact that ever since the end of the war, improvements have been taking place in the method of estimating the absolute quantity of output of various crops; there have also been changes in the coverage of statistics.

There are two stages in the estimation of agricultural production: (a) estimating the area under each crop and (b) estimating the yield per acre. In respect of both these, improvements have taken place in recent years. The traditional method of estimating yield per acre (the village Patwari's eye estimation) is now replaced almost entirely by random crop-cutting surveys. Nearly 98 per cent of the production of wheat and 88 per cent of the production of rice now come from areas where crop-cutting surveys are being utilised. With the merger of the former Princely States, the statistics of output from these States also began to be collected in the same manner as that prevalent

in what was the former British India. Area estimates suffered from the defect that not all parts of the country were cadastrally surveyed; in some areas land records were not maintained regularly. In the case of non-reporting areas, the practice was to make ad hoc estimates of output. As the former non-reporting areas became reporting, the estimates of output na-

INDEX NUMBER OF AGRICULTURAL PRODUCTION
(1949-50=100)

	Weight	1953-54	1955-56	1956-57	1957-58	1958-59	1959-60
A. Foodgrains	67	119	115	121	108	130	124
1. Cereals	58	120	115	121	109	129	125
Rice	35	119	114	120	105	128	123
Wheat	9	120	131	142	117	147	147
Jowar	5	117	97	105	120	127	115
2. Pulses	9	112	118	123	104	135	117
B. Non-Foodgrains	33	105	120	131	128	137	133
1. Oilseeds	10	104	109	120	116	133	123
2. Fibres	5	132	150	171	166	175	145
Cotton	3	152	154	181	180	178	146
Jute	14	100	136	139	131	159	140
3. Plantations	4	104	113	115	124	130	131
4. Others	15	97	120	129	126	129	137
Sugarcane	9	90	120	137	135	139	149
C. All Commodities	100	114	117	124	115	132	127

turally tended to show significant increases which reflected statistical improvements rather than the actual state of affairs. The index numbers seek to measure the change in output as isolated from these statistical improvements.

The method followed is known as the 'chain-base' method under which comparable figures of output of each crop are used for preparing the index numbers for that crop. These index numbers are then averaged, after applying the weights, to give

veal the true position. Output has fluctuated a great deal between the years. There is a steady increase during the two years following 1953-54 which was the best year of the First Year Plan; a sizeable decline in 1957-58, followed by a bumper crop in 1958-59 and a set-back again in the next year. The index numbers do not bring out the long-period trend, because of these fluctuations. The trend can be measured by taking an aver-

(Continued on Page 19)

On this page, readers' questions on the Plan and the development of the country will be answered. Questions may kindly be addressed to the Chief Editor, Yojana,

Economic Journals

Question from: Mr. R. Lall, Wing Armoury, Air Force Station, Halwara (District Ludhiana):

What are the magazines and journals published in India on economic problems? Please state their addresses also.

Answer: Some of the more important journals dealing with economic problems in our country (and published in English) are:

1. **The Reserve Bank of India Bulletin** (Published from the Reserve Bank, Bombay-1).
2. **The Eastern Economist.** The United Commercial Bank Building, Parliament Street, New Delhi-1.
3. **The Economic Weekly,** 104 Apollo Street, Fort, Bombay-1.
4. **Capital,** 5 Mission Road, Calcutta.
5. **Commerce,** Brady House, Veer Nariman Street, Bombay-1.
6. **The AICC Economic Review,** 7, Jantar Mantar Road New Delhi-1.
7. **Khadi Gramodyog Patrika,** Mistry Bhavan Dinsha Wacha Road, Bombay-1.
8. **Industrial India** (Organ of the All India Manufacturers' Organisation) United India Building, P.M. Road, Bombay-1.
9. **Indian Economic Journal,** Department of Economics, Bombay University, Bombay-1.

Commodity Prices

Another from Mr. R. Lall:

Please publish an article explaining how the prices of different commodities rise—their effect on economic progress, specially for an underdeveloped countries like India. Please also elucidate different measures to counteract this—and

why these measures have not been successful in India.

Answer: On Page 5 we have published an article by Dr. Ram Gopal Agrawal which traces the history of our commodity prices in the last ten years, outlining the causes as well as the cures of price rises.

Planning Forums

Question from Mr. S. K. Ray, Vice-Principal, Sibpur Dinabandhu College, Sibpur, Howrah:

My students would like to have detailed information as to how they can participate in the implementation of the Plan.

Answer: The university and college students can participate in the implementation of the plans in many useful ways. The first essential step is to understand and grasp the contents and implications of a Five Year Plan. They can create Plan consciousness in the university circles and the places around them by presenting the Plan in a simple form. They can create an atmosphere of sacrifice which the community has to make in implementing the Plan of a certain magnitude and content by developing habits of thrift and undertaking savings campaign at home and in their environs so essential for resource mobilisation. They may 'adopt' a near-by village and work for its all-round development, and help in the preparation of a production plan for the village. In addition they may participate directly in the implementation of suitable plan programmes by undertaking construction work (including slum clearance work), running adult literacy classes or schools for poor children, and a host of similar activities. The Planning Forums set up in the Universities and Colleges have been endeavouring to work on these lines.

TABLE TALK

(Continued from Page 18)

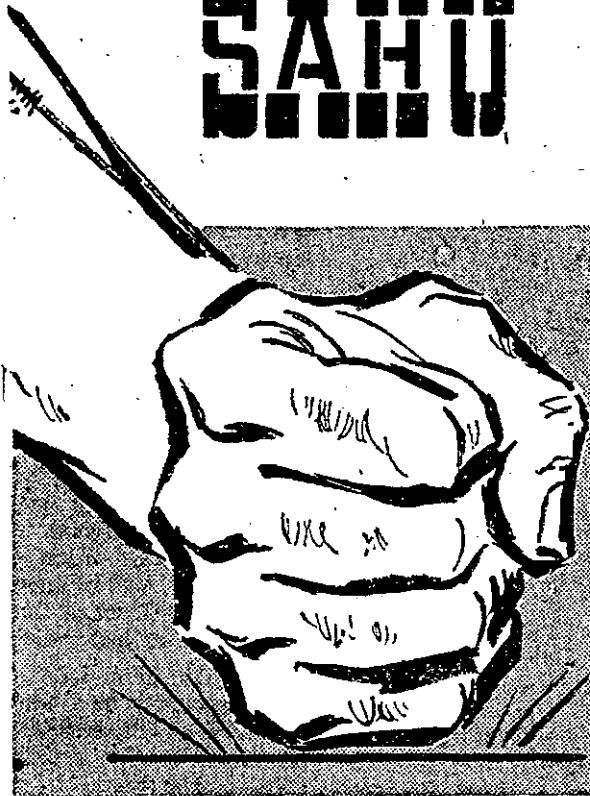
age of recent good and bad years and comparing it with a similar average of good and bad years, say, 10 years ago. If this is done agricultural output would show a steady increase over the last 10 years.

