VI

THE PHYSICAL PROBLEM - I

Measures to Increase National Output and to Raise the Proportion of Investment Goods in it

1. The volume of national output may be increased in two ways: by increasing the volume of employment and by raising labour productivity. Increase in labour productivity is a long-term process. Accordingly, to begin with, a rapid increase in output can be achieved mainly through the utilization of idle man-power. As explained in Chapter II, the idle man-power may be drawn into production within a relatively brief period partly by providing additional wage employment in the various sectors of the economy, but mainly by extending self-employment in agriculture and cottage and small-scale industries. When actual employment has thus been raised to very near the level of literal full employment, further increases in output will need to be achieved mainly through improvements in labour productivity. In the initial period, fuller employment, and subsequently, rising labour productivity, provide the key to a continuing rapid rise in national output. Concrete measures to increase output in this manner in the different sectors of the economy are discussed below.

I. AGRICULTURE

2. There is a popular fallacy that mechanized agriculture necessarily implies high yields and labour-intensive agriculture equally necessarily implies low yields. At present (1952) Egypt has the highest yield per acre of cotton and Japan that of rice in the world. But none of these countries practices mechanized agriculture. On the other hand, Australia has a highly mechanized agriculture, but the yield per acre there is the lowest in the world with the exception of Africa (Cf. Table 65 below). The fact is that both highly
mechanized and labour-intensive agriculture are compatible with high yields per acre just as both are compatible with low yields. The drawback of labour-intensive cultivation then is not that it cannot achieve a high yield per acre but that it cannot yield a large output per person. Mechanized agriculture makes it possible to cultivate a larger area per person so that even when output per acre is not higher, output per person may be very much larger, than under labour-intensive cultivation. On the other hand, labour intensive, garden-like cultivation necessarily implies a smaller area per person engaged, so that even when output per acre is larger, output per person may be very much smaller, than under mechanized cultivation. Even today, when the average yield in countries with labour-intensive cultivation is far below the maximum attainable, or even the maximum attained in parts of the country or on individual plots, it is not so much the output per acre here as the output per person that is markedly lower than in countries with large-scale mechanized cultivation.

TABLE 65: AGRICULTURAL PRODUCTIVITY IN ASIA AND OTHER CONTINENTS (IN WHEAT EQUIVALENTS IN METRIC TONS)

<table>
<thead>
<tr>
<th>Region</th>
<th>Production per person</th>
<th>Production per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-War</td>
<td>1947-48</td>
</tr>
<tr>
<td>Asia</td>
<td>0.24</td>
<td>0.22</td>
</tr>
<tr>
<td>Europe</td>
<td>1.04</td>
<td>0.88</td>
</tr>
<tr>
<td>North &amp; Central America</td>
<td>1.80</td>
<td>2.57</td>
</tr>
<tr>
<td>South America</td>
<td>0.58</td>
<td>0.48</td>
</tr>
<tr>
<td>Africa</td>
<td>0.12</td>
<td>0.12</td>
</tr>
<tr>
<td>Oceania</td>
<td>1.97</td>
<td>2.38</td>
</tr>
</tbody>
</table>

Source: UN, Economic Survey of Asia and the Far East, 1950, p. 71

3. Since both mechanized and labour-intensive agriculture are compatible with high yields, the choice between the two at any time should depend upon the current capital-labour
ratio. In countries where this ratio is high (e.g., Australia, the USA, Canada, the Soviet Union), mechanized agriculture is the obvious choice, but where it is very low (as in present-day India, China or Japan) labour-intensive cultivation is more appropriate. Since capital is the scarce factor and there is super-abundance of idle labour-power the greater portion of which can be employed only in agriculture, India, for the present, must seek to achieve the required increase in output mainly by raising yield per acre through fuller exploitation of the possibilities of labour-intensive agriculture. The merits of this approach to the problem are that it is within the country's means, that it will not encroach upon the resources required for the development of capital-intensive heavy industry and the ancillary transport and power facilities, that it will solve and not aggravate the problem of rural unemployment and under-employment, and that it will not increase the country's dependence on imports.

Land Tenure Reform

4. The experience of China during the last three years suggests that the liquidation of feudalism and the transfer of land to the tiller is indispensable for the realization of the full possibilities of labour-intensive agriculture. Contrary to popular impression, Agrarian Reform in China has been inspired more by considerations of stimulating agricultural production than of relief of poverty among the peasantry. Lieu Shao Chi, Vice-Chairman of the Central People's Government and the chief architect of the Agrarian Reform Law, has commented on the significance of the Reform thus:

"The results of the Agrarian Reform are beneficial to the impoverished labouring peasants, helping the peasants partly to solve their problem of poverty. But the basic aim of the agrarian reform is not purely one of relieving the poor peasants. It is designed to set free the rural productive forces from the shackles of feudal land-ownership..."
system of the landlord class in order to develop agricultural production, and thus pave the way for New China's industrialization. The problem of poverty among the peasants can be finally solved only if agricultural production can be greatly developed, if the industrialization of New China can be realized, if the living standards of the people throughout can be raised and if China finally embarks upon the road to socialism*.

5. The Agrarian Reform has given a great fillip to agricultural production in the following ways:

(i) It has helped to draw the vast fund of formerly idle labour power into production. The landlord, now that he is deprived of his income from exploitation, cannot afford to remain idle. If he still wants to depend on agriculture, he must engage in essential agricultural labour to earn a living. A whole parasitical class is thus drawn into production. Formerly the agricultural worker found employment only during the busy season. Over the rest of the year he had little to do. Likewise the employment provided by the very small holding of the poor peasant, even allowing for any employment that he might find on the landlord's or the rich peasant's farm, or outside the village, or in subsidiary occupations, was grossly insufficient to keep the family fully engaged. But now after the Reform, the agricultural worker has become transformed into a self-employed peasant proprietor. Though his holding is relatively small, with the labour-intensive methods of cultivation which alone are practicable at present in China, it provides him with enough field work to keep him busy over the greater portion of the year. The rest of the time he can engage in subsidiary production. The fact that he now possesses land aids him in this. Sericulture, for instance, is surely easier to practise if the peasant
can secure mulberry leaves from his own holding. The same applies to former poor peasants who now have larger holdings. The Reform has also drawn the town unemployed, the unemployed poor odd jobbers, idlers, and religious practitioners into production by providing them with land. In all these ways vast idle labour-power has been drawn into production.

(ii) A peasant proprietor as a rule works harder and more enthusiastically than a farm-hand or a tenant farmer. Accordingly, the Reform, by transferring land to the tiller, has unleashed an unprecedented wave of productive enthusiasm, initiative and creativeness, with beneficial effects on production.

(iii) The Reform has promoted land reclamation. Of about 400 million acres of cultivable land in China, in 1950 only about 245 million acres were under cultivation. There is thus very great scope for the extension of the cultivated area. The Reform has removed the most important hurdle in the way, namely landlord ownership of land. Since the land reclaimed by the peasant belongs to him, he is naturally very anxious to add to his holding by breaking new land. In 1950 alone some 12 million mou (2 million acres) were reclaimed.

(iv) The mass enthusiasm aroused by the Reform and the measure of organization of peasantry achieved during the course of its execution, have made possible extensive measures against floods and droughts - China's two major scourges through the centuries. To free the country from this twofold menace, construction work on a colossal scale was required. Little mechanical equipment was available or could be spared for the purpose. The job could, therefore, be done only if millions of people were mobilized for it. The Agrarian Reform made this possible.

The hundreds of millions of farm-hands, poor peasants and others who had received land felt that they must protect their crops against floods and droughts, and thus not only enrich themselves but also create resources for the nation's industrialization. They, therefore, turned up in millions to work on irrigation and flood protection work. By the end of 1951, over 10 million had participated in this work*. The Agrarian Reform thus enabled the Government to harness the self-interest and patriotism of an emancipated peasantry to the task of increased output. The peasantry were also encouraged and aided to undertake minor irrigation works—wells, small reservoirs, etc. Consequently while the flood-affected area was reduced from over 6.7 million hectares (one hectare = 2.47 acres) in 1949 to 1.4 million hectares in 1951**, the irrigated area expanded by 0.85 million acres in 1950***. Both the developments helped to swell agricultural production.

(v) The Reform has revolutionized the peasant's psychology. He is no longer afraid of the new. He takes quickly to new seeds, implements and fertilizers which the Government seeks to provide him with in increasing quantities. And since he has been freed from the burden of rent and debt charges, he has also the means to buy them. The Reform has instilled in the peasant faith in man's capacity to build a better world. He, therefore, enthusiastically joins the fight to create a new, prosperous China. And how could a peasant contribute better to his country's progress than by producing more on his farm? So there is nothing surprising in that during the last

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* Chao Ti-Sheng, 'How Soviet Experts Aid New China's Economic Reconstruction', People's China, Feb. 15, 1952
** Ibid. *** Fu Te-Yi, (Minister of Conservancy), New China's Water Conservancy Programme, People's China, Sep. 1, 1950, p. 8
5 years, there have emerged thousands of model workers who have achieved much higher than the normal yields. Millions of other peasants seek to emulate them.

(vi) Now that the land belongs to the peasant, he has a personal interest in its improvement. He invests much more than before in land, water-wheels, irrigation wells, implements, fertilizers, etc.

(vii) Agrarian Reform has gone a long way towards creating the social and economic equality and community of purpose among the agricultural population which is indispensable for the success of any type of co-operative effort. Accordingly, it has contributed to a great flowering of the co-operative movement. The movement embraces, inter alia, agricultural production. At the present stage, the mutual aid teams are the most important organizational form of producers' co-operation in agriculture. In due course, the movement is expected to move to higher form of co-operative organization. The ultimate goal is collective farming on the Soviet model.

6. The mutual aid teams (comprised of both men and women) are a form of voluntary labour based on individual ownership. An elementary form of mutual aid is the labour-exchange team. It is organized on a seasonal and temporary basis. In this form, the members help each other as friendly neighbours, without payment in cash or kind. Draught animals and tools are lent by those who have them. The borrower compensates the latter with manual labour.

The permanent mutual aid team represents the next step in the evolution of producer's co-operation in agriculture. Such a team works under an elected leader. The income is divided among the members, according to the quality and quantity of work done by each. The labour done is reduced into work-day units as on a Soviet collective
Every evening, at a brief meeting, the work done by each member during the day is evaluated in points. Each member is paid for the work in 'point slips', which bear the signature or seal of the team leader, and also of the team-member whose land has been worked that day. The latter himself does not get any pay for the days the team works on his plot. After the harvest, the point slips are balanced off, or paid in cash or farm produce by the debtor. At the daily meeting, plans are laid for the next day and each member is assigned tasks in accordance with his skill. A weekly meeting is held to review the work of the past week and to examine critically the performance of each member. The draft cattle are used in common. A member who has no cattle of his pays (in proportion to the area of his land) for the use of those owned by others. The militia platoon leaders and village administrative cadres are allowed points for time spent on public activities, the payment for them being made by the whole team. Labour power surplus to the needs of current cultivation is utilized in reclamation work, improvements on land, subsidiary occupations or work outside the village. The men who are engaged in such subsidiary work are paid in 'points', while the product of their labour accrues to the team as a whole. A part of the income of the team may be invested in Government bonds or in the purchase of implements, draught cattle, etc.

7. The organization of peasantry in mutual aid teams has conferred solid benefits. (a) It promotes specialization of labour and thus increases labour efficiency. (b) It helps to draw into production even the old and the partially incapacitated. For instance, women, too old to work in the fields, may be asked to look after the children of the other members of the team, thus freeing the latter for major agricultural work. The mutual aid team thus not only adds to production but also enables the old and the infirm to experience the joy of equality of
status and of honest, creative labour. (c) It helps to reform the slackers and job-shirkers. They are drawn into mutual aid teams and reformed through labour*. (d) The teams undertake to cultivate the lands of those who cannot do this themselves, either because they lack labour-power or are otherwise gainfully employed. They thus release persons for non-agricultural work and at the same time maintain agricultural output. (e) The strength and confidence which the peasants acquire by uniting in mutual aid teams has enabled them successfully to combat natural calamities and to overcome shortages of equipment and draft cattle. For instance, production was not halted in 1950, even when draft cattle were lost in the serious floods of the previous years. The team members ploughed their lands where necessary by yoking themselves to the ploughs**. (f) Such teams are usually the first to adopt new, improved implements, seeds, fertilisers and cultural practices. They thus serve as a powerful lever for raising the level of agricultural technique. (g) Since the best workers are usually also the most active organizers in the mutual-aid movement***, such teams serve to spread the knowledge and experience of the model peasants to others. (h) The mutual aid teams, disposing as they do larger amounts of labour-power, have taken the initiative in reclamation work. They thus help to extend the cultivated area. (i) Economy in labour-power which results from rationalization of work, releases labour for subsidiary work. Mutual aid teams have thus given a great fillip to subsidiary production. (j) As a portion of the team's income may be invested in Government bonds, such teams help to increase investible funds in the hands of the State. The category 'undistributed corporate profits' makes its appearance in an elementary form, even in agriculture. (k) By educating the peasants to work in common, and by demonstrating to them the superiority of collective over individual labour, the mutual aid teams are preparing

* Wu Chueh-Hung, 'Mutual Aid Teams in Chinese Agriculture', People's China, Nov. 1, 1951, p. 10
** Ibid.
*** Ibid. p. 9
the way for the eventual collectivisation of agriculture. They thus ensure that the individual, technically-backward economy of the millions of peasants will, in due course, be transformed into large-scale, collective production of an advanced, mechanised agriculture.