The trends in grain production follow those of cereals, and the trends in the latter follow mainly the changes in the output of rice which is a major crop. For instance, production of wheat was highest during the First Plan in 1955-56—the index being 131; and yet the foodgrains index is lower because of a fall in rice production as compared to the peak reached in 1953-54. Among the commercial crops, there is no single crop which governs the index for the non-foodgrains group, as rice governs the group index for cereals. The increase of 33 per cent in the output of commercial crops over the last decade is spread over all the important crops, cotton and jute showing the highest increases (except in 1959-60 when they suffered on account of bad weather).

The table gives index numbers for the country as a whole. Index numbers for different States are not compiled, but for a proper assessment of the trends in agricultural production, it is important to look at the situation in different States. This can be done only by looking at the absolute figures of production and making a mental allowance for the fact that the trends shown by absolute figures are also affected by statistical improvements. These improvements took place mainly between the years 1947-48 and 1952-53. For subsequent years, absolute figures of production should be a fairly good guide to the position as obtaining in each State. State-wise details are not given in the table, but are available in the monthly journal "Agricultural Situation in India" published by the Ministry of Food and Agriculture.

IN 1959-60, the Indian Standards Institution issued 216 new standards and revised 22 earlier standards. The Second Plan target set for the Institute has already been exceeded. The total number of I.S.I. standards stood at 1,434 by the end of 1959-60.

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—Meet This Worker—

SHRIDHAR PATIL—A BROTHER TO ADIVASIS

I MET Shridhar Sakharam Patil in the Panchayatghar of Nandore, a small Adivasi village in Palghar block of Maharashtra State.

"But surely, you are not an Adivasi" I remarked. He did not look like one, and spoke English.

"Let me say I am not an Adivasi by birth, but they have allowed me to serve them. In our village of 850 people, 800 are Adivasis. They have unanimously elected me as the Sarpanch, perhaps because they consider me their kith and kin," Patil replied.

It did not take me long to find out the secret of his popularity. Until a decade or so before, Patil was an ordinary peasant, not very different from the Adivasis of his village. Then, with his brother, he bought fifty acres of barren land from the Government at nominal price. By sheer hard labour and with the co-operation of the Agriculture and the Community Development Departments, he slowly improved his land and put up an orchard in part of the area. For irrigation, he built a small dam across the channel running through his fields, and installed an engine. In the beginning, his produce was only about 4 maunds of paddy per acre, but by the application of intensive doses of manure and deeper ploughing it gradually improved to reach the figure of 40 maunds an acre. His orchard also developed and it has at present 400 *Chiku* trees, 500 mango trees and 100 guava trees.

Patil proudly showed me the gold and silver medals he has won at numerous exhibitions and competitions. He has also installed in his house a cow-dung gas plant at a cost of about Rs. 2,500 to provide lighting and gas for his home.

Patil has not been content to seek his own success. He has initiated the Adivasis into the secrets of improved methods of cultivation. He has distributed improved seeds, sometimes free, to the whole village, popularised compost pits and organised a service co-operative. Under his leadership a library, a school, a Panchayatghar and a beautiful children's park have come up in the village. They have been built by community labour. He has now, in consultation with the Gram Sabha, prepared a Five Year Plan for the further development of the village and its transformation into one of the most thriving communities near Bombay. The Five Year Plan of the village envisages the acquisition of about 80 acres of common village land on which will be built a community centre, a co-operative store, a godown, a public tank, a co-operative rice mill, a temple, a housing colony and an agricultural school.

R. N. GUPTA

YOJANA ESSAY CONTEST Rs. 250 In Prizes

FOR the fourth year in succession Yojana is conducting an essay competition to promote clearer thinking among our students in regard to the basic problems of planned development.

The competition is open to student members of college or university planning forums or other bona fide students.

Subjects

One of the following:

- 1) The Real Challenge of the Third Plan
- 2) Preconditions of Economic Take-off in India
- 3) Utilisation of Manpower for Rural Development
- 4) Non-economic Factors in Planned Progress
- 5) How to Reduce Economic Inequality and Increase Social Mobility

Prizes

Four prizes will be awarded as follows:

1. Best Essay in English by student pursuing post-graduate studies—Rs. 75.
2. Best Essay in Hindi by student pursuing post-graduate studies—Rs. 75.
3. Best Essay in English by undergraduate student—Rs. 50.
4. Best Essay in Hindi by undergraduate student—Rs. 50.

Length & language: Essays may be submitted in either English or Hindi. They must not exceed 1,200 words.

Last Date: Entries should reach Chief Editor, 'Yojana', 542, Yojana Bhavan, Parliament Street, New Delhi-1 by January 31, 1961.

Token & Certificate: Each entry must be accompanied by the token published below and a certificate by the President of the college planning forum or the head of the institution where he or she is studying.



Name

Class

Institution

SEE HOW WE GROW

Is There Cause to Believe That The Birth Rate will Fall Soon?

MALTHUS thought that a population, if unchecked, would tend to grow at a geometric rate. Basing his theory on the law of diminishing returns, he brought out clearly the relationship between an unchecked growth of population and the means of subsistence. Whether or not his pessimistic prophecy has come true, the credit of assigning an important role to population in any analysis of economic growth goes to him. In the context of development programmes now undertaken in many of the under-developed countries, there is a special need "for a correct assessment of the dynamics of population growth." Viewed from this point, the seminar on "Population Growth and India's Economic Development" held at the Institute of Economic Growth, University of Delhi, on March 7 and 8, 1959, is to be considered timely. Many distinguished persons both from India and abroad participated in the seminar, and the papers read by some of the scholars have now been brought out in the form of a book.*

The book is divided into four parts dealing with: i) the future growth of India's population; ii) the employment aspects and population growth; iii) the population policy for India; and iv) problems of demographic research in India.

It may perhaps be said that, of these, the problem of the future growth of our population is by far the most baffling and, at the same time, most urgent, field of study. Many policy decisions depend on a correct assessment of the likely growth of population in the coming years. To say this is not to belittle the importance of other aspects, particularly that of demographic research, for "demographic research assumes special importance as a valuable instrument to assist in the formulation and execution of social and economic policy." In view of deficiencies in vital statistics, the need for collection and analysis of basic demographic data becomes all the more great. Apart from the quantitative aspects of demographic research, qualitative aspects also deserve attention. Studies based on research would certainly throw light on the rural-urban differentials and class and sex differentials and "can help by providing the basis for planning rational ap-

proaches to the successful handling of these problems." Studies in the fields of motivation and of suitable methods of communication of family planning information are also needed.

It might be useful to discuss in somewhat greater detail one of the four topics discussed in the seminar, namely the likely trend and the rate at which the population would grow in the next few years. Attempts to predict population growth by means of "some rational mathematical function" have been made by several persons. While some of the forecasts came very close to the actual figures, many have been wide of the mark. This would show not only the limitations of such forecasts but also the complexity of the problem of making forecasts. Notwithstanding such

limitations, there is a need for such projections.

In our country, wide interest in this field has been evinced of late by demographers and planners. The articles, particularly the one entitled "Some Projections of India's Population", consider the trend of population growth in our country in the last few years and make a brief reference to the various projections made, based on different assumptions—especially about the course of fertility rates. These projections have all assumed that there will be a steady fall in mortality over the next two decades. Some of these projections have assumed that population would grow at the rate of 1.2 to 1.4 per cent per annum. Even the Second Five Year Plan assumed a growth rate of 1.25 per cent per annum. Later, however, Coale and Hoover thought that probably the present rate of growth was about 2 per cent, and they have worked out three alternative estimates (high, medium and low). As regards the course of mortality, there is less uncertainty. Some of the under-developed countries have already experienced a substantial decline in the mortality rates. In view of the national malaria control programme, public health and other develop-

ment programmes, it may be assumed, there would be a further fall in the death rates in our country in years to come. The death rate has already shown a downward trend. The decline in some States, like Bombay, Punjab and Madras, seems to be sharp. However, there is a wide range of uncertainty as to the course of fertility. It is even feared that the birth rate may go up in the short run. Any appreciable downward trend in the fertility rates would depend on the effectiveness of programmes designed to reduce the level of birth performance. Coale and Hoover have come to the conclusion that "there is little justification for a belief that fertility in India is in the incipient stages of a more or less inevitable decline." No wonder, under the circumstances, there is little unanimity regarding the rate of growth of population after 1966.

It may be mentioned that the subject of population growth was also considered by the Planning Commission's Working Group on Vital and Health Statistics and a set of figures have been worked. These figures may be compared with the projections of Coale and Hoover:

INDIA'S POPULATION
In Million

	1951	1956	1961	1966	1971	1976
C.S.O. estimates (as given in the draft plan)	362	391	431	470	528	568
Coale & Hoover (Fertility assumed to decline linearly by total of 50 per cent between 1956 to 1981)	—	—	420	458	496	531

These high rates of growth, considered together with a level of population which is already high, would indicate the absolute increase in the years to come. Can we afford to have such a large population? There is no scope for emigration. That would mean that there is need for controlling the growth of population. The fact that the "programme of family planning has found general acceptance in the country does not minimise the inherent difficulties in the actual execution of the programme which ultimately has to be practised by individuals and families." In cities like Poona and Bangalore fertility rates are lower than those prevailing in the adjoining rural areas owing mainly to the adoption of family planning methods. These programmes have to be worked with greater earnestness. Available information suggests that people are favourably inclined towards family planning. Estimates of costs have been worked out assuming that contraceptives are manufactured in India. This, of course, needs serious consideration. There is also need for propagating family planning, sex education and marriage counselling among all sections of the people.

A. V. R. CHAR

* India's Population: Edited by S. N. Agarwala, Institute of Economic Growth. Asia Publishing House. Pp. 208, Rs. 15.00.

SARATCHANDRA

A Late Product Of The Bengal Renaissance

PRATIMA RAYCHAUDHURI

A RENAISSANCE is partly a voyage of rediscovery of one's past. Even more, it is an effort to discover one's present identity, eventually without the trappings of romantic idealisation. Saratchandra, who belongs to the final act of the Bengal Renaissance—assuming such a division to be valid—represents this nearly inevitable effort at social realism. His realism was necessarily circumscribed by his limited class experience: his world is essentially that of the Bengali middle class with a narrow fringe touching the poorer levels of society and a picaresque non-descript area. But the world he wrote about, he thoroughly knew. If his works had no other merit, they would at least survive as enduring social documents of the early twentieth-century middle-class Bengali scene, typifying up to a point the wider Indian background.

The world Saratchandra knew and wrote of was not altogether to his liking, and he made it his business to pass moral judgement on it. The social inequities he complained of were not primarily economic, though one of his stories (*Mahesh*) is a notable portraiture of cruel exploitation. His sympathy was chiefly with the victims of a rigid social system which was and still is to a great extent a sadist's paradise. In *Bamuner Meye* (A Brahmin's Daughter) and *Pallisamaj* (Village Society) he pictured in horrific detail the cruelties perpetrated by our rural society on the weak and the defenceless.

It would be an exaggeration though to present Saratchandra as a didactic reformist. His criticism of social cruelty was the spontaneous reaction of a sensitive mind to the sight of inhuman behaviour. He does not pre-

sume to suggest a cure; it almost seems that he is hardly concerned with it. The tears which flow freely through his pages symbolise his attitude. In fact it is impossible to overlook in his writings a basic sympathy with conventional values. Repeatedly one comes across the somewhat ludicrous picture of heroines in revolt against social convention who, in secret, are paragons of traditional virtues including the regular observance of fasts. The virulent attacks in his novels (for example in *Datta* i.e. the *Betrothed*) on the alleged hypocrisy of the reformist Brahmo Samaj betray the same sympathy with traditional society. Sarat's intellectual identification is apparently with those well-intentioned early twentieth-century nationalists who believed in the basic righteousness of our social system and ascribed the undeniable ills to alleged aberrations. Sarat who was all sympathy for the Hindu widow and her sufferings (e.g., in *Anuradhar Prem*, i.e. *Anuradha's Love*), idealised at the same the widow's observance of ritual purity and failed to see in it the germ of persecution for those who deviated from the norm. His realism somehow failed to break away altogether from the romanticisation of the past as surviving in the present.

In fact a proneness to sentimentality colours even the best of his writings. Even in *Srikanta*—the autobiographical novel which probably represents the height of his achievement in articulating a deeply sensitive life-experience—the sentimental digressions are frequent and irksome. Despite all his preoccupation with the fallen and the vicious, his literary universe hardly knows shades or nuances of human motivation. It is a world of spotless white and deep black. The vicious are only

apparently so. His immoral people in *Charitraheen* (Immoral People) are all honest folk or at worst sinning because they have been sinned against. Even the prostitutes who figure so often in his novels not merely have the proverbial hearts of gold, but are frequently chaste. *Srikanta's* *Rajlakshmi* as *Piari Bai* made her fortune solely through musical talent. The black thus frequently melts to reveal a white core, while the white shines resplendently whiter. Only the hypocritical pillars of society whom no one ever suspects of possessing any virtue eventually turn out to be even worse than one took them for. The only real world where the hero is also a coward and the virtuous capable of shocking vices is very far from Saratchandra's *Weltenschaung*. But perhaps not altogether. At least in one novel, *Grihadaha* (*Incendiary*), he achieves a comprehension of human complexity and produces characters of immense strength who are in no way typical of his novels or even of the society he portrays. Yet Mahim's destructive power of emotion somehow rings true, for in it Sarat has caught the characteristic strength and weakness of the milieu he portrays.