For the present the Government lays the main emphasis on mutual aid teams. Propaganda, rewards for outstanding achievements, and priority in the grant of Government aid, are some of the means adopted to draw the peasantry into such teams. The movement has made rapid progress during the last three years. By 1951, membership of these teams in many of the old liberated areas had begun to reach a majority of the peasant population. The Government plans to draw 80-90% of the entire peasant population into such teams by 1954-55.

8. The producer's co-operation has, however, already marked a step higher. By the end of 1951 some 400 agricultural producer's co-operatives had come into being. In these co-operatives the members pool not only their labour, but also the bulk of their land, implements, drafts, cattle etc. There is unified management of the farm. Private property in means of production, however, continues to be recognized. Each member is credited with shares in proportion to his contribution of land and capital. In a co-operative in a Shanxi village, income is reported to have been divided as follows: 52% distributed to members as wages in proportion to the work-day units contributed by each; 42% distributed by way of dividends on land; 8% retained as public saving. 60% of public saving was re-invested in production and the balance in educational and recreational facilities, medical services, etc.

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** People's China, 1952 (12), p. 25.
The co-operative has certain advantages over the mutual aid team:— (i) The cultivated area increases to the extent of land previously occupied by boundaries and barriers. (ii) Better crop-planning is rendered possible. (iii) A suitable area can be set apart for experimental purposes. (iv) There is an end to the bickerings as to whose land should be worked upon first. (v) The scope for co-operative saving is greater. (vi) A further step forward is taken towards the ultimate goal of collective farming.

9. At least one village community has reached the destination. The first collective farm has made its appearance*. There is the small beginning of a great change. The collective farm differs from the co-operative in that no private rights in collective farm property are recognized and, accordingly, no ownership dividend is paid.

The starting-point of all this development is agricultural organization, which ensures continued increase in agricultural output, both per capita and per acre, is Agrarian Reform. Its importance cannot, therefore, be over-emphasized.

10. The Government has played its part in increasing output. Large investments in water-conservancy projects (some 11% of total reconstruction fund in 1950); introduction of improved implements, high-yielding and pest-resistant varieties of seeds, and scientific cultural practices**; high rewards for model workers; stabilization of agricultural prices and the maintenance of a fair parity between agricultural and industrial prices and between the prices of different agricultural products; tax incentives to increased production; large loans to peasants, interest-free or at low rates***; and improved supplies of industrial goods in rural markets, are some of the steps taken to that end.

* Tien Liu, "China's First Collective Farm", People's China 1952 (14), July 16, 1952, p. 17
** State farms have been set up to aid in this work.
11. The significance of Agrarian Reform is not only that it has helped to achieve large immediate increase in agricultural output in the only way that it was practicable for China at present, (namely, through fuller realization of the possibilities of labour-intensive cultivation), but also that it has set into motion a chain of developments that will in due course lead to large-scale, mechanized, highly productive (alike from the point of view of output per person and output per acre), egalitarian collective farming.

12. We have discussed the Agrarian Reform in China at some length, because its lessons are of the greatest importance for India. The problem confronting the two countries is basically the same, viz. under-development. The solution in each case lies in industrialisation. An immediate substantial increase in agricultural production is indispensable for initiating the process of self-regenerating development which will carry through industrialisation. Super-abundance of labour-power and acute scarcity of capital require that the desired increase in agricultural production must be achieved through, not basic technical reconstruction of agriculture, but, fuller utilization of the possibilities of labour-intensive cultivation. This, in turn, requires that land should be transferred to the tiller. In China, Agrarian Reform has brought about this transformation and the effects on production have been as anticipated. In India, too, the Congress governments are putting through an agrarian reform. The question arises: Does this reform promise a substantial increase in agricultural production in the near future? For India needs not any kind of reform, but one which will bring about a rapid increase in agricultural production and thus pave the way for her industrialisation. It was from this standpoint that the writer undertook an exhaustive study of the various agrarian reform measures enacted or brought forth by the Congress
governments in the States*. This led him to the conclusion that the agrarian reform now being attempted in India is thoroughly inadequate for the purpose in view. The reasons that have led him to this conclusion are discussed below, with reference to the UP Zamindari Abolition and Land Reforms Act, 1950, which the Congress government accept as the model measure on the subject.

13. The Act seeks to abolish the 'intermediaries' between the 'holder' and the State, and to transfer their rights, titles and interest to the State of Uttar Pradesh. One is a 'holder' of that land in which no one below him has a permanent, heritable right of occupancy. A zamindar is a holder in respect of his *air* and *khudkaht* (home farm). But in respect of such of his land which is rented out to a tenant who has acquired rights of occupancy, the latter is the holder and the former the intermediary. The rights, title and interest of the intermediaries vest in the State of UP from the vesting date, namely, July 1, 1952.

As from this date, the land is held by three categories of tenure-holders: (1) *bhumidars*, (2) *sirdars*, (3) *adivasis* and *assesia*. The bhumidar is in effect a proprietor. His

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* The position in respect of the progress of agrarian reform at the time of writing (Dec. 1952) is as follows. *Zamindari* rights (i.e. the rights of the intermediaries as such) have been nationalised (with provision for payment of compensation) in Uttar Pradesh, Madhya Pradesh and Madras, and are in the process of nationalisation in Bihar. Legislation enacted in Assam and Orissa for the purpose was expected to be put into effect shortly. West Bengal is reported to be engaged in framing such legislation. Legislation for the nationalisation of *Jagirdari* rights has been enacted in Hyderabad, Surashtra, Rajasthan and Madhya Bharat, but has come into effect only in the first two of these States. In Bombay, Punjab and Pespu, elements of superior rights which existed are in the process of being bought out. The fact that in several cases, the Reform has been effected on the basis of village records maintained by zamindars, jagirdars, etc. through their own employees, has given an advantage to the intermediaries over the peasant holders.
right is transferable; he can put his land to any use that he likes; and he pays land revenue at half the rate payable by the sirdar. The sirdar is in effect an occupancy tenant of the State. His interest in the holding is permanent and heritable, but not transferable; he can use his land only for an agricultural purpose, and he pays land revenue at double the rate payable by the bhumidar (half the amount may be regarded as land revenue proper, and the balance as rent). The assami and the adivasi are in effect sub-tenants. The assami is one who rents land from a bhumidar or a sirdar under the provisions of the Act. He is a tenant-at-will. The adivasis are the tenants of sir lands (home farms) of zamindars paying more than ₹ 250 as land revenue. The right of an assami or an adivasi is not transferable.

As from the vesting date, the zamindar straight away becomes the bhumidar of his holding, i.e. of his sir and khudkasht (home farm). All his other rights vest in the State. But he receives compensation for them. Compensation payable is equal to 8 times the net income from these rights. The zamindars paying less than ₹ 10,000 as land revenue receive rehabilitation grants in addition to compensation. The grant is graded, ranging from 1 to 20 times the zamindar's net income from nationalized rights. The compensation may be paid in cash or in bonds, or partly in cash and partly in bonds. The bonds may be negotiable or non-negotiable. They will carry an interest of 2% per cent. and mature in 40 years. The tenant 'holder' becomes the sirdar of his holding. The sirdar is, in effect, a tenant of the State, holding from the latter on about the same terms at which he formerly held from the zamindar. The sirdar is, however, allowed to become a bhumidar by paying into the Zamindari Abolition Fund (ZAF) an amount equal to 10 times his annual rental. The adivasi retains possession for 5 years, after which he acquires bhumidar rights on paying 15 times the annual rental to the State.
If an adivasi becomes a bhumidar, the landlord loses all his rights on the land, and the State will compensate him at prescribed rates. But if the adivasis do not acquire bhumidari rights within a year of a prescribed date, they will lose all rights on land.

As a rule, a tenure-holder is forbidden to let out his land. The Act, however, allows a few minor exceptions. A bhumidar is forbidden to sell his land to a person whose holding in consequence of this purchase will come to exceed 30 acres. The Act adopts 6½ acres as the area of a basic holding. It forbids the sub-division of a holding of a smaller area. If the partition of a holding less than 6½ acres is sought, the holding shall be sold to a single buyer in a prescribed manner and the proceeds distributed among the co-tenure holders. Similar provision is made in respect of a partition which involves the formation of a sub-basic holding.

The Government will encourage the formation of co-operative farms by granting various concessions. If two-thirds of the total number of persons holding uneconomic holdings in the village agree to form a co-operative farm, the other holders of uneconomic holdings may be compelled to pool their holdings in such a farm. A tenure-holder who does not want to become a member of such a farm will be paid compensation for the land pooled. The Government may advance money to the co-operative farm to enable it to pay compensation. Land contributed by a member will continue to vest in him. Presumably he will receive an ownership dividend for this.

14. That the Reform will not ensure fuller employment of the agricultural population, will not facilitate the fuller realisation of the possibilities of labour-intensive cultivation, and hence, will not bring about a substantial immediate increase in agricultural production, - is clear from the following :-
(a) Unlike the Reform in China, it will not oblige the landlords to take to labour to earn their living. The landlord retains all the land formerly 'held' by him, i.e. his sir and khudkasht and the income from it. Thus he is not deprived of any land that was available to him for direct cultivation. What he loses is the rental income at present received by him in respect of the remaining land in the zamindar. And for this he receives compensation. Zamindars paying less than Rs. 10,000 as land revenue also receive rehabilitation grants. Even though it is true that the yield from the compensation amount will be substantially less in the case of bigger zamindars, than the present annual net income from rights nationalized, indisputably the more substantial zamindars will still have sufficient income to be able to live without work. In fact, the Reform does little to liquidate the class of feudal parasites. It holds no promise of drawing the gentlemen idlers, the voluntary unemployed, into production.

(b) Nor will the Reform ensure fuller employment of the peasant masses. The only way to ensure the fuller employment of the agricultural workers and the poor peasants is to provide them with land. The Agrarian Reform in China and Acharya Vinoba Bhave’s Bhoodan Yajna are both inspired by this consideration. The agricultural workers and poor peasants can be provided with land only at the expense of larger holders. Redistribution of holdings must, therefore, form an essential ingredient of a programme.

* It is true that a tenant of sir land of a zamindar paying more than Rs. 250 as land revenue becomes an adivasi, and that after the vesting date he may become a bhumidari on paying 15 times the annual rental to the State. To the extent this happens, such a zamindar may lose the let-out portion of his sir. Apart from the fact that the zamindar who thus loses land will be paid compensation by the State, it is very doubtful if many adivasis will be able to acquire bhumidari rights by paying a high price—15 times the annual rental. And if they do not do so within a year of the date to be prescribed by the Government, they will lose all rights on land. It is, therefore, true that for all practicable purposes, the landlords retain all the land at present available to them for direct cultivation and the income from it.
of land tenure reform, designed to raise production through fuller employment of agricultural workers and poor peasants. But the U'P Zamindari Abolition and Land Reforms Act, 1950, does none of this. It leaves 'holdings' as they are. Under the Act, every 'holder' continues to hold precisely the same land as before. The Act preserves the present state of land-holding. That this is very unsatisfactory from the point of view of full employment of the peasant masses is brought out by the following:

TABLE 66: STATE OF LAND HOLDING IN THE UP - 1945

<table>
<thead>
<tr>
<th>Size of holding</th>
<th>No. of holders to total holders</th>
<th>Percentage of land to total land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 0.5 acres</td>
<td>21.5</td>
<td>2.2</td>
</tr>
<tr>
<td>0.5 - 1</td>
<td>16.3</td>
<td>3.8</td>
</tr>
<tr>
<td>1 - 2</td>
<td>18.0</td>
<td>3.1</td>
</tr>
<tr>
<td>2 - 6</td>
<td>29.6</td>
<td>31.5</td>
</tr>
<tr>
<td>6 - 25</td>
<td>13.7</td>
<td>41.9</td>
</tr>
<tr>
<td>Over 25</td>
<td>0.9</td>
<td>12.9</td>
</tr>
</tbody>
</table>

Source: Report of the UP Zamindari Abolition Committee, Vol II (Statistics), 1948, p. 6

Clearly, the Act preserves a state of land-holding which holds no promise of fuller employment of the peasant masses. The landless farm workers and peasants remain landless even after the vesting date. 55.8% of the total holders continue to hold less than 2 acres each, 31.8% holding less than one acre each. 55.8% of the holders at the bottom own in the aggregate only as much as one percent holders at the top. The problem of providing land to the landless and the land-poor peasants, so that they may be enabled to keep themselves more fully employed in agricultural and subsidiary production remains unsolved. Rather there are strong reasons for the belief that the Zamindari Abolition Act may make the problem more difficult of solution. Some of these are mentioned below:-
The zamindar becomes a bhumidar of his holding i.e. his 
sir and khudkasht. At the same time he receives compensa­
tion for his rental income nationalized. The occupancy 
tenant, in order to acquire bhumidari rights over his 
holding, has to pay 10 times the annual rental. If he 
is a small holder, holding, say, less than 5 acres, he is 
most unlikely to possess any money or other easily reliable 
assets like ornaments. He, therefore, must borrow the 
amount required to purchase bhumidari rights over his 
holding. The acquisition of such rights will reduce 
his rent liability by one-half. If his annual rent 
liability was $10, by paying $100 into the TAF 
he will reduce his annual liability to $5. He thus 
gets a return of 5% on the amount paid into the Fund. 
Since the rate of interest payable by him on the loan 
must be very much higher, the acquisition of bhumidari 
will actually reduce his income. It is, therefore, 
highly probable that he will try to pay off his loan 
by selling a portion of his holding. The purchaser is 
likely to be a larger holder, in most cases the former 
zamindar, for he alone is likely to have the money 
required for the purpose. The land will, therefore, 
rapidly pass from smaller to larger holders, i.e. will tend 
to be held even more unequally than at present. It is 
sometimes claimed that the provision that a person cannot 
buy additional land if he already holds 30 acres prevents 
creation of very large estates. The check is not quite 
so effective as it may appear. Nothing prevents such a 
holder from buying land in the name of an adult son or 
other relative.

The fact that the Act preserves the right of the landlord 
to recover arrears of rent and other dues accumulated 
 prior to the vesting date also tends in the same 
direction. Since the acquisition of bhumidari gives 
the tenant a transferable right, he is likely to clear 
off his past debt by selling a part of his holding.
(iii) The restrictions on renting of land also tend in the same direction. Those who hold 2 acres or less — constituting 55.8% of the total holders — will be in a most unenviable position. Their holdings are too small to enable them fully to employ their labour power or to earn a living. Since renting out of land is forbidden save in exceptional cases, they cannot add to their farms by taking land on rent from the more substantial holders. Nor can they themselves rent out their own holdings. Thus they can neither make their holdings large enough to engage themselves fully nor can they rent them out and take to some other employment. Under the circumstances, the only practicable course for them would be to sell off their holdings.

(iv) The provision for impartment of holdings and for applying compulsion for purposes of co-operative farming against a recalcitrant minority of small holders will, if anything, multiply the class of the landless.

15. Agrarian Reform measures enacted or contemplated in other States have the same basic features, viz. (a) nationalization with compensation of the rights of the intermediaries as such, (b) the preservation of the existing pattern of landholding, and (c) the acquisition by the occupancy tenants of the rights of proprietorship on payment to the State of a given multiple of rent. Accordingly, the above criticism of the "amindari and Land Reforms Act, 1950, applies in equal measure to the legislation enacted or contemplated in other States.

16. In order that the more substantial zamindars are compelled to take to work and in order that the agricultural workers and poor peasants are provided with the means for fuller and more efficient employment, the agrarian reform in India must proceed as follows:— In the first stage, the rights of the intermediaries as such should be abolished without compensation. All "holders" — zamindars as well as tenants — must be deemed to acquire bhumidari rights over their "holdings" without any payment whatsoever. This will bring zamindari areas into line with the Ryotwari areas. Debts due to zamindars should also
be cancelled. In the second stage, beginning immediately after the first in the zamindari as well as the ryotwari areas, all holdings must be reduced into standard acres in the way it was done in the Punjab for the purpose of quasi-permanent allotment of land to migrants from West Pakistan. Average holding in standard acres should be worked out. A suitable multiple of the average holding should be fixed as the maximum permissible size of a single holding. Surplus land in holdings in excess of this size should be confiscated. A part of the confiscated land may be nationalized and set apart for creating state farms mainly for experimental and training purposes. Such land may also be nationalized where its distribution is likely to be detrimental to production. The rest of the confiscated land should be distributed among landless and land-poor peasants on an equal per capita basis. In the third stage, which should begin about 2-3 years after the second, land reform should proceed on somewhat the same lines as in China since 1950. The class status of each individual should be determined. A holder (other than a small lessor) who is not personally engaged in essential agricultural labour for at least one-third of a year should be classed as landlord. One who is engaged in essential agricultural labour for this period but whose income from exploitation exceeds 25% of his total income should be classed as rich peasant. If the rented-out portion of a rich peasant's excesses the area that he cultivates himself and by hired labour, he should be classed as rich peasant of a semi-landlord type. The following should be confiscated without compensation: (a) land and surplus houses in the countryside belonging to the landlords; (b) rural land belonging to religious and charitable institutions; (c) the rural land of industrialists and merchants, and (d) land rented out by the rich peasants of a semi-landlord type. A part of the confiscated land may be nationalized to set up state farms for experimental, demonstration and training purposes. The rest might be distributed among the following in the indicated order of priority:
Landless peasants who for some reason may have received no land at the second stage.

Small holders who are members of co-operative farms.

Small holders who are members of mutual aid teams.

Other small holders.

No sale of land should be allowed in between the second and the third stage. The Reform should be carried out not at a uniform pace over the entire country but at a pace appropriate to actual conditions in each area.

Unlike China, the Reform has to be spread over three stages because of different conditions. In India the problem is complicated by extensive sub-infeudation, i.e. existence of a hierarchy of tenure-holders between the State at the top and the holder (not necessarily the cultivator) at the bottom. Accordingly, during the first stage the zamindari areas are brought into line with Ryotwari areas by abolishing all the intermediaries. Again, in India, because of the caste system and the popular mental association of manual work with low castes, a considerable number of even the small holders do not personally engage in essential labour which necessarily implies manual work. They engage low-caste agricultural workers for this purpose. Immediate agrarian reform on the Chinese model will treat as landlords people who by their standard of living and financial position might be but poor peasants. This will cause utter confusion and may seriously dislocate agriculture. The Reform has, therefore, to be further divided into two stages, the second and the third. The interval between the two will clarify the position. Those holders (with the exception of small lessors) who at the end of this period still continue to abstain from essential labour will be classed as landlords and will lose their holdings, while those who now so engage themselves will retain them.
The proposed Reform will confer the following benefits:—

(a) It will oblige a numerous parasitical class, the present landlords, to take to gainful employment to earn their living. Such of them as desire to earn their living in agriculture will have to engage in essential labour.

(b) All holders of land (with the exception of small lessors) will be obliged to engage in essential labour. For whosoever does not, will be classed a landlord and will lose his land. Thus many even among the non-landlord holders who today do not engage in essential labour will be obliged to take to this in order to retain their land.

(c) The distribution of land among landless and land-poor peasants will provide them the means for fuller employment of labour. (d) The fact that at the third stage much of the small holders who join to form co-operative farms and mutual aid teams will be given preference over those who do not, will, in the interval between the second and the third stages, serve as a powerful incentive to co-operative organisations. Finally, the Reform will confer all the advantages aforementioned, which China has derived from its Agrarian Reform. In short, by drawing idle labour-power into agricultural production on an immense scale, by opening the way for a substantial extension of the cultivated area and for considerable improvements in land and cultivation, the Reform will achieve a marked increase in agricultural output in the near future in the only way practicable for the country, namely fuller realisation of the possibilities of labour-intensive cultivation.

The redistribution of holdings must form an indispensable ingredient of any agrarian reform undertaken with a view to boosting agricultural output. The Draft Plan, however, categorically rejected redistribution of holdings on the following grounds*. (a) Where the State gives compensation the task is likely to be far beyond its resources. (b) The available administrative machinery is in

* pp. 99-100
no position to cope in any systematic manner with the
problems of organization on the vast scale contemplated.
(c) The distribution of the land acquired from individual
owners among various classes of claimants—small owners,
tenants and the landless labourers—will present numerous
practical problems involving basic social conflicts.
(d) The land acquired will consist as a rule of fields
scattered over the whole village, and it will not be
possible effectively to organize either collective farming
or state management. (e) On the large farms production
will fall, and, for a period at any rate, on other farms
also. (f) It is possible that any large-scale and sudden
attempt to break up existing holdings may give rise to
such organized forces of disruption as may make it extremely
difficult to bring about the very transformation in the
organization of agriculture which is needed. To the
objections raised by the Planning Commission, we may add
two others that are commonly raised against redistribution
of holdings. (g) Since the bigger farmers sell a larger
proportion of their foodgrains output, redistribution of
holdings, implying as it does a more egalitarian dis-
tribution of land, would accentuate the problem of
marketable surplus. (h) The land that would be available
for distribution among the landless and the land-poor
peasants would not in any case be sufficient to provide
them with 'economic' holdings. All these objections are
now examined below, one by one.

20. It is quite true that if the larger holders must
be paid compensation for the land (as distinguished from
rights of an intermediary) taken away from them, it is
almost impossible to effect the proposed redistribution
of holdings. It is estimated that the compensation
payable under the agrarian reform measures brought forth by
Conferences governments to the intermediaries for the nation-
alisation of their rights as such, will amount to Rs. 414
crores. If to this is added the compensation payable
to the larger holders for the land that they would lose,
the amount required will be far beyond the resources of
the State governments. Two alternatives thus present themselves, either to regard the need to increase agricultural production as of paramount importance and carry through redistribution of holdings without paying compensation to the larger holders, or to hold rights of property inviolable and abandon redistribution of holdings, and consequently to suffer stagnation in agricultural production. As between the two, we would choose the first. It may be said that it is 'undemocratic' to do so. But is it not still more 'undemocratic', i.e. contrary to the interests of the people, to allow the present stagnation in agricultural production to continue ad infinitum and thus to bar the way to the country's industrialization? Is it less objectionable to condemn the nation to growing impoverishment, extreme backwardness and political and economic dependence, than to expropriate a parasitical class forming but a small proportion of the total population? Our objections to the payment of compensation are founded not on moral or ideological but on strictly economic considerations. We oppose the payment of compensation for it (a) rules out redistribution of holdings, rather as explained above, tends to re-distribute holdings in favour of the larger holders, (b) enables the landlord class to continue in their present well-paid idleness, and (c) leaves the tenant now termed bhumidar with little for investment in the improvement of land and cultivation. As regards the point that the Constitution does not allow abolition of landlordism without compensation, it may be pointed out that the Constitution is a device to promote the nation's welfare and progress. If some of its provisions are found to be detrimental to the national interest, they should be done away with or amended. For it needs no prophet to predict the eventual doom of a Constitution that fetters progress. It may be mentioned that the Constitution has already been amended once to validate the enactment of the measures of agrarian reform brought forth by Congress governments.
21. It is quite correct to say that redistribution of holdings cannot be effected expeditiously and fairly through the ordinary administrative agency. But the difficulty can be overcome by mobilizing the mass of the peasantry to do the job themselves. That is precisely what was done in China. There the Agrarian Reform was carried out through the agency of the Peasants' Associations which are a mass organisation of the working peasantry. The Reform has been executed expeditiously and fairly by drawing scores of millions of the working peasants - men and women - into the struggle for its realization. The strain on the ordinary administrative agency has thus been avoided. In addition, the struggle for the execution of the Reform has organized the peasantry and very greatly raised their level of political consciousness. This has, as explained earlier, facilitated a determined drive for increased production.

22. Redistribution of holdings need not breed undesirable social conflicts. The liquidation of feudalism of course necessarily involves a bitter class struggle. But there is no other way for freeing agricultural production from the fetters that feudalism imposes on it. It is, therefore, wrong to shirk the struggle against the feudal classes; national interest requires that it should be properly organized and led to a successful conclusion as early as possible. What needs to be avoided is a conflict among the various strata of the working peasantry, such as small owners, tenants and landless labourers. The experience of China indicates that such a conflict is in no way inevitable. There the land confiscated from the landlords and others has been distributed mainly among farm-hands and poor peasants. Other peasants, though they have received no additional land, have nevertheless supported the Reform, for it turned them into owners of the land held by them and freed them from accumulated debts. Instead of breeding bitter conflicts among the various strata of the working peasantry, the Reform, involving as it did a bitter struggle between the landlords on the one hand and peasantry on the other, unified the latter as
never before. There is no reason why the struggle for the redistribution of land may not achieve the same results in India.

23. The fear that redistribution of holdings will necessarily result in fall in production is unwarranted. It is based on the popular fallacy (exposed earlier in this chapter) that large-scale farming necessarily means higher yields per acre, so that redistribution of larger holdings among landless and land-poor peasants must necessarily involve a decline in production. Labour-intensive cultivation is as compatible with high yields per acre as mechanised agriculture. And labour-intensive cultivation is perfectly compatible with small holdings. The remarkable increase in agricultural output in China during the last three years has been achieved not through large-scale mechanized farming, but through fuller realization of the possibilities of small-scale labour-intensive cultivation.

24. The objection that the land which is acquired will consist as a rule of fields scattered over the whole village so that it will not be possible effectively to organize collective farming or state management, also derives from the above-mentioned fallacy. General collective or state farming is immediately neither desirable nor practicable. The experience of the Soviet Union, the People's Democracies of Eastern Europe, and of New China, indicates that collective and state farming succeeds only when plentifully supplied with modern machinery. It is not by accident that the description of the first collective farm organized in China, given in the People's China, shows it as using a good deal of machinery while basically in that country agriculture is as yet carried on with simple implements. In fact, collective and state farming necessarily involve mechanized agriculture. But general mechanization of agriculture is neither feasible nor desirable in India till industrialization is well advanced.

* Tien Liu, op. cit.
It is, therefore, premature at present to talk of general collective and state farming. For some years to come, best results are likely to be obtained through a system of peasant proprietorship. And the abolition of intermediaries and the redistribution of holdings creates just such a system. Furthermore, the only way to collectivize agriculture is not to take a straight jump from the present system of land-holding to collective farming, but to transfer land to the tiller and then to organize production on a co-operative basis moving in due course from simple mutual aid teams to full-fledged collective farms.