Forty years back, Saratchandra represented the literary avant grade in Bengali. His name betokened unconventionality and was anathema to the literary orthodox. Today, the sophisticated treat most of his writings with kindly indulgence. In the rest of India—Sarat is surely one of the most translated writers in this country—his stock is still high, the sales run into hundreds of thousands and even pseudo-Saratchandra novels are produced by the unscrupulous to beguile the innocent. This popularity derives from something more than a defect in literary sophistication. It is a tribute to the genuineness of Saratchandra's social portraiture and his spontaneous literary style. It is also evidence of continuity of social evils which shocked the sensitive humanist.

MARKETING

A Simple Introduction To A Complex Process

MARKETING means different things to different people. The farmer understands it as the sale of his farm products at the highest possible price; to the consumer it is the obtaining of the best quality of supply at the lowest possible price and in the most convenient form; to government officials it is the discovery of foreign outlets for the nation's commodities; and to business firms it is a problem associated with salesmanship and high turnover. The economist would define it simply as the activity involved in the flow of goods and services from the producer to the consumer.

Whether a country is industrialised or underdeveloped, it has to have a marketing system. Improvement of the system goes hand in hand with general economic development. If a subsistence economy

A. SESHASAYI

is hit by seasonal failure of food crops, widespread famine and suffering are caused even when other areas within the country may be experiencing a glut. Improved marketing facilities—transport, storage, communications, information regarding stocks and future requirements—will prevent or speedily redress the suffering. In India, as in other countries, marketing consists of three related activities: (a) assembling, (b) preparation for consumption and (c) distribution.

The first activity consists not only of collection of the output of small units of production but their storage at points convenient to the consumer. The second operation implies a study of the consumers' needs and tastes and suitable processing of the produce to meet these requirements. Distribution is the act of matching available supplies to the consumers' demands. Products received fluctuate in quality and quantity. Consumers' demands vary, depending on climate, income, preferences inculcated by religious and social customs, etc.

Marketing functions, further, involve two processes—(a) physical handling of a product and moving it from place to place, and (b) services concerned with transfer of ownership. The first of these can further be broken up into the following

components: a) transport, b) storage, c) grading and standardisation, d) packing, e) exchange, f) financing, and g) risk bearing.

Transport: This is the movement of a product of other areas by land, sea or air, and is a very important marketing process. Bullock-carts and railways between them are our major carriers, but in other countries the trend has gradually been towards road transport through automobiles. The United States has undertaken stupendous programmes of road building, and a scheme for constructing 41,000 miles of national roads at a cost of 2.2 billion dollars was undertaken in 1956. As in U.S.A., railway haulage has received a set-back in U.K. and France also. The railways have been investigating several research projects to regain their primacy and a new type of vehicle, which could travel just as easily along a concrete road as along steel rails, is reported to be in the offing. This would enable the railways to combine the advantages of door-to-door service, which is the chief merit of road transport, with the cheapness and ability to handle large volumes, which is the speciality of railway operation. The adoption of such a vehicle would eliminate the cost and time involved in transshipment.

Storage: Storage is an important aspect of marketing, its main function being to make products available during non-productive season. Until the outbreak of war, there were no large-sized warehouses in India. The Reserve Bank recommended, as early as 1944, the construction of warehouses to lift our marketing operations to a higher stage of development. The Rural Credit Survey (1951-54) recommended the active participation of the state in the co-operative activity and promotion of warehousing. This resulted in the passing of Agricultural Produce (Development and Warehousing) Corporation Act in March 1956 and its enforcement in June 1956. Under this Act, Warehousing Corporations have been established at the Centre and in each State. Government, in co-operation with the Reserve Bank, helps the building of new warehouses and their operation along modern lines. Representatives of the State Bank and scheduled banks, local co-operative and marketing officials as well as representatives of the trade and of growers make up the advisory committees of the warehouses.

One of the ways in which warehousing helps the grower is by making credit more easily available.

The Warehousing Corporation's receipt is a sufficient security for obtaining credit from any bank. The warehousing scheme has had a good propaganda effect on our rural economy and is enabling it to become increasingly monetised.

Grading and Standardisation of products into different lots enhance the commercial value of the product. Customers are enabled to choose the exact variety of commodity they require. Uniformity in quality specifications between place and place at different periods is an important basis of trade.

Packaging is another service essential to marketing. Apart from facilitating easy handling the function of packaging is to prevent deterioration, theft, adulteration and substitution with an inferior quality.

Information: For the flow of goods and services, information about the character and quality of products and the prices offered in various other markets is a prerequisite. This explains the fact that market news systems, announcement and advertisements are growing at a rapid rate in our country.

Financing is an indispensable aspect and may be required at any stage of the transaction, from production to final consumption. Financing is required for storage, processing, display and transport.

Risk Bearing: Risks in a transaction are the responsibility of individual traders. The burden of the risks contributes to the cost of marketing and must be covered by an equivalent expectation of profit. There are great risks in agriculture owing to the vagaries in agricultural conditions. They are particularly acute in perishable products such as fruits, vegetables and milk.

MEN IN THE TRADE

The above marketing services require specialised lines of action which are possible only for the marketing agencies, which, in our country, comprise largely the following: 1) country buyers, 2) wholesale distributors, 3) packers and processors, 4) commission agents, 5) brokers, 6) auctioneers, and 7) retailers. A few words about how each of these groups operate:

Country Buyers assemble products from farms or local markets and arrange for the transport of the products to central or wholesale market. The producer is relieved of further direct marketing responsibilities, sometimes to his advantage and sometimes to his detriment.

Wholesale distributors are market intermediaries and sell products to retailers and other merchants. They finance all aspects of marketing and bear most of the marketing risks. Some wholesale dealers are speculators who hamper flow of goods through the market by buying when market is low, hoarding and then

(Continued on Page 27)



'ZARI' AND BEAD WORK OF BHOPAL



THE capital city of Madhya Pradesh might in the next few years come to be known for the generators and transformers produced at the Heavy Electrical plant located there. But Bhopal will also remain famous for its dainty Zari and bead work.

Workers of Bhopal have now been engaged in this craft for several generations. That it continues to flourish can be seen by the fact that in addition to elderly men and women, young boys are also getting to know the job

Beautiful patterns of flowers, trees, birds and animals are embroidered with zari on articles of common use, usually

ladies' purses. Zari is a thin silver string with gold polish.

Bhopal has been facing tough competition from other centres in the country, but the quality of the work done there has enabled it to survive the challenge. A Zari Workers' Co-operative Society has also been formed to safeguard the workers' interests.