25. Redistribution of holdings, if effected by mobilizing the mass of the peasantry for the job - and that is the only way it can be done - would not breed anarchy. In China, for instance, the consequence of agrarian reform has been, not anarchy but greater peace and order. The Peasants' Association and the Militia (formed out of the politically advanced peasants) have proved more than strong enough to put down any resistance offered by the landlords.

26. Redistribution of holdings need not render the problem of the marketable surplus more difficult. In China, for example, the Agrarian Reform has actually facilitated the solution of this problem. Increased agricultural production consequent on the Reform has increased the size of the potential surplus. And this has been tapped by collecting the land tax in kind, and by promoting the exchange of urban for rural products. The growth of rural-urban trade has played a notable part in increasing the quantity of marketed grain. The peasant has been induced to part with large quantities of grain by providing him with growing supplies of urban products - consumer goods and farm implements. This has been made possible by rapid expansion of both large-scale and small-scale industry, especially the latter, in the towns. Moreover, when land is provided to landless and land-poor peasants, they will be able to grow enough food for themselves. They will,
therefore, no longer be among the buyers of foodgrains. To that extent the country will be able to do with a smaller marketable surplus.

27. The objection that the available land is in any case not sufficient to provide landless and land-poor peasants with economic holdings is based on an erroneous view of what constitutes 'an economic holding'. The concept of an economic holding must be related to the objective in view and to the agricultural technique contemplated to be employed. Since at present the main emphasis must be on maximum output per acre, and since, for many years to come, agriculture must be carried on largely by human labour and animal power and not mechanical power, the immediate perspective is of labour-intensive, garden-like cultivation. For this type of cultivation, a fairly small holding — say 3 to 4 acres of irrigated land of average quality or 6 to 8 acres of unirrigated land — would be economic in the sense of being large enough to provide, along with subsidiary occupations, an average-sized family with full employment throughout the year. And it is surely possible to provide the mass of the cultivators with holdings, reclamation of cultivable wastes, reduction in the size of current fallows and the extension of irrigation facilities. According to the 1951 Census, agricultural population numbers 249.1 million. The cultivated area (Net Area Sown and Current Fallow) aggregated 324 million acres in 1950-51. By reclaiming part of the cultivable wastes, (estimated at 98 million acres in 1950-51), the cultivated area may be increased to 350 million acres. This would give an average of 7 acres per family. Of course the agrarian reform as proposed by us will not bring about an equal distribution of land, so that some families will be owning more and others less than the average. But the Reform will surely reduce the disparities in land-holding sufficiently to ensure that most cultivators will hold not much below the average holding. Accordingly, most cultivators will have holdings which will not be much below the size which can be treated as economic at this stage of economic development.
As industrialisation gathers momentum and reaches a fairly advanced stage, the time will come when general mechanization of agriculture will become both possible and necessary. But mechanized agriculture will become both possible and necessary. But mechanized agriculture requires a large unit of cultivation. Small holding will then become a fetter on the further development of agriculture. It will be necessary to merge them together to form large farms. The experience of the Soviet Union indicates that the best way of doing this is to induce the working peasantry to form producer's co-operatives.

28. The Draft Plan err in that it fails to distinguish between the two phases of the problem, one relevant to the present and the immediate future when the objective is maximum output per acre, and the other relevant to the more or less distant future, when the problem would be maximum output per person. The economic holding relating to the present phase must be relatively small. Accordingly, to pose (pp. 97-98) that the problem right now is to enlarge the unit of management is to confuse the needs of the immediate present with those of the more or less distant future. The Draft Plan does note that 'where agriculture does not require much investment, natural conditions are favourable and the cultivators are skilful and industrious, small holdings may produce even higher yields per acre than large holdings'. But fails to draw the necessary conclusion from this and once again postulates that 'the major factors for securing increase in production are the application on a wide scale of scientific knowledge and increased capital investment in its different forms', and that 'these factors can be employed only if agriculture is organized on the basis of relatively larger units of management and production than the existing holdings'. This is nothing but confusion of thought.

29. But perhaps the most serious flaw in the objection that redistribution of holdings will create uneconomic
holdings is its implication that in the absence of such redistribution, the problem of uneconomic holdings would be non-existent or at least very much less serious. This implication would be valid if population in India were divided into a small minority of large land-holders and a much larger mass of landless agricultural workers. Then redistribution would surely mean smaller holdings which might possibly be uneconomic. But the actual composition of the agricultural population is very different. The zamindari system does not imply large holdings. A zamindari estate may embrace 10,000 acres but no holding in this area may be even of 50 acres. This is because a zamindari estate comprises not one but numerous holdings. The zamindar’s holding is only what he holds as his sir and khudkasht (home farm). The rest of the land is held by others as occupancy tenants. If in this particular zamindari, the zamindar’s sir and khudkasht is 50 acres and the rest of the land held by hundreds of occupancy tenants, none holding more than say 20 acres, the area of the zamindari estate may be 10,000 acres but no holding larger than 50 acres. The land in the zamindari estate is held not by the zamindar alone but also by a large body of tenants—the former holding it as proprietor and the latter as occupancy tenants. This explains why even the zamindari areas the holdings are generally no larger than in the ryotwari areas. In India, therefore, the agricultural population consists, not of a small class of large holders on the one hand and a vast landless mass on the other, but of a very numerous class of small holders (proprietors as well as occupancy tenants) on the one hand and a much smaller class of the landless workers on the other. The 1951 Census of India, for instance, divides the agricultural population as follows:
**Table 67: Composition of India's Agricultural Population, according to the 1951 Census**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number [000s]</th>
<th>Percentage of total agr. classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cultivators of land wholly or mainly owned and their dependants</td>
<td>167,350</td>
<td>67.1</td>
</tr>
<tr>
<td>2. Cultivators of land wholly or mainly unowned and their dependants</td>
<td>31,640</td>
<td>13.1</td>
</tr>
<tr>
<td>3. Cultivating labourers and their dependants</td>
<td>44,810</td>
<td>17.8</td>
</tr>
<tr>
<td>4. Non-cultivating owners of land, agricultural rent receivers, etc., and their dependants</td>
<td>5,320</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>249,120</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


All those in class 1 and in class 4 hold land (i.e. have permanent heritable rights over land, whether as owners or occupancy tenants). But many in class 2 and 3 also hold land. Class 2 includes not only those who cultivate wholly unowned land but also those who hold land, but, their own holding being too small, take on rent for cultivation more land than their own. Similarly class 3 includes substantial numbers of those who hold land but, their land being too small, derive more than 50% of their income by way of wages from farm-work. That many agricultural workers 'hold' land is fully borne out by the hitherto published results of the Agricultural Labour Enquiry conducted since 1949.

On the assumption that one-third of class 2 and one-fifth of class 3 hold land, the percentage of 'holders' to the total agricultural population would be 77. It may be more, but it is most unlikely to be less than 75. In any case, it cannot be less than 69.1%, i.e. the total of class 1 and 4. Thus the Census reveals that the holders outnumber the others by 3:1. Since the
availability of land relatively to the agricultural population is very low (a cultivated area of 324 million acres against a total agricultural population of 249 million), and since the land is very unequally 'held', the vast majority of the holdings are very small. In the UP, for instance, 55.8% of the holdings are below 2 acres, 67.4% below 3 acres, 75.5% below 4 acres, and 81.2% below 5 acres*. The fact that some three-quarters of the agricultural population 'hold' land and that about two-thirds of them hold less than 3 acres shows the utter absurdity of the contention that redistribution of holdings will create or accentuate the problem of uneconomic holdings. The problem is already there. Some 50% of the agricultural population (1 of 2) have holdings which are uneconomic even for labour-intensive cultivation, i.e., are below 3 acres. For purposes of mechanized farming - taking 25 acres as the barest minimum for this purpose - 99% have uneconomic holdings. Clearly the current pattern of land-holding is incompatible with the realization of the full possibilities of both small-scale labour-intensive and large-scale mechanized farming, the first because some 25% hold no land and another 50% hold too little for full employment of their labour, and the second because 99% of the holdings are below 25 acres, the barest minimum for mechanized farming. The status quo in land-holding which is what the existing zamindari legislation seeks to preserve and what the Draft Plan endorsed, will thus not do. Clearly a choice has to be made. We must accept either that immediately the only practicable and desirable way to achieve substantial increase in agricultural output is through realizing full possibilities of labour-intensive cultivation or that the solution lies in large-scale, mechanized capitalist farming. The first would require redistribution of holdings so that those who today hold no, or too little, land may be provided with holdings which, under the labour-intensive cultivation contemplated, are

sufficient, or as nearly sufficient as possible, for full employment of their labour-power. This is precisely the purpose of the agrarian reform we suggest. The second would require that the smaller holdings should be merged to form large mechanized capitalist farms*. The latter alternative implies expropriation of the small holders en masse. This is highly undesirable (for it will accentuate the present inequalities among the rural population), is economically unjustified (for it is doubtful if large-scale farming with the amount of capital that appears possible for India to sink in agriculture for several years to come will achieve higher yields per acre than appear possible under labour-intensive cultivation), and is politically impossible. The case for redistribution of holdings is thus unanswerable.

* It may be claimed that large-scale cultivation does not necessarily imply mechanized or capitalist farming. To this we may answer as follows. If large-scale farms are not contemplated to employ tractors and combines, then the very case for large-scale farming falls through. For there is almost nothing else that cannot be done on a small farm. Again, if redistribution of holdings is ruled out, large-scale farming necessarily implies capitalist farming. S. Tarlok Singh (now Deputy Secretary of the Planning Commission) in his book 'Poverty and Social Change' advanced the idea of co-operative village management. The Draft Plan accepted this as an alternative to redistribution of holdings (pp. 100-102). Under this, all the land of the village is to be regarded for the purpose of management as a single farm; rights of ownership are recognised and compensated for through an ownership dividend to be paid at each harvest; and those who work on the farm, owners as well as others, will receive remuneration for work done, according to the nature of the work - owners receive also an additional return on account of their ownership rights. Superficially, co-operative village management is very similar to co-operative farms in China described above. But actually it is basically different from the latter. It is the absence of redistribution of holdings in the case of the former that makes all the difference. Redistribution of holdings means that differences in land-holding are very greatly narrowed down. Accordingly, if, after redistribution, the holders pool their holdings for common cultivation but provide for the payment of ownership dividend, the enterprise is essentially of a co-operative character for the stock held by members (represented by land contributed)

(Contd)
30. During a visit to the Planning Commission, the writer sensed that the composition of the agricultural population as revealed by the 1951 Census had been quite unexpected by the Commission. The Commission had roughly estimated the agricultural workers at one-third of the rural population. The Census revealed them to be only 15.2% of the rural population. The Census revealed that the bulk of the agricultural population consisted of cultivators who wholly or mainly cultivated land held by them. The implication was obvious, namely, 'that the problem of small and uneconomic holdings is the biggest problem of Indian agriculture'. Since in the Draft Plan, the Planning Commission had rejected redistribution of holdings, they seemed to be sceptical of the accuracy of

(Contd) and hence the dividend received by them, is very nearly equal. The members are equal in social status and very nearly equal in income. But, in the absence of redistribution of holdings, the position of those connected with a typical farm in UP under co-operative village management will be as follows: - Some 20% of them will hold no stock; they will receive payments only for the work done. The rest will hold stock but 55.8% of the small holders will hold as much as one per cent. of the largest holders. The last are unlikely to do any essential labour on the farm, for, in view of the large ownership dividend they will receive, they need not do it. Moreover, because of their wealth and social status, they are likely to be elected to the management of the farm. So you have an enterprise where 20% of the workers hold no stock, 55.8% of the rest hold as much as 1% of the biggest holders, and where management is in the hands of the 1% biggest stock-holders who themselves do no manual work. Would you call this a capitalist or a co-operative enterprise. If the latter, what then is a capitalist enterprise? Redistribution of holdings is the indispensible first step towards any genuine co-operative organization of farming.