The raw material comes from various sources. The Department of Industries supplies the velvet. Beads are obtained from the Glass Beads Centre, Gwalior. Polished wax pearls are also used with beads. What remains to be done is needle work. The smaller the beads and the finer the needle-work, the greater the price.

There is a growing demand even from foreign countries for the articles produced in Bhopal.

Workers engaged in the trade earn from Rs. 5 to Rs. 12 per day, but experts who can produce quality work can earn up to Rs. 20.

P. C. Bharadwaj



DOCUMENTING PLAN LITERATURE

P. N. KAULA

Head of the Department of Library Science,
Banaras Hindu University

THE present age is the 'Age of Planning'. Almost all countries in the world—whether developed or undeveloped—have taken to planning.

India is stated to have known planning from very ancient times. But, more recently, Ranade seems to have been the first to ask for revision of "free trade" into "protection" in 1892. Earlier than that Raja Ram Mohan Roy had urged borrowing from the West in 1823.

India became planning-conscious after 1920. Sir M. Visvesvaraya expounded the philosophy of planning in several papers. The Indian Economic Association discussed planning in 1935. The National Planning Committee set up by the All India Congress Committee in 1938 brought out a number of plans for the country. K. T. Shah and P. S. Lokanathan also advocated planning through their writings.

Eight industrial magnates of India brought out the Bombay Plan in 1944 suggesting planning on a national scale. Two other important plans appeared along with the Bombay Plan. The Government of India has set up several planning committees since 1940. The Reconstruction Committee of the Council was set up in 1941. A Planning and Development Department as a separate department was created for the first time in 1944. The Imperial Council of Agricultural Research, Chief Engineers' Conference, Cargent Committee and CSIR formulated nation-wide plans for the development of agriculture, communications, education and science.

The Government set up a Development Board in 1946, replaced by the Advisory Planning Board which co-ordinated all plans drawn by the Centre as well as by the States during 1947-51.

PLANNING COMMISSION

Planning at the national level was initiated with by the appointment of a Planning Commission in March 1950. The First Five Year Plan appeared in July 1951 and laid down targets to be achieved in various

sectors by the end of 1955. The Second Five Year Plan appeared in 1956 and envisaged an outlay of Rs. 4,800 crore in the public sector as against an outlay of Rs. 2,356 crore in the First Five Year Plan. The emphasis was on industrial development. The drafting of the Second Plan began in April 1954 with a 'Plan-frame' being prepared by Prof. Mahalanobis and the 'Tentative Frame-work' prepared by the Planning Commission. Along with these documents several other documents prepared by several organisations and institutions also appeared. The Planning Commission's Panel of Economists and the National Development Council critically examined the documents in consultation with the Central and State Governments and published a draft outline of the Plan in February 1956. Comments and suggestions from the public and interested organisations were elicited and the final draft of the Plan came into existence on May 2, 1956. The Draft Outline of the Third Plan formulated by the Planning Commission has also been released. It envisages an outlay of Rs. 10,200 crore of which Rs. 4,000 crore are expected to be contributed from private sector. It aims at the expansion of basic industries, self-sufficiency in foodgrains, reduction of inequalities in income and the utilisation of the man-power resources.

PLANNING LITERATURE

The outlay and targets proposed in each Plan, the progress at various levels, the State Plans, critical analysis of the Plans depicting success and failures in each sector have stimulated profuse literature. It is therefore necessary to study the principles of planning, the outlay and targets in each sector and in each field of activity, and its progress and problems in the light of other environments. The literature that has grown round this subject has remained unexplored for various reasons. Libraries by themselves have not been able to locate the rich material buried in various types of documents especially of micro contents. The planners, administrators, industrialists, research

workers, investigators, educators and students feel bewildered when required to look up for the various facets and phases of planning.

A comprehensive and minutely classified bibliography on the subject will meet their needs. Systematic documentation should be undertaken to keep the bibliography up to date. Nowhere in the world any attempt seems to have been made in this direction. India can give a lead to other countries in documenting planning literature, which involves location of material, selection of material, cataloguing, classification, abstracting, featuring, and indexing.

India has achieved leadership in Library Science and so can employ its own techniques for systematic documentation work and in the preparation of a comprehensive classified bibliography. An analytico-synthetic scheme of classification will have to be introduced to classify literature even of micro-dimension.

CLASSIFICATION

The schedule of classification has to be designed taking into consideration the scope of the subject, the history of planning, the individual plans at the national level and at the State level, planning bodies, analysis of plans in public and private sectors, opinions of the Planning Commission, the Government, Ministers, National Development Council and Planning Committees; targets to be achieved, progress of Plans, criticism and comments from political parties, public organisations, scholars, educators, press and individuals. All these aspects have to be studied in designing the schedule of classification.

PATTERN OF WORK

The Union Ministry of Labour and Employment has been doing systematic documentation and bibliographic work since 1951. It has brought out minutely classified bibliographies based on an analytico-synthetic classification. The pattern of documentation work done in the Library of this Ministry, is being followed by other libraries in the Government of India. Mere indexing of articles by a scheme of classification not at all meant for documentation work will not give results. It is therefore, necessary that the Planning Commission take cognisance of the urgency of this work, take it up as a national project and employ the best techniques meant for documentation. The profuse literature will then be studied by interested persons and bodies from all angles thereby contributing to the success of the Plans which is our national objective.

Several of the photographs used on Pages 3, 15, 16 and 17 are from documentaries made by the Films Division.

Marketing Made Easy

(Continued from page 24)

selling when demand is high. When they are not obstructing the flow of goods they act as a stabilising influence on the market.

Packers and processors change the form of the products to those which are more convenient for marketing.

Commission agents buy or sell products for others and take charge of goods thus transacted. They get a percentage of the monetary transaction. They run no risks.

Brokers bring buyers and sellers together. Brokers require an intimate knowledge of marketing conditions with reference to supplies, demands and prices. The actual transaction between the buyer and seller is effected with the help of the broker as adviser and intermediary, in return for a fee.

Auctioneers bring buyers and sellers together at a particular time and place, negotiate sales quickly in such a way that all present know the bid and the products are disposed of.

Auctioneers get their income through a percentage commission on sales payable by buyer, seller or both according to local practice.

Markets are places where the activities involved in the process of buying and selling of products take place. These markets are of many categories: (1) Producer-consumer markets; (2) local assembly markets; (3) Central wholesale markets; (4) Commodity exchanges; (5) Future markets and (6) Retail markets.

MARKETING MARGIN

The sequence of intermediaries and markets through which goods pass from producer to consumer is known as the market channel. The various agencies constituting a marketing channel get their remuneration out of the marketing "margin" which is the difference between the price paid to the first seller and the price paid by the final buyer. This margin is made up of individual margins obtained by intermediaries who actually assume ownership of a product and then resell it together with specific charges for marketing services rendered. The charges may be either at a flat rate based on quantity handled, stored or transported or a percentage of its value.