* Draft Plan p. 106

** From an unpublished note prepared by an officer of the Planning Commission on the implications of the 1951 Census data.
the Census data, and felt that the findings of the Agricultural Labour Enquiry covering some 2% of the rural families more correctly reflected the actual situation. Out of 115,000 rural families covered by the Enquiry, 88,937 were found to be agricultural families. 32,131 (i.e. 36.1% of the agricultural families or 27.9% of all the rural families), were classed as agricultural workers' families. It is quite possible that in the Census many families which should have been classed as agricultural workers' families were classed as cultivators of wholly or mainly owned land. The possibility of this error arises from the fact that in India many agricultural workers are in fact small holders. They cultivate lands held by them but also work for wages on others' farms. The Agricultural Labour Enquiry classed all such small holders who derived 50% or more of their income from farm wages as agricultural workers. Such classification was possible because the income of the families concerned from different sources was calculated. The Census enumerators had no such data to go by. The fact that a particular person held land was known but there was no information on how much he earned as wages on others' farms. It is, therefore, possible that in all those cases where the farm wages were not unmistakably the chief source of income, the small holder, even if he derived 50% or a little more of his income from farm wages, tended to be classed as cultivator of wholly or mainly owned land rather than as cultivating labourer. In view of the lower social position of the agricultural worker, the person concerned would also have preferred to get himself entered as cultivating owner rather than agricultural worker. It is thus quite possible that agricultural workers, defined as those who derive 50% or more of their income from farm wages, form a somewhat higher proportion of the agricultural population. But this possibility does not affect the validity of our basic contention, namely, that in
India, the bulk of the agricultural population consists of petty holders whose holdings are too small for even labour-intensive cultivation, that consequently, the existing state of land-holding is incompatible alike with small-scale labour-intensive and large-scale capitalist farming, that as between the two types of farming, the first accords best with the requirements of the present situation, and that to realize its full potentialities the immense mass of very small holders should be provided with more land through redistribution of holdings. Redistribution of holdings is thus viewed as a process not of creating more uneconomic holdings but of raising the immense mass of very small holdings to the size which would be economic, or nearly so, for labour-intensive cultivation. To disprove this contention, it will be necessary to show that very large numbers of the landless were incorrectly entered as cultivators of wholly or mainly unowned land. For that would mean that the bulk of the agricultural population consists not of small holders but of the landless, and that consequently redistribution of holdings will have the effect, not of raising an immense mass of existing petty holdings to the economic size for labour-intensive cultivation, but of creating a number of new uneconomic holdings. But who can show that? While it is possible that cultivators of wholly or mainly unowned land include some small holders who should have been more correctly entered as cultivating labourers, it is impossible that persons holding land might have been included in this category. There can be a mistake about what is an agriculturist's principal source of livelihood, but there can be no doubt about whether or not he holds land. The Census enumerator in the village, usually the village patwari, is most unlikely to make a mistake on this point. Accordingly it is incontestable that all those classed as non-cultivating owners of land and as cultivators of wholly or mainly owned land do in fact hold land and that many included in the other two categories of agriculturists also do so. Indubitably, therefore, at least 70 %, and possibly even 80 %, of agriculturists are holders of land, the majority of whom have holdings uneconomic for even labour-intensive cultivation. The basic premise on
which our case for redistribution of holdings rests is thus in no way affected by the possibility that some small holders who should have been entered as cultivating labourers have been classed as cultivators of wholly or mainly owned land. This possibility is in fact irrelevant to the issue. To challenge our basic premise, it would be necessary to prove that the bulk of the agricultural population consists not of smallholders but of the landless, so that redistribution will not mitigate but accentuate the problem of uneconomic holdings. Such a proof is well nigh impossible to provide.

31. The objection may, finally, be raised that the agrarian reform of the type proposed in this study is too drastic. But to us the alternative - economic stagnation, poverty, backwardness, weakness, and economic and political dependence on foreign countries - appears to be incomparably more frightful. In our opinion, it is wrong and unpatriotic to shirk taking even the most drastic steps if they are otherwise proved to be indispensable for restoring health and vigour to the national economy.

32. The Final Plan marks an improvement over the Draft Plan in that its opposition to redistribution of holdings is considerably modified. Though the Plan is not optimistic about the scope for providing land to the landless and the land-poor peasantry in any substantial measure at the expense of the larger holders*, it, nevertheless, favours a ceiling to the amount of land that an individual may hold**. The idea of an upper limit for land-holding has already been given effect in several States in two ways: (a) as a limit for future acquisition*** and (b) as a limit for resumption for personal cultivation. The Plan recommends that other States should also fix such limits. The limit may be fixed

* The Plan. Ch. 12, Para. 12.
** Ibid., Para. 13.
*** In the UP, for instance, this limit has been fixed at 30 acres.
© Bombay has fixed this limit at 50 acres, the Punjab at 50 standard acres, Hyderabad at 5 times an economic holding, and UP at 8 acres.
with reference to (a) land revenue, (b) value of the gross produce of land, (c) value of net produce (or income) of land, (d) sale value of land, or (e) lease value of land. The Plan considers three times the 'family holding' as a fair limit. A family holding is defined as being equivalent, according to local conditions and under the existing conditions of technique, either to a plough unit or to a work unit for a family of average size working with such assistance as is customary in agricultural operations'. The Plan, however, takes note of the constitutional difficulty (in view of Article 31 - fair compensation clause - of the Constitution) involved in the application of a limit to existing holdings. 'Merits of the proposal apart', it observes, 'we are advised that such a course would not be consistent with the provisions of the Constitution'. Then follows a very significant sentence: 'We would suggest', observe the Planning Commission, 'that the problem needs to be considered in terms somewhat different from those in which the proposals are commonly made'. The writer interprets this to mean that the Commission favours steps to overcome the constitutional difficulty. One can only wish that the recommendation should have been more emphatic and definite.

33. The Plan next proceeds to make recommendations that would not need an amendment of the Constitution but 'would provide for a large measure of redistribution of land belonging to substantial owners'. Where this land is now cultivated by tenants-at-will, for areas in excess of the ceiling fixed, the general policy would be to enable tenants to become owners. The tenants concerned would be given security of tenure which could extend to the grant of occupancy rights. They would be provided with facilities to buy the land thus held by them at a fixed price which could...
be suitable multiple of the land revenue payable. The tenant would make the payment to the State in instalments. The State may compensate the owners of the land in question in bonds in the manner already adopted or proposed for intermediary rights. Where the land is directly managed by the substantial owners, there should be fixed an absolute limit to the amount of land which any individual may hold*. At the same time, land management legislation should be enacted. It should lay standards of cultivation and management. In case the landowner fails to observe them, an appropriate authority should have the right to take over for the purpose of management the entire farm or such portion of it as might be in excess of the limit for resumption of cultivation and arrange for its cultivation. For the latter purpose, preference should be given to co-operative groups and to workers on the land thus taken over**. The Plan believes that these proposals will bring about a large measure of redistribution of land belonging to substantial owners. We do not share this optimism in view of the fact that the ceiling is bound to be fixed at a level which will not leave much land for distribution among the landless and the land poor peasantry and that an obliging official machinery may make it possible for the substantial owners largely to evade the proposed land management legislation. Nothing short of the thorough-going agrarian reform suggested in this study can transfer the land to the tiller. And without the latter, substantial increase in agricultural output through fuller employment of the man-power idle at present is impossible.

34. Redistribution of holdings is but the first step in the reorganization of agriculture. The system of small peasant holdings to which it gives rise will suit only the stage of labour-intensive cultivation. In due course, i.e. some time during the Second Stage, industrialization will attain a level and momentum when the country is able to produce

* Ibid., Para. 18
** Ibid., Para. 19
modern farm machinery at an extensive scale, and when, to meet the growing labour requirements of the fast-expanding secondary and tertiary departments, labour has to be increasingly drawn away from agriculture. At this stage, mechanization of agriculture will be both necessary and feasible. And since mechanized agriculture requires relatively large holdings, the new situation will require an amalgamation of small peasant holdings into large co-operative farms. Redistribution of holdings would have prepared the ground for this transformation by creating the measure of social equality and community of purpose which is an indispensable pre-requisite of genuine co-operation. Immediately after the land tenure reform, the peasantry may be induced to organize into mutual aid teams. At the next step the small individual holdings may be merged to form large co-operative farms. Finally, the co-operative farms may be developed into collective farms. It would then be possible to effect general mechanization of agriculture and to progressively direct man-power from agricultural to non-agricultural employment*. Henceforth, there will be a rapid rise in labour productivity in agriculture, due both to increase in yield per acre through the application of larger amounts of capital per acre, and to reduction in the number engaged per acre through mechanization. This phase will be marked by the transformation of India into a country of advanced agriculture. At the same time, inequalities will not grow, as they do with the progress of capitalist farming, but will be progressively reduced. Under full-fledged collective farming all inequalities of income from property disappear; only inequalities of income from work - which are incomparably less acute and objectionable - remain.

35. We have discussed land tenure reform at length, for we consider that the success of a policy designed to increase agricultural production depends, more than on anything else, on a correct approach to this problem, and that it is on this aspect of policy that there seems to prevail the greatest confusion in this country. Other measures to increase agricultural production may be discussed more briefly.

* Clearly the fear that the land tenure reform, by
Consolidation of Holdings

36. The redistribution of holdings should be followed by their consolidation. The extent of the evil of fragmentation of holdings and its hampering effect on agricultural production is too well-known to need any discussion. The redistribution of holdings may further aggravate the problem. Quite a few years will pass before it becomes practicable to amalgamate en masse individual holdings into large co-operative farms, but fragmentation of holdings cannot be allowed to hamper agricultural production all through this period. Redistribution of holdings must, therefore, be immediately followed by consolidation. During the past 20 years or so, considerable experience in the consolidation of holdings has been gained in the States. As affirmed by the Planning Commission, "the cultivator ... knows the value of consolidation, and, over the greater part of the country, needs no persuasion for adopting it." But the progress has been very slow hitherto, because of the following: (a) multiplicity of tenures, (b) lack of sufficient trained personnel to undertake consolidation work, (c) favouritism, graft and peasant opposition, frequently practised by the staff engaged in consolidation work, (d) lack of enthusiasm on the part of very small holders - for it is the larger holder who is the greatest beneficiary from consolidation -, and (e) absence of legal authority to compel a recalcitrant minority to agree to consolidation. Agrarian Reform will reduce these difficulties. It will substitute a single tenure - peasant proprietorship - for the present multiplicity of tenures. The struggle for its realization will throw up numerous efficient, honest and sympathetic cadres, who can then be put on to consolidation work. When land ownership is more equally distributed and when the consolidation of holdings will benefit the entire peasantry, enthusiasm for it is likely to be more widespread and intense. A recalcitrant minority may then be made to submit to consolidation under legal compulsion.

* The Draft Plan, p. 105.
37. It is sometimes said that consolidation of holdings is useless, for in one or two generations the problem will reappear. That need not deter us. We suggest the system of small peasant holdings only as a transitional arrangement. Long before fragmentation of holdings could once again become an acute problem, the individual holdings would be merged to form large co-operative farms. And with this the problem would disappear for good.

Co-operative Labour

38. Co-operative labour should be encouraged. Immediately after the land tenure reform, the peasantry should be encouraged to form Mutual Aid teams on the Chinese model. The mutual aid teams essentially represent organized and systematic labour-exchange. Labour-exchange is not unknown in India, but at present it is unorganized and has a very limited scope. To remedy these shortcomings, the entire labour-force engaged in agriculture should be progressively drawn into mutual-aid teams. Co-operative organization of labour will promote specialization of labour, draw even the old and the partially incapacitated into production, help to reform the idlers, release labour for non-agricultural work, help to combat natural calamities and to overcome shortages of equipment and draft cattle, facilitate the introduction of new, improved implements, seeds, fertilizers and cultural practices, spread the knowledge and experience of foremost workers to others, promote reclamation of land, encourage savings, and prepare the way for co-operative and collective farming.

Irrigation

39. If agrarian reform is the most important economic measure, extension of irrigation facilities and the prevention of floods is the most important technical measure required for increased agricultural production. For, on unirrigated land, as additional labour per acre is applied, the marginal return to labour diminishes very rapidly. Over the greater
part of the country the rainfall is inadequate and precarious; besides, India being a typical monsoon country, the precipitation is very unevenly distributed over the year. This underlines the importance of irrigation and flood protection.

40. In 1949-50 no more than 43.9 million acres out of a total of 330.5 million acres, i.e. 15% of the total cultivated area*, were under irrigation**. Expansion of irrigation facilities will help to reclaim vast culturable wastes, expand the double-cropped area and reduce the size of current fallows through a more liberal use of manures and fertilizers. It will also help to raise yields and ensure more stable crops. Protection against floods is also important, for they damage standing crops, cause loss of life and property (including draft cattle, seed and implements), and spoil the soil. The two problems are in fact inter-related. The ultimate solution, alike of irrigation and flood control, lies in impounding the heavy rainfall of summer months.

41. At present no more than 6% of the annual flow of water in Indian rivers is utilized for irrigation purposes. It has been estimated that out of 1,356 million acre feet of water, it should be possible to put to beneficial use about 450 million. The current utilization is only 76 million***. Clearly, there is very great scope for the extension of irrigation facilities. The Plan has very appropriately laid great emphasis on irrigation and power development. Rs. 168 crores are provided for irrigation works and Rs. 266 crores for multi-purpose irrigation and power projects, making a total of Rs. 434 crores. Of this amount, Rs. 77 crores are to be spent on minor irrigation works, and the balance on major irrigation and multipurpose projects. In addition, a third of the expenditure on community development projects is to be devoted to irrigation. The minor irrigation works

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* Net Area Sown plus current fallows.
** The Plan, Ch. XIV.
*** The Plan, Ch. 26, Para 12.
* The Plan, Ch. XIV, Para. 7.
** Ibid.
(excluding those financed out of the allocation for Community Projects) will expand the irrigated area by 11.2, and the major works and projects by 9.5, million acres, making a total of 19.7 million for the Plan period.

42. We, however, believe that it was a great error of judgement to take in hand the vast multipurpose projects in the initial stage of development when the country's investible resources are very limited, and when the need for quick results is very urgent. According to the Plan, by March 31, 1953, Rs. 126.25 crores would have been spent on them; but in 1952-53 they were scheduled to produce not a unit of power and irrigate no more than 19,000 acres! Had half of this amount been invested in thermal power stations and half in tube-well irrigation, this, in the writer's estimate, would have added about 0.6 m. kws. to the 1950 installed capacity of 2.3 m. kws. and about 6 m. acres to the existing 49 m. acres of irrigated area. Of course, we cannot find fault with the Plan for including the multipurpose projects in the development programme. Since Rs. 49.89 crores had already been invested in them before the inauguration of the Plan, the latter had perforce to include them. The greater emphasis on minor irrigation works in the Final Plan relatively to the Draft Plan is very very welcome.

43. We suggest that the following should form essential elements of a policy designed to promote rapid irrigation and power development :-

(a) The different modes of irrigation should be properly co-ordinated. In each area that mode of irrigation should be adopted which is the most appropriate under the circumstances. Where, for instance, the water table is very low or where the sub-soil water contains a high proportion of injurious salts, canal irrigation, if practicable, would give the best results. But where the water table is high and where water is
free from harmful salts, well irrigation would be more economical. If cheap electricity can be made available, tube-well irrigation should be preferred. Here there is a shortage of draft cattle, power pumps may be installed to work the existing wells. And so forth. At present such co-ordination is usually quite imperfect, if not altogether non-existent.

(b) There should be proper co-ordination between public and private enterprise in the construction of irrigation works. The practice hitherto has been that wells, power pumps and very small storage works are privately owned (the government sometimes grants loans and subsidies for their construction), the canals and large reservoirs are owned by the State, and the tube-wells are both private- and government-owned. We suggest two changes in this policy. (1) Tube wells should be constructed and owned exclusively by the State. A tube-well involves a large capital cost and commands extensive area. Since the proposed land tenure reform will cause the agricultural population to consist almost entirely of small holders, construction and effective use of tube-wells will become practicable only if the peasantry could be persuaded to unite themselves in co-operatives. But this will take some years to achieve. Tube-well construction cannot be held up till then. To achieve a rapid increase in the tube-well irrigated area, the Government should itself assume the responsibility for tube-well construction. Since power development is to be taken up mainly through public agency, co-ordination between tube-well development and power development will be better ensured if the former is also entrusted to public agency. There is also likely to be a saving in capital cost if a single organization undertakes construction of thousands of tube-wells. Development through public agency will ensure proper spacing of tube-well units. Since canals are, and will continue to be government-owned and
managed, there will be better co-ordination between canal and tube-well irrigation if the tube-wells also are owned and worked by Government. (ii) Since for some years to come ordinary wells and minor storage works will play an important part in the expansion of irrigated area, government aid for their construction should be substantially liberalised. When the supply position in respect of power, electric motors and tubes improves, ordinary wells may be fitted with power pumps.

(c) The peasantry and, if possible, other sections of the population should be fully mobilized for the construction of major and minor irrigation works. In much of the construction work connected with irrigation development, labour-intensive and capital-intensive methods are alike feasible. India should, for the present, adopt the first; more capital-intensive techniques may be adopted as the capital-labour ratio improves. With labour-intensive methods, the rate of progress will primarily depend on the number of persons mobilized for this work. This underlines the need for public co-operation. We, however, have in mind a different type of public co-operation than that envisaged by the Plan. The Plan makes suggestions that a portion of the capital cost of projects may be recouped by levying betterment fees on the land-holders whose lands benefit from such projects*, and that the work requiring unskilled labour should preferably be entrusted to peasants, organized into co-operatives, instead of to the contractors and paid for at a lower rate than allowed to the latter**. We contemplate neither of these steps. After the execution of the land tenure reform proposed earlier, there will be left little scope for the levy of a betterment fee. Such a levy will be

* The Plan estimates that one-third to one-fourth of the capital cost of the projects can be made up thus. (Ch. 26, Para.9).
impracticable for few holdings will then be large enough to justify further reduction in their size; it will be unnecessary, for irrigation development will then chiefly benefit not a small minority of larger holders but the mass of the peasantry. Furthermore, once land tenure reform provides land to the landless and land-poor peasants, there is nothing that the Government can do with the surrendered land (other than that required to resettle those whose lands may be submerged) that will make it more productive than it would be if allowed to remain with the peasant holders. We also consider it highly objectionable to pay the peasant co-operatives at a lower rate than that allowed to contractors. We welcome free, voluntary labour by citizens for the purpose of national construction; but when work has to be paid for, equal work must receive equal payment. The co-operation visualized by us is that the peasantry should contribute, for reasonable wages, billions of man-hours of enthusiastic labour. And to do this, they have merely to forego mostly enforced idleness. Agrarian reform will create conditions for such co-operation. When the peasant owns land that he tills, so that he is himself the chief beneficiary from any increase in its value, when the extra crop raised on the holding belongs to him and none else, and when floods and drought destroy what are his crops, he has every incentive to put his heart and soul into measures designed to prevent floods, check droughts and extend the irrigated area. The fight for the realization of the reform will also help by promoting the necessary measure of organization of the peasantry.

**Manuring**

44. In view of the relative shortage of land, the primary aim in India should be high yields per acre. This underlines the importance of adequate, appropriate and effective manuring. Manuring will also help to increase the cultivated area at the expense of current fallows. The current position in this
respect is far from satisfactory. Lack of an assured water-supply severely limits the scope for adequate and effective manuring. The consumption of inorganic fertilizers is very small relatively to the size of the cultivated area; the food crops hardly receive any fertilizer. Indian soils are mainly deficient in nitrogen. The cultivated area is estimated to need 2.6 million tons of pure nitrogen a year. Even if the entire available quantity of farmyard manure were used for manuring purposes, only about half the estimated nitrogen requirements would be met. This indicates the magnitude of the gap that will in any case need to be filled with inorganic fertilizers. But the pity is that the bulk of even farmyard manure is wasted. Of the cowdung produced, only about 40% is used as manure; the rest is either burnt as fuel or lost during collection. Urine is simply allowed to go waste. The 1951 Census puts India's urban population at no fewer than 61.8 millions, i.e. 17.3% of the total population of the country. Large amounts of town garbage and sewage are, therefore, available. While the latter is generally made available for irrigation and manuring purposes, the bulk of the former is burnt out. An important source of organic manure thus largely goes waste. The possibilities of making compost from refuse, leaves, weeds and other vegetable matter are also largely ignored. The scope for green manuring is severely limited by the acute scarcity of land - for the peasant cannot afford to forego even a catch crop - and lack of adequate and assured supply of water. Oil-cake is very rich in nitrogen. But a substantial proportion of the potential supply of oil-cake is lost through export of oil-seeds. These exports aggregated 214, 206 and 81 thousand tons in 1949-50, 1950-51, and 1951-52, respectively.

45. For several years to come, the emphasis should, for the following reasons, be not on inorganic fertilizers but

For instance, Japan, with a much smaller cultivated area, uses a much larger quantity of fertilizers. (Cf., Economic Survey of Asia and the Far East, 1950, p. 198.


*** Govt. of India, Foreign Sea and Airborne Trade of India, March 1952, p. 208.
organic manures, mainly farmyard manure. (a) New fertilizer plants necessarily take long time to build and require large capital investment. For instance, the Sindri Fertilizer Factory projected in 1943 attained near capacity production as late as 1952, and involved an investment of Rs. 72 crores. A rapid enough increase in the output of inorganic fertilizers cannot, therefore, be hoped for. The plan visualizes an output of 450 thousand tons of ammonium sulphate and 180 thousand tons of super-phosphate in 1955-56. The output of the former is far short of the quantity needed to provide 50% of the estimated aggregate requirements (2.6 million tons) of pure nitrogen. (b) If India's resources of organic manures are fully mobilized and efficiently used, her manurial requirements may be met much better than at present. (c) Farmyard manure provides not only the major elements in plant nutrition - nitrogen (N), potash ($K_2O$) and phosphoric acid ($P_2O_5$) - but also the minor elements required. Its use in sufficient quantities thus makes up all types of nutritional deficiencies. Organic manures, besides their manurial value, add to the humus content of the soil and thus improve its texture.

46. Full and efficient utilization of the country's abundant resources of organic manures is a key task at present. To that end, the following measures may be adopted:— (a) Steps should be taken to put an early end to the use of cowdung as fuel. Since this practice prevails mainly because of lack of alternative fuels, the surest way to combat it is, to provide such fuels. Establishment of fuel plantations on vacant lands in villages, growth of such shrubs (as hedges) as can also be used as fuel, use of cotton- and jute-stalks as fuel, and the supply to rural areas of cheap fuel from the country's forests are some of the measures suggested for this. The size of the country's coal reserves and their location does not admit of wide use of soft coke by the rural population**. To the extent cowdung burning is a matter of


In India the present consumption of soft coke has been estimated at 2 million tons (The Plan, Ch.21, Para.7) The Plan contemplates an increase of one million tons in this consumption.
custom and prejudice, the remedy lies in propaganda and proper instruction of the rural population. To reduce wastage through the action of wind and rain, the use of manure pits should be universalized. Proper timings of the transport of manure to the fields and its application therein should be worked out and popularized, so that the escape of ammonia into the air is minimized.

(b) The present wastage of cattle urine should be reduced to the minimum, for 1,000 gallons of it contain nitrogen equivalent to about one cwt. of ammonium sulphate*. Liquid manure may be collected and applied as such. But the years of small-scale peasant agriculture, large herds, such as make direct collection of urine practicable, will be exceptional. Throughout this period, the urine must be preserved by using an appropriate litter. (c) Since substantial development of poultry farming as a subsidiary activity is visualised, it is necessary to encourage the collection, conservation and application of poultry manure.

(d) Facilities for the manufacture and transport of compost from town garbage and sewage and other organic matter should be speedily extended. The scope for compost-making is indicated by the fact that the Nehru Plan for making India self-sufficient in foodgrains by 1951 had planned to raise compost output from 3.5 million tons in 1948-49 to 31 million tons in 1951-52. Rapid progress in that direction, however, requires close co-operation between municipal authorities and agricultural departments. There is also the need to educate the peasant to shed his prejudice against the use of compost made out of night-soil. (e) The export of oilseeds should be stopped forthwith. This will encourage the domestic oil-crushing seed industry and also prevent loss of oil-cake. It is gratifying to note that the Plan visualises an export of only 0.5 lakh tons of oil-seeds in 1955-56 as against 2.0 lakh tons in 1950-51.

(f) More of suitable legumes should be discovered and popularised. The practice of green manuring should be

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* Ministry of Agriculture and Fisheries, op. cit., p. 21
extended through increase in the irrigated area and the
evolution, multiplication and distribution of suitable seed.

(g) In view of the large cattle population — (150 m. cattle
and 43 m. buffaloes*) — residues from animal carcasses can
provide large supplies of organic manures rich in nitrogen
and phosphorus. Such manures are especially valuable
for high-grade horticultural crops, more valuable than
even inorganic fertilizers**. The relative shortage of
land suggests that once the country achieves self-sufficiency
in foodgrains and basic industrial raw materials, it would
may better to take increasingly to high-grade horticul-
tural crops. This brings out the need of improving the
collection and processing of residues from animal
carcasses. The development of modern meat-packing industry
in the country will greatly facilitate this work. (h) The
possibilities of using sea-weed, cone-trash, fish-meal,
and other minor organic manures should be examined more
fully.

47. As India industrialises, domestic output of inorganic
fertilizers will increase. As noted above, the Plan provides
for an output of 4,50,000 tons of ammonium sulphate
(including the Sindri Plant's annual output of 5,50,000 tons),
and 180,000 tons of super-phosphates in 1955-56. If
possible, the target should be raised somewhat higher. At
any rate, as from the *second Stage, rapid increase in
output should be achieved, provided, of course, India can,
as originally visualized, draw gypsum from the immense
reserves of West Punjab. The function of organic manures
will then increasingly be to improve the content and
texture of the soil; the nitrogen, potash and phosphorus
requirements of the soil will be increasingly met by
inorganic fertilizers. Precise knowledge of what different
soils lack, instruction of cultivators in the use of
fertilizers, extension of the irrigated area, and the supply

* The Plan, Ch. 19, Para. 1
** Ministry of Agriculture and Fisheries, op. cit., p. 74
of fertilizers at prices within the cultivator's reach, are some of the essential conditions for extended and effective use of inorganic fertilizers.

**Seed**

48. Higher-yielding varieties take larger amounts of plant food from the soil. The use of improved seed, therefore, gives best results only when it is combined with irrigation and extended use of fertilizers. The proposed extension of irrigation facilities and improvements in the supply of manures and fertilizers will thus create conditions for the introduction of higher-yielding varieties. Considerable success has already been achieved in the evolution of improved strains of crops. The Indian Council of Agricultural Research has devoted its main efforts to this work. This has also figured prominently in the research work promoted by the State Agricultural Departments and the Specialised Commodity Committees, such as the Indian Central Cotton Committee. Higher-yielding varieties of cereals, oil-seeds, pulses, cotton, sugar-cane, jute, tobacco, etc., as well as those that resist disease, drought and pest better have been evolved. The area under improved varieties, however, continues to be very limited. In 1949, for most Provinces, the percentage of acreage under improved seed was estimated to range between 1.2 to 9.7 per cent. Only Madhya Pradesh and Madras had substantial percentages, namely 22.7 and 23.2, respectively. The food crops show the least progress. The bulk of the cultivated area is sown with seed which, besides being of low-yielding varieties, is of indifferent quality due to absence of careful selection, defective storage and adulteration.

49. While the work on the evolution of still better varieties should continue, greater attention should be paid to multiplication and popularization of improved varieties. Until small holdings are united to form large co-operative farms, state farms would appear to be the most
suitable agency for the multiplication of the improved varieties. To that end additional state farms may be created on reclaimed waste lands, or, in a few cases, on land confiscated from the very big land-holders under the proposed agrarian reform. As co-operative farms come into being, the peasants themselves will be able to undertake this work. It is equally necessary to put the improved seed within the reach of the cultivators. Free demonstration of the efficiency of improved varieties, grant of taxaoav loans for the purchase of improved seed, sale of such seed at concession rates, and free exchange of cultivator's seed for improved seed, are some of the methods that may be adopted for the purpose. In order to prevent deterioration of seed, the cultivators should be induced to undertake seed selection and improve seed storage.