In our country, where there is a regrettable dearth of factors contributing to economic prosperity, strenuous efforts have to be made to strengthen our marketing structure.

Progress Of Our Shipping Tonnage

(These two tables have been referred to in the article on Pages 6 and 7)

TABLE II

Coast-wise Trade of India at the Ports of Bombay and Calcutta* 1957-58

	Imports (In lakhs of dw. tons)	Exports	Total
1. INDIAN SHIPS:			
Bombay	5.30	6.06	11.36
Calcutta	7.55	12.92	20.47
Total:	12.85	18.98	31.83
2. FOREIGN SHIPS:			
Bombay	6.63	12.69	19.32
Calcutta	4.54	0.44	4.98
Total:	11.17	13.13	24.30
3. INDIAN & FOREIGN SHIPS:			
Bombay	11.93	18.75	30.68
Calcutta	12.08	13.36	25.44
Total:	24.01	32.11	56.12

Source: Indian Shipping Vol. XI-No. 11

* These two ports accounted for the carriage of over 80 per cent of the total coastal cargo.

TABLE III

Relative Shares of Indian and Foreign Ships in the Carrying Trade of India (1957-58)

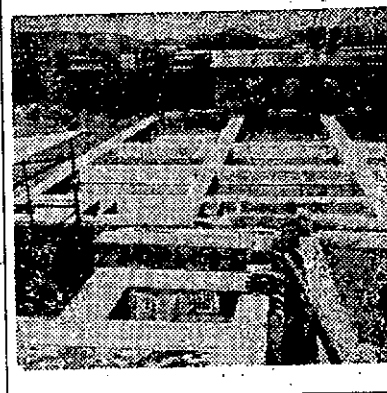
Nationality of ships	Imports (in million dw. tons)	Exports	Total	Percentage to total
Indian	3.42	2.60	6.02	20.0
British	4.84	3.13	7.97	26.7
Panamanian	1.73	0.90	2.63	8.7
Liberian	0.99	0.28	1.27	4.1
Costa-Rican	0.33	0.10	0.43	1.5
Norwegian	1.58	0.33	1.91	6.4
American	1.73	0.48	2.21	7.3
Japanese	0.47	0.75	1.22	4.0
Danish	0.31	0.13	0.44	1.5
German	0.33	0.18	0.51	1.7
U.S.S.R.	0.14	0.12	0.26	0.8
Others	3.41	1.75	5.16	17.3
Total:	19.25	10.75	30.00	100.00

SOURCE: Compiled on the basis of figures given in "Indian Shipping" Vol. XI No. 11, Nov. 1959—P19.

Quiz

1. What is the present production of lead in the country and what is the Third Plan target for the metal?
2. What additions are proposed to be made during the Third Plan to the existing facilities for prevention and cure of tuberculosis?
3. Have any firms been permitted to set small pig iron plants in the country?
4. What is encephalitis? How is it prevented?
5. What is the object shown in the photograph below?

(Answers on page 29)



COMPOSTING OF CANE TRASH

P. L. JAISWAL.

THERE are many uses of the sugarcane trash, which is available in plenty these days, but a wise farmer would like to make the most profitable use of it. Research at the various sugarcane research stations in the country has revealed that sugarcane trash makes valuable manure. Here is the method of preparing manure from cane-trash.

A high lying portion of land near some water channel is selected for making the compost heaps. The ground is levelled and if necessary rammed with hard *murum*. The compost heap should be six to eight feet wide, 3-1/2 to 4 feet high and of convenient length.

The material for composting is spread in layers about a foot thick and compacted by trampling. A slurry prepared out of dung, ash and earth is then spread over the layer till the whole mass is thoroughly covered. In this way, four to five layers are put one over the other till the heap is about 3-1/2 to 4 feet high. The ash, earth and dung absorb moisture and adhere to the surface of the trash leading to its proper decomposition.

The first turning is done after about five weeks. Starting from one end of the heap, the dry material from the top and the sides is removed. It is spread on the ground, about five feet away from the first heap and sprinkled over with enough water. Then the second layer from the top is removed and spread on the first layer. This process is continued till the bottom layer comes on the top of the new heap. The top is then removed and plastered with mud.

Generally two to three turnings are required for a complete decomposition of the cane trash. In about 4-1/2 to 5 months time

the compost is ready for application in the fields.

Compost from cane trash can also be prepared by the "pit method". A pit six feet wide, three feet deep is dug in a high lying area. The material is arranged layer by layer as in the heap method. The pit is filled till the material is about six feet from the bottom of the pit, i.e. three feet above the ground level.

After a couple of months, the portion above the ground sinks down to the ground level. It is then watered and the top sealed with earth to block the pit. In summer, one or two moderate waterings may be necessary. The compost by this method is ready in about four to six months' time. The advantage of the pit method is that no turning of the material is required. Care should be taken to maintain the temperature at about 50° for about three weeks. If there is any fall in temperature it is an indication for turning the heap.

Suitable Implements

With a view to effecting improvement in indigenous agricultural implements, a survey was conducted by the Indian

Council of Agricultural Research. 552 implements collected from various parts of the country were tested at the Indian Agricultural Research Institute, New Delhi.

The survey revealed that a wide variety of ploughs were in use, because the farmers made modifications in the shape and design of the plough to suit their own conditions of cultivation. Similar was the case with hoes, harrows and seed-drills. Sickles, ridgers etc. did not differ much.

Of all the indigenous implements surveyed and those imported from different countries the following have been found very suitable for adoption by farmers:

For Paddy: Rice-land weed-er, Wet-land puddler, Duck-foot Orissa plough, Pedal operated paddy thresher.

For Wheat: Guntaka (hoe), Punjab Power Thresher, Bund Former, Olpad thresher.

For Cotton: Cotton Seed Drill.

For Processing: Hand-operated paddy sheller, Rice ruller, Rice polisher, Groundnut decorator.

These implements are being manufactured on a large scale by a number of concerns on the basis of the drawings of these implements supplied by the Division of Agricultural Engineering of the Institute.

You And Nutrition

FLESH FOODS

The per capita intake of flesh foods such as eggs, meat and fish in India is very low. Religious taboos are partly responsible for this, but poverty is the main reason for such poor consumption of these valuable foods. In coastal areas and in places near the big rivers and lakes, fish are cheaply available and widely consumed. Flesh foods, in general, are rich in proteins and vitamins of the B₂ group. Fresh meat contains some vitamin C also.

Eggs are a good source of vitamins A and D. In general, eggs, particularly duck's eggs, improve in nutritive quality if

consumed after a certain amount of heat-processing.

Small fish consumed in their entirety, along with bones, supply a good amount of calcium to the diet. The livers of sharks found in the Indian waters yield an oil which is very rich in vitamins A and D. Its vitamin content is larger than that of cod-liver oil, which has to be imported from abroad.