Existing measures for the prevention of adulteration of seed should be further elaborated and tightened. The use of improved seed will give still better results when combined with scientific cultural practices, such as rotation of crops.

**Implements**

50. As pointed out earlier, in India, for several years to come, whole-sale mechanisation of agriculture could neither be practicable nor desirable*. During this period power machinery may, however, be used in the following cases: (a) where the force required is beyond the capacity of men or draft cattle, e.g. in deep ploughing connected with the reclamation of waste or weed-infested lands; (b) where the saving in human toil and cattle power is relatively high, e.g. in water pumping, and (c) where the use of mechanical equipment would economize labour and cattle-power at the time of maximum pressure on them, e.g. in threshing**. Thus during the First and part of the Second Stage, only land reclamation, water-pumping and threshing should be progressively mechanised. Over the rest of the agricultural field, work must continue to be done with hand or animal-worked implements.

* Under the Plan, 3,427,800 acres will be brought under mechanical cultivation by 1955-56. We do not (Contd)
51. The use of power-driven machinery at present is attended with several difficulties. Since most of this machinery is imported, its cost is far too high. The prices charged for spare parts in particular are exorbitant, and their supply subject to serious delay. The facilities for repair being negligible, even minor breakdowns put machines out of commission for long periods and involve disproportionately high repair charges. The supply of electric power is very limited, and liquid fuel is very costly. The capital cost is beyond the resources of all but a small minority of large land-holders; (the contemplated agrarian reform is likely to aggravate this difficulty). The fear of a fall in agricultural prices raises doubts regarding the soundness of investment in power-driven agricultural machinery. These difficulties may be overcome as follows:—Steps should be taken to create and expand a modern agricultural-machinery industry. The power-load available for agricultural purposes should be rapidly increased. The Government should itself own tube-wells, tractors, and threshers. The rates charged for the work done should as far as possible be on the "cost of service" principle. The government organisations owning agricultural machinery should create their own repair facilities. Government ownership of power machinery will overcome the financial difficulty, ensure better repair facilities and fuller use of machinery, facilitate government procurement of grains and other crops (for the payment for the services may be obtained in kind), and provide the State with a powerful lever to raise agriculture from the

(Contd) favour this development because at the present stage of development, it is not socially necessary. In India, in recent years, the bigger holders have tended to tractorise ordinary cultivation not because this is socially necessary but because they hope that by bringing the land direct cultivation they would be able to retain it. The main object is to evade the agrarian reform and not to step up agricultural production with the minimum practicable social cost.

** (p.369) In India, the use of threshers is feasible even in conditions of the small-scale peasant economy. For various reasons, the peasants move wheat and paddy stalks to near the village before threshing. Since
level of small-scale individual cultivation, through co-operative and collective farming, to the status of a public enterprise.

52. Since, for many years, only partial mechanisation of agriculture is feasible, close attention must be paid to improvements in hand- or cattle-worked implements. Simple but efficient standardised implements capable of mass production should be evolved. The improved implements should neither be unduly expensive nor beyond the capacity of the draft cattle. Some advance has already been made in that direction; there is, however, still great scope for further improvement. Grant of loans for the purchase of improved implements and vigorous and sustained propaganda through government agencies (e.g. Agricultural Departments) and the peasants' associations would be necessary to popularise such new implements.

Extension Service

53. For the introduction of improved cultural practices, implements, seeds, manurial practices, methods of irrigation, measures to deal with pests and diseases, etc., the need for an effective extension service can hardly be over-emphasised. 'The greatest need at present,' comment the Fiscal Commission, 'is an extension service with the object of bridging the gap between research and the practices of producers.' The Plan considers that there is great scope for raising agricultural productivity in the country by relatively small outlays of money on agricultural extension', and accordingly provides for the creation of such a service. During the Plan period, 12,000 villages, i.e. about one-quarter of the total, are to be brought within the operations of the extension service. The Plan makes some valuable suggestions for improving the efficiency of this service. Of special importance are the recommendations regarding the qualifications, recruitment, training, promotion and methods of work of the extension personnel. It may, however, be pointed out that the

value of such a service largely depends upon (a) effective co-ordination and co-operation between research and extension (b) the enthusiasm of the peasantry for progress, and (c) the availability to the peasantry of physical and financial resources required to put the knowledge provided to good use. It is doubtful if the Plan provides for effective measures for the fulfilment of at least the last two of these conditions.

Land Improvement

54. The programme of land improvement should comprise the following:— Water-logged areas, mainly in Assam, Orissa and parts of South India, should be drained and cleared. Anti-erosion measures, such as bunding and terracing, afforestation in hilly areas, planting of shelter-belts in the plains, control of grazing, etc. should be adopted. Khar lands, i.e. such coastal areas, mainly on the West Coast, as have become saline owing to flooding by seawater, or those that have a saline subsoil, should be reclaimed. In hilly areas the quality of land may be improved by freeing the fields of stones, kankar, etc. In case of light, sandy soils, the quality may be improved through the addition of large quantities of organic matter. In the absence of modern mechanical equipment, these measures would require organized efforts of millions of persons. Only a peasantry emancipated from landlord oppression and appropriately organized can put in so much effort. Land tenure reform is thus again an indispensable pre-requisite of any extensive programme of land improvement.

Crop Protection

55. At present wild animals, pests, diseases and weeds cause extensive damage to crops. Pests, vermin and diseases are estimated to destroy some 10% of the total produce. During epidemics, the loss is heavier. Since protection against pests and diseases requires scientific knowledge, the peasant cannot do much unaided. The remedy may be sought. * The Plan provides for the bunding and drainage of 2,032,900 acres (Appendix V to Ch. XIV).
along two lines: pest- and disease-resisting varieties may be evolved, and methods of killing pests, vermin, etc. may be discovered and put into effect. The Indian and the State Agricultural Institutes have made some progress in either direction. But much more remains to be done. Progress is obstructed by the high cost of imported fungicides, insecticides and the dusting, spraying and fumigation appliances. To reduce their cost, these should be produced within the country. The present arrangements to prevent the entry into India of plant pests and diseases from outside should be further tightened.

56. Large areas in Bombay, Madhya Pradesh, Madras, the UP, Hyderabad and Mysore, are infested with deep-rooted weeds. The remedy lies in deep ploughing with tractors. In 1949, the Government of India took a loan of $10 million from the World Bank for the purpose of purchasing 375 heavy tractors for reclamation of weed-infested lands. The pace of this work can be greatly quickened if the import of heavy tractors is increased at the expense of light tractors required for ordinary cultivation and if the available tractors are put to more effective use. Effective measures to combat water-hyacinth and parasitic plants like Striga are also called for.

57. In recent years, public authorities have made spasmodic attempts to deal with the menace of wild animals. The organization of gun clubs of farmers, supply of arms and ammunition at subsidized rates, and payment on piece-rate basis to hunters for the wild animals killed by them, are some of the methods employed for the purpose. But the progress hitherto is very slow. The only way to combat the menace is to arouse and organize the peasantry to do the job. The fight for the land tenure reform would do this. The Government may assist by supplying guns and ammunition free, or at concession rates.
58. Even after the land reform, the farms possessed by the vast majority of cultivators will not be large enough fully to employ their labour in crop production alone. Side-line activities, e.g. cattle-rearing, dairy-farming, poultry-farming, horticulture, sericulture, etc., should provide them with additional employment and income. The Government can help by promoting co-operative production, granting credits and by ensuring speedy transport and adequate markets. Industrialisation and the consequential urbanisation will, by providing a steadily expanding market, act as a power spur to the development of these forms of agricultural production.

59. The importance of animal husbandry in agriculture is underlined by the fact that the annual contribution of livestock to the gross national income has been estimated at about one thousand crores. According to the 1951 Census, India has 150 million cattle and 45 million buffaloes. The quality of cattle is, however, very poor. 10 per cent. of the cattle or about 11.4 million adults are unserviceable or unproductive. Dry cows per 100 milch cows number 75 in the Punjab, 150 in Travancore and Cochin, and more than 200 in Madras, Orissa and Bihar. In 1951, in the country as a whole, 28 million cows out of 48 million cows over 3 years were dry. The average yield of milk per cow is only 413 lbs. On account of low production, the daily per capita consumption of milk is only 5.5 oz. The low quality of cattle is accounted for mainly by three factors: poor feeding, non-selective breeding, and a heavy incidence of disease. It has been estimated that only two-thirds of the present cattle population can be maintained in fair condition on the existing fodder and feed resources, and that the member of approved bulls meets less than 0.5 per cent. of the requirements. Qualitative improvement of the cattle population requires that the above deficiencies should be made up.
60. To relieve pressure on fodder resources, the Plan has made a very commendable proposal, that of go-sadans. 160 such sadans are to be set up in areas of natural grazing or where fodder exceeds requirements. All old, infirm and useless cattle will be removed to these institutions. The remains of cattle will be utilized by setting up small tanneries. In the first instance, useless cattle will be removed only from the key villages (see below); in due course, as more go-sadans are established, the facilities will be extended to other villages. The following are some of the other measures suggested to improve the supply of fodder and feed:

(a) Leguminous fodders should be introduced in crop rotation in irrigated areas.
(b) The cultivation of clovers should be expanded.
(c) Pastures should be seeded with superior grasses and rotational grazing should be instituted.
(d) Hay-making may be undertaken in the foot hills after the monsoon.

61. The key village scheme provided by the Plan represents a correct approach to the problem. By 1955-56, the Scheme will cover 600 villages, grouped into centres of 3-4 village each. In each of these centres breeding will be confined to three or four approved bulls. All other bulls will be castrated. Artificial insemination will be resorted to in order to accelerate progress. Every centre will have one veterinary assistant surgeon, one milk recorder and three stock-men. When in full swing, the Scheme is expected to produce 60,000 bulls per year. The object of policy should be to develop dual-purpose breeds. Provision of pure water, hygienic housing for cattle, adequate preventive measures against cattle epidemics and better and fuller veterinary facilities (the Plan provides for an increase of veterinary hospitals and dispensaries from 2,000 to 2,600) are some of the measures suggested to reduce the incidence of disease among cattle. Production
of improved breeds and the control of disease is especially important for developing poultry farming.

62. Horticulture, being the highest form of intensive cultivation, is very important for a country with a low land-labour ratio. Urbanization will create an expanding market for fruits and vegetables. The government can encourage horticulture by encouraging the growers to form production and marketing co-operatives, by promoting fruit and vegetable preservation in surplus areas, by providing improved seeds and saplings from state nurseries, by extending credits and by supplying appliances and technical advice to combat plant pests and diseases.

The Cultivator

63. The required progress in agriculture is unthinkable without a marked improvement in the physical and mental equipment of the peasant, and without the infusion of a spirit of enterprise in him. Not that there is something inherently wrong with the Indian peasant. Where conditions are favourable - as in the Punjab in the Canal Colonies - and a reasonable return for effort ensured, he is found to be intelligent, hard-working, enterprising, progressive and resourceful. The trouble is that the circumstances are seldom favourable. Grinding poverty, oppression and exploitation by the landlord, the usurer and the state functionaries, illiteracy, high incidence of disease, burdensome taxes and stagnant economy are hardly the conditions which can be expected to produce an intelligent and enterprising peasantry, impelled to work not by the fear of starvation by the prospect of a better life. Agrarian reform must once again form the starting-point in the transformation of the peasant. The transfer of land to the tiller, the cancellation of debts and the democratization of the state apparatus will free the peasants from the exploitation and oppression of the landlord, the usurer and the petty officials. The foundation will then be laid
for the success of other measures designed to achieve his uplift, viz., universal literacy, sound practical education in agricultural technique, facilities for artistic and scientific pursuits, an adequate and efficient modern health service—preventive as well as curative—, improvements in nutritional standards and housing conditions, popularization of organized sports and inculcation of a scientific and rational outlook. The disease-ridden, ignorant, superstitious, fatalistic and extremely conservative peasantry thus be transformed into a healthy, well-informed, rational-minded, self-reliant, progressive, energetic and enterprising farmer.

**Extension of the Sown Area**

63. So far we have considered the various methods of raising yields per acre. But increase in agricultural production may also be achieved through extension of the sown area. As explained in Ch. III, there is very considerable scope in India for the extension of the sown area through breaking in virgin land, reducing the size of current fallows and increasing the acreage sown more than once. Factors which, in spite of acute pressure on land, have prevented breaking-in of virgin lands include feudal ownership of much of such land, lack of water, lack of a determined drive by the state, and peasants' lack of resources and enthusiasm. Much of culetable wastes are owned by absentee zamindars who, as a rule quite unenterprising, take no steps to bring them under cultivation. The land tenure reform proposed by us will remove this impediment. All such land will be confiscated and will be either used to set up state farms for experimental, training, or seed multiplication purposes, or distributed among landless and land-poor peasants who will be encouraged and aided to bring it under cultivation. Where lack of water is the difficulty the remedy lies in the extension of irrigation facilities. The Plan provides for
the reclamation of 7,380.8 thousand acres, 1,416,000 acres by the State Tractor Organizations, 1,076,600 acres by private parties with State help and 36,90,400 by miscellaneous means. The total cost of the reclamation programme is estimated at Rs. 35 crores, of which Rs. 10 crores will be accounted by the C.T.O.