The extension of poultry farms to produce eggs and exploitation of the long coastline of India to obtain more fish will go a long way in improving the supplies of nutritious foods among our population.

S. C. BALASUBRAMANIAM

THE last of Bhilai's three coke oven batteries has gone into production. So has a new open hearth furnace. This is the fifth of the six furnaces that Bhilai will be having. The last one will be ready within a few months.

SEVENTY-TWO thousand Sarpanches and Panches have taken the oath of office in 13,400 Panchayats of the Punjab where Panchayati Raj has been ushered in.

THIS year's small savings drive has made heartening

progress. Collections in the eight months from April, 1960, to the end of November have been Rs. 52.64 crore. This is Rs. 15.06 crore more than the total at the same date last year. In addition to collections through small savings securities, the sale of prize bonds has brought in Rs. 10.87 crore. In November, Rs. 25 lakh worth of bonds were sold.

ALL works under the Bhakra Nangal Project, except the Bhakra Dam, the power houses and the transmission system, have now been completed. The Bhakra Dam itself had risen to a height of 588 ft. by the end of October, 1960, and 44.77 lakh cubic yards of concrete, making up 83.53 per cent of the total, had been laid. The plugging of most of the tunnels will be complete by June, 1961. Progress has also been made in various units of the Left Bank Power House, one generator having already been commissioned, and work on two others completed. The total money spent so far on the project is Rs. 151.16 crore.

A NATIONAL Buildings Construction Corporation has been formed with an authorised capital of Rs. 2 crore. This will take up building and other civil works of the Union Government and also help the State Governments and public corporations. One of the aims of the new Corporation is to reduce building costs and to popularise new techniques and designs.

A RESEARCH and Control Laboratory has been opened in the Bhilai Steel Works, consisting of sections on chemical analysis, radiography, corrosion testing, fuel analysis, etc. It will study the special metallurgical problems that Bhilai has to tackle. The equipment and building have cost Rs. 85 lakh.

MADHYA PRADESH began using the waters of Chambal project with a formal function on December 15 near Sheopur in the Morena District. The waters brought by the Right Main Canal and its branches will be distributed by 970 miles of distributaries and serve ultimately an area of 7 lakh acres.

Quotation Box

Public enterprise (in India) has generally taken the form of the Government starting new undertakings or acquiring them soon after they had been started by private concerns. Public enterprise has been an innovating, pioneering force, stepping in where private enterprise was lacking or regarded as undesirable, instead of being, as so often in Britain, a salvaging operation to rescue industries suffering from commercial mismanagement, inadequate organisation or capital starvation....

The public sector in India is the spearhead of the Indian advance towards a modern industrial economy. It is here that one sees emerging most clearly the shape of the socialist pattern of society....

The future of socialism is more likely to be found in India than in Britain, if present trends continue.

—Professor William A. Robson writing in *The Political Quarterly*, London.

It is the socialists, who refuse to consider seriously the peculiar requirements of the modern productive enterprise, whether public or private; who decline to give it the autonomy it must have; who destroy it by meticulously passing on its decisions and thus forcing upon it an intolerable and unworkable centralisation; who decline to see that the organisation of public enterprises must keep pace with new conditions and new tasks, and who are careless about the standards to which management of the enterprises must be held....

It is the socialists, again, who on occasion encourage workers and consumers to appropriate the surplus on which expansion and growth depend and without which there will be stagnation.... Above all, it is socialists who are responsible for paralysing belief that success is a matter of faith, not work.

—Professor J. K. Galbraith in a note on public enterprises in India.

Quiz Answers

1. The present production is about 4,000 tons per year, against the installed capacity of 6,000 tons. The capacity is to be expanded to 9,000 tons by the middle of the Third Plan and 25,000 tons by 1966. In addition, a scheme for smelting imported lead minerals with an annual capacity of 12,000 tons is also being considered.
2. The Union Ministry of Health proposes to open 200 more T.B. clinics, 5 demonstration and training centres, 7 rehabilitation work centres and 25 mobile clinics, in addition to increasing the number of isolation beds by 5,000, during the Third Plan. A total of 100 million will be covered by BCG teams.
3. Yes. Eight firms have been so licensed, of which two—one at Coimbatore in Madras State and the other at Barbil in Orissa—have already gone into production. Revising an earlier decision, the Government will be licensing pig iron plants up to a capacity of 100,000 tons a year each.
4. Encephalitis is a disease in which invisible germs cause a swelling of the brain, sometimes leading to paralysis or mental disorder. The attacks generally occur during summer, and the victims are usually young children.

The best way of preventing it is by not eating or drinking contaminated food and fluids, and by sleeping under mosquito nets. There is no known treatment, but good nursing in hospital helps.

With the increase in medical facilities during the Five Year Plans, we now have greater chances of controlling the disease.

5. Settling tanks for the water works of the Rourkela Steel Plant in Orissa.

Prices In First Decade Of Planning

(Continued from page 5)

of food grains in 1958-59 was nearly 75 million tons. This was a big rise compared to the abnormally low level of 62.5 million tons in 1957-58. But in 1959-60 production would only be slightly larger than the previous years. One of the important causes restraining the rise in food production in the latter part of 1960 is the psychological impact of the food deal negotiated by the Minister for Food and Agriculture in May 1960 with the U.S.A. for import of 17 million tons of food grains in the next four years. The obtaining of supplies on such a large scale is a safe guarantee that there would be no recurrence of food shortage in the country in the next few years.

From the point of view of the common man clothing comes next to food, and there has been a considerable rise in the price of cloth. A major part of the rise was the direct result of shortage of raw cotton, which constitutes nearly half of the total cost of production. During the year 1959-60, the cotton crop in the country was only 37½ lakh bales as compared to the annual average of 47 lakh bales achieved in the earlier two or three years. Similarly, the rise in prices of raw jute was the result of a short crop in India. Besides this shortfall in agricultural production, there are a couple of other causes for the rise in price in 1960: the foreign exchange shortage, and the financial measures (such as deficit financing) adopted by Government to increase resources. As for the increase in money supply, our Central banking institution has been exercising, since March 1960, considerable restraint, and these have had some effect on checking the inflationary trends.

The taxation policy of Government has also to some extent been responsible for the rise in prices. This will be apparent from the fact that as against some Rs. 80 crore realised in 1950-51 from excise duty, in 1960-61, the present estimate of realisation is around Rs. 380 crore. Even granting that part of the rise in excise duty is in lieu of sales tax on certain items, there has been a phenomenal increase in revenue from excise duty which is almost always passed on to the consumer. Similarly there has been more than twofold increase in sales tax during the last ten years.

Industrial production has kept rising. In 1959 the rise was of 8 per cent, and it is expected to be 12 to 13 per cent in 1960. But there has been a shortage of raw materials, because of foreign exchange scarcity. Since the beginning of 1957 industrialists have been obliged to import a major part of their machinery and equipment on deferred payment terms. Machinery imported in this manner has worked out to be much costlier than that bought on a cash basis. All this results in a rise in the prices of industrial goods. And of course, a rise in price of one article tends to affect the prices of others.

Various measures have been taken by the Government to hold the price line. They have already been of benefit to the general public. The prices of food grains have been held in check despite the shortages in production by arranging imports from abroad. Formal or informal control have been introduced in respect of some other items. The prices of cotton piecegoods are also now at a reasonable level.

It is, however, well known that controls can only serve as palliatives and cannot effectively cure the conditions which give rise to inflation. The ultimate solution lies in higher production all round, not in physical or credit controls. In a country like ours, the highest priority should be given to raising our agricultural production. The main items in the cost of living index being food, such as grains, pulses, oils, fats, spices, cloth etc., our efforts must be concentrated on increasing their production. Not only do we have to become self-sufficient as early as possible in the matter of food grains, but we have also to increase the production of cash crops like cotton, jute and oilseeds for exports. Agriculture so pervades the Indian economy that prices can be tackled effectively only through agricultural production. If our farm production increases, it will have an impact on our foreign exchange situation also.

Officialese

(Continued from page 13)

ous. After the "consideration" stage is over, the matter has to be "pursued". If you are lucky to catch up with this elusive matter in this merry-go-round, you enter the next stage in which you "expedite" its solution or a decision on it. Honestly, where would we be without this God-sent jargon? It not only helps in the disposal or for that matter non-disposal of cases but also acts as an excellent substitute for thinking. The expressions are there—ready-made. You can pick them off the peg, so to say. They are not many, but all of them are equally wooden, equally soulless, equally ponderous and, therefore, equally dead. They have no more life than the road-signs one sees every day. Take these, for instance: instead of writing letters, you "address communications"; instead of feeling sorry, you "express regret"; instead of informing anyone, you "intimate". And when you want to know anything, you do not say "Please let me know"; you say, "Please enlighten us." If you want anything sent to you, you dare not say "Please send it to me." That would be blasphemy. You say, "Please furnish us with so and so."

Obviously, when they sit in their chairs, Government officials are on their dignity; they put on, as it were, black tails and white bow ties and strike a pose. In such an atmosphere, pomposity which is a supreme feature of Indian officialese comes naturally. No other style of language would suit the occasion, and the occasion is a life-time—I beg your pardon—most of us retire at 55 and write and speak the Queen's English happily ever after!

(This was broadcast from All India Radio, Delhi)

FROM HYBRID

MAIZE—TREBLE

THE USUAL CROP

THE best mangoes began to be grown in India after the Portuguese brought to us the art of grafting. Anybody who rears cattle or horses knows that by crossing two different strains of a species one will get a better and hardier type of animal. In fact the plans to improve our cattle in the various parts of the country rest on this principle.

Likewise new varieties of cotton and sugarcane, paddy and wheat have been naturalised in India and, in a large number of cases, cross-bred with local varieties. It has led to a big rise in yields.

Much work has been done on hybrid maize in the United States and other countries. In fact, one authority claims that the spectacular increase in corn production in U.S. is due largely to the introduction of hybrid varieties.

Hybrid maize is being popularised in India also. Since the evidence of one's own eyes is the most convincing proof of all, demonstration farms and field experiments have been run at many places. One of the centres so chosen is near Delhi, where the farmers have been shown that hybrid maize can yield as much as 300 per cent more than the average yield of maize.

During the last *kharif* season, field demonstrations were conducted by the Indian Agricultural Research Institute at six locations in four villages of the Nangloi area in Delhi. The seeds used included Hybrid Texas 26 produced at the Institute and K.T. 41, a high-yielding variety of Uttar Pradesh. The average yield from the hybrid variety was 29.4 maunds and of K.T. 41 was 17.8 maunds. Indeed, one of the farmers of Nangloi obtained a yield of 48 maunds per acre. The average from local varieties is only 10 maunds per acre.

Over To You

(Continued from page 2)

planning. A country cannot make progress unless the people are aware of their contribution to national construction. The Planning Commission should appoint Plan education units which will undertake tours in villages.

A READER

ABOUT THE NEW YOJANA

I FULLY endorse the views expressed by Mr. P. S. Venugopala Rao of Mysore and Mr. Ram K. Vepa of Madanapalle about the new *Yojana*. It is disappointing. Evidently it is going to be a commercial journal. The value and quality of the then ten naye paise *Yojana* impressed me and made me become a subscriber. But the present *Yojana* makes me discontinue my subscription.

Gauhati

S. R. RAVA

II

The new form of *Yojana* is very nice and very much liked by our students.

PRINCIPAL,

Post-graduate Basic Training College.

III

The new *Yojana* is very handy and attractive in size and features. The readers' interest is bound to be roused.

Vijayawada

SURYAPRAKASA RAO

ALLOCATION FOR HEALTH

FROM the beginning, the policy of your journal has been impartial, although it is published under the patronage of the Government. Hence I wish to bring to the notice of your readers and specially to the Planning Commission, the glaring inadequacy of the funds set apart for public health in the Third Plan period which is officially to start from April next.

In the coming five years many new public health schemes have to be started. Some of them, for example the malaria eradication programme, ought not by any means, to be slowed down. Although the work is done with the collaboration of the World Health Organisation, Government contribution to the running costs forms a considerable sum. India (specially the riverine States of West Bengal, Orissa, Andhra Pradesh and Madras) still suffers from cholera, which, in fact, has been spreading from here to the rest of Asia and the world. India is also held responsible for the spread of small-pox—a disease which most countries of the world have completely got rid of. Steps for the total eradication of these two diseases must not be withheld any longer. We may say that the prestige of the country is at stake because of these diseases. Schemes for the control and treatment of tuberculosis, leprosy and filariasis have also to be pushed through more vigorously. The Renuka Ray Committee has recommended free or subsidised midday meals for the school-going children. But to tackle the question of malnutrition scientifically we shall have to make a beginning with the supply of adequate nourishment to the child from the pre-natal and post-natal stages right up to the threshold of adulthood.

The Government has also undertaken to bring down the rate of growth of population—the results of which will be apparent only after 10 to 20 years. The present idea is to open family planning centres throughout rural and urban India. Supply of free or cheap contraceptives to poor villagers is essential for the success of the scheme. This will require heaps of money.

The Rs. 700 crore wanted by the Health Ministry constitute the minimum amount that will enable the satisfactory working of all these schemes. Public opinion demands that this reasonable sum must be allotted to the Health Ministry.

Calcutta

B. GANGULY

Editor, Health & Welfare

Wagons and Coaches On The Rails