64. In conformity with the general line of development outlined in this study, we would suggest the following policy in respect of reclamation of land. When the virgin land exists in extensive stretches, the Government should act as follows:— When reclamation involves very heavy work, such as may be done best by tractors, it should be entrusted to the Central Tractor Organization. Some of the reclaimed land may be earmarked for the creation of state farms, the rest settled with peasants. But where reclamation may economically be undertaken even with implements and equipment worked by hand or draft cattle, the land may be parcelled out among landless or land-poor peasants from other areas, who may then be assisted by the State to bring it under cultivation. The Canal Colonies in the Punjab, the pride of Indian agriculture, were brought into being in the latter way. Where virgin land exists in small parcels in village holdings, the peasantry should be encouraged to bring the latter under cultivation by providing them with a larger supply of water from government canals and tube-wells, by helping them to construct wells, by allowing them grants or easy loans for the purchase of draft cattle, implements, fertilizers and seeds, and by exempting the newly-reclaimed land from land revenue for a specified number of years.

65. The cultivated area may also be extended at the expense of current fallows. Land is kept fallow to enable it to regain its strength through natural action. Adequate and appropriate manuring will obviate the need for this. The size of current fallows may, therefore, be cut down in favour of the cultivated area by mobilising and augmenting
the country's manural resources. Increase in the area sown more than once will also add to the net sown area. In India the extent of the former type of area is limited by the availability not of heat, but of water and manures and fertilizers. If the land could be plentifully supplied with these, it would be capable of yielding two crops in a year over the greater part of the country. The evolution and introduction of quick-growing varieties will also facilitate this development.

Agricultural Credit

66. The agriculturist needs short-term funds to finance current agricultural operations, medium-term funds for the purchase of cattle and implements and long-term finance for effecting improvements to land. A high proportion of cultivators, especially the landless and land-poor peasants who receive land in the proposed Agrarian Reform, are unlikely to possess sufficient funds for all these purposes. To enable them to improve land and cultivation, they must be provided with adequate amounts of credit on easy terms. At present there are three main sources of agricultural credit:—Government, Co-operative Credit Institutions and the private money-lender. The Provincial governments grant credit in the form of 

The Agriculturist Loans and Land Improvement Loans Acts. But the amount advanced is small. In 1949-50, only Rs. 15 crores were thus advanced*. This gives about Rs. 9.6 per head of the agricultural population. Moreover, 

are somewhat unpopular, because they are accompanied by endless delays and exactions on the part of the officials concerned and the process of collection is unduly rigid**. The Agricultural Co-operative Credit Societies are another important source of agricultural credit. The primary cooperative credit societies and the multi-purpose societies grant short-term and medium-term, while the primary land mortgage banks long-term credit. The operations of these institutions are brought out below:-
### TABLE 68: OPERATIONS OF CO-OPERATIVE CREDIT INSTITUTIONS (1949-50)

<table>
<thead>
<tr>
<th></th>
<th>Agricultural Credit Societies</th>
<th>Multi-purpose Societies</th>
<th>Primary land Mortgage Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1,16,554</td>
<td>29,525</td>
<td>283</td>
</tr>
<tr>
<td>Membership</td>
<td>48,17,545</td>
<td>15,07,801</td>
<td>1,86,330</td>
</tr>
<tr>
<td>Owned capital (lakhs)</td>
<td>1,529.33</td>
<td>...</td>
<td>60.02</td>
</tr>
<tr>
<td>Borrowed funds</td>
<td>1,992.42*</td>
<td>117.57**</td>
<td>526.09***</td>
</tr>
<tr>
<td>Working capital</td>
<td>3,521.75</td>
<td>755.48</td>
<td>586.09</td>
</tr>
<tr>
<td>Loans issued during the year (lakhs)</td>
<td>1,798.69</td>
<td>400.44</td>
<td>101.11</td>
</tr>
<tr>
<td>Loans recovered during the year</td>
<td>1,350.36</td>
<td>317.60</td>
<td>40.24</td>
</tr>
<tr>
<td>Loans outstanding at the close of the year (lakhs)</td>
<td>2,496.07</td>
<td>369.09</td>
<td>534.37</td>
</tr>
<tr>
<td>Overdues</td>
<td>335.72</td>
<td>62.43</td>
<td>5.11</td>
</tr>
<tr>
<td>Bad and Doubtful debts (lakhs)</td>
<td>15.50</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Sale of goods to members (lakhs)</td>
<td>1,552.26</td>
<td>1,397.48</td>
<td>-</td>
</tr>
<tr>
<td>Purchase of members' products (lakhs)</td>
<td>1,444.00</td>
<td>1,386.42</td>
<td>-</td>
</tr>
</tbody>
</table>


* (a) Deposits from members
  (b) Deposits from non-members
  (c) Other borrowings

** TOTAL

*** Deposits and other borrowings

<table>
<thead>
<tr>
<th></th>
<th>M. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Deposits from members</td>
<td>238.15</td>
</tr>
<tr>
<td>(b) Deposits from non-members</td>
<td>154.77</td>
</tr>
<tr>
<td>(c) Other borrowings</td>
<td>1,599.52</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,992.42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>M. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) from members</td>
<td>85.23</td>
</tr>
<tr>
<td>(ii) from non-members</td>
<td>32.34</td>
</tr>
<tr>
<td>TOTAL</td>
<td>117.57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>M. lakhs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposits and other borrowings</td>
<td>517.33</td>
</tr>
<tr>
<td>Debentures</td>
<td>8.76</td>
</tr>
<tr>
<td>TOTAL</td>
<td>526.09</td>
</tr>
</tbody>
</table>
Co-operative credit institutions cover only a small proportion of the agricultural population - their membership being 6.5 (against the total agricultural population of 249.1) million. The total amount advanced in 1949-50 was Rs. 230 million, which gives less than Re.1/- per head of the agricultural population. In most cases the interest rates charged are rather high. In 1949-50, the rate of interest charged by agricultural credit societies was as high as 12½% in West Bengal, 12-15% in Uttar Pradesh, 6½ - 13⅓% in Bihar, 8-12½% in Orissa, 12-12½% in Assam, 6-15% in Madhya Bharat, 7⅓-12½% in Rajasthan, 8-12½% in Pepsu, 9-12½% in Himachal Pradesh and 12% in Vindya Pradesh. The conduct of societies is none too satisfactory. In the audit classification of primary societies the bulk of them continue to belong to 'C' class in most of the states*. The percentage of 'A' and 'B' class societies in West Bengal, Bihar, Uttar Pradesh and Hyderabad is as low as 0.6, 2.6, 0.4 and 2.2, respectively. The societies have failed to promote thrift on the part of their members. The aggregate of the societies' owned funds and deposits from members form only a small proportion of their total working capital. The primary societies, therefore, mostly lend funds deposited by non-members or borrowed from secondary co-operative societies. These societies are in fact quasi-co-operative in character. The secondary institutions - co-operative central banks and unions and provincial co-operative banks - are quasi-co-operative even by constitution. Their membership includes individuals as well as co-operative institutions. In many of the Part 'C' and the newly integrated Part 'B' States the secondary institutions are non-existent. The mortality rate among primary societies is quite high**. A high proportion of the loans outstanding are overdues. Since

* Reserve Bank of India, Review of the Co-operative Movement in India 1948-50, 1952, p. 196
** Ibid., p. 17
*** Ibid., p. 198.
Cf. Table 68 above.
that, theoretically, co-operative societies constitute the most appropriate agency for rural credit, but that there was little chance of their being able to meet all the requirements of credit-worthy agriculturists in the near future and that it would be difficult to link the co-operative organizations with non-members. Accordingly, they recommended the establishment of an Agricultural Credit Co-operation for each State, except where the co-operative agency was sufficiently developed to undertake all the work expected of the Corporation. The Corporation would be an autonomous institution, half the capital provided by the State, the other half by joint stock banks, co-operative institutions, etc. there being no individual shareholders. It would provide finance to co-operative societies where central financing institutions did not exist. It would supply mortgage credit directly to individual agriculturists. But intermediate and short-term credit based generally on personal security, or statutory first charge on the crop, could be provided only through co-operative societies or other 'borrowers' group'. The rate of interest charged would not exceed 4% for mortgage and 6% for other types of credit. The State would have to subsidize such Corporations to enable them to supply credit at these rates, and to establish 'uneconomic agencies' in certain areas. The Corporation would not compete with, it would rather try to co-ordinate its activities and those of co-operative and other institutions.

The Co-operative Planning (Saraiya) Committee of 1946, largely reflecting the views of the co-operators, however, was highly critical of the above proposal on the following grounds: (a) Should the co-operative financing agencies such as the provincial and central banks be provided with the financial resources and assistance contemplated for the corporations, they can equally meet the requirements, with

the additional advantage that they are already established and have some organization in the field. (b) The co-operative agency can draw to a considerable extent on the services of honorary workers, thus keeping the administrative expenses low. (c) By attracting deposits, the co-operative agency will at the same time serve to promote and mobilize rural savings. (d) It is undesirable to have two alternative credit agencies working in the same field with state support and assistance; the competition between the two is likely to hamper the development of the co-operative agency. (e) Even when the corporations are set up, except for well-to-do individuals who may be able to deal with them, the primary organization for the disbursement of credit would have to be co-operative societies or borrowers' groups. The Sarayya Committee, therefore, advocated reliance on the co-operative agency, and suggested that to develop this the measures and types of aid recommended for the proposed corporations should be given to the co-operative financing institutions*. The consensus of opinion among those connected with the co-operative movement and rural finance seems to favour the Committee's view, though it is felt that in areas where the co-operative financing structure does not obtain or cannot be developed easily, state corporations or agricultural banks are necessary**. This is also the view of the Rural Banking Enquiry Committee***.

Similar differences of opinion exist regarding the machinery for long-term credit. The Gaigil Committee recommended that long-term credit on the mortgage of land should be increasingly supplied for productive purposes, and that where land mortgage banks exist, they should serve as the agency for this; where they do not, the proposed agricultural credit corporations would be the most suitable agency. It held that the provision of all types of credit

** Ibid., p. 48.
*** Ibid., p. 49.
by a single agency would lead to better co-ordination of credit. Dr. Baidu, in his report on Rural Indebtedness in Madras Presidency (1946), recommended the replacement of the present co-operative land mortgage banks by government-owned banks, with a view to the avoidance of delay and red tape, and the reduction of costs. The Bombay Agricultural Credit Organization (Nanavati) Committee (1947) and the 15th Registrars' Conference have pronounced in favour of the maintenance and improvement of the existing institutional arrangements. Both have expressed themselves against the merging of institutions providing short and intermediate credit with those providing long-term credit, mainly because the funds for long-term credit are to be separately raised, chiefly by debentures, and that a special procedure such as the examination of the title of the land, its value, etc. is necessary for making long-term loans. It was claimed that even if the same institution provides long-term mortgage as well as other credit, the two activities would have to be administered by separate departments.

The Rural Banking Enquiry Committee (1950) has endorsed the view of the Gadgil Committee that the commercial banks can and should play an important part in the rural credit organisation. They already play a significant part in the finance of the marketing of agricultural produce; they could do this 'to a much greater extent than at present, when a number of regulated markets are established, the grading and standardisation of agricultural produce are developed and satisfactory warehousing arrangements are made'. With the extension of their branches to small towns, they should in due course be able to play a greater part in providing 'advances against produce, loans for the purchase of expensive equipment such as electric pumps and oil-engines, and loans on the security of gold, etc.' The Committee felt that both in respect of functions as well as clientele, there can be a broad division of labour between commercial banks, and their activities thus co-ordinated.

* Report, pp. 50-51.
As regards the private money-lender, agriculturist, or otherwise, the Rural Banking Enquiry Committee was of the view that 'although in the long run he is to be replaced by institutions, his presence has to be tolerated as a necessary evil for many years to come'. The Committee disapproved of such legislation as would drive a large number of money-lenders out of business, or encourage them to resort to evasive practices, resulting in restricted or costlier credit, particularly to the small agriculturist.

68. The Plan sets the following targets for 1955-56 in respect of the annual supply of agricultural credit by the government and the co-operative agency: short-term credit, A. Rs. 5 crores. It considers co-operatives as the most suitable agency for providing agricultural finance, and recommends that even the State loans for development purposes should be distributed through such societies. The State should aid these societies, as is being done in Bombay, to meet the requirements of potentially credit-worthy borrowers. Till the co-operative societies are able to build up adequate funds of their own, assistance from the Reserve Bank would be necessary. The Plan notes that an important step in that direction has been recently taken by allowing the Bank to provide accommodation to the State Co-operative Banks for the finance of seasonal agricultural operations and the marketing of crops at 1½% (i.e. 2% below the Current Bank Rate), and by extending the period of repayment to a maximum of 15 months. Consequently, there has been considerable increase in Reserve Bank advances to these Banks, mainly to those of Madras and Bombay. The Plan has suggested that for the time being the State governments should, if necessary, guarantee repayment of the amount advanced by the Reserve Bank to the apex Banks. The Government should also subscribe part of their capital.

The Plan suggests that in order to enable the co-operative societies to extend medium-term credit, the Reserve Bank should

* The Plan, Ch. 16, Paras. 13,15 and 16.
** Ibid., Para. 5
*** Ibid., Para. 10
also be empowered to make medium-term advances to them. The Reserve Bank is reported to have agreed to do so up to a limit of Rs. 5 crores*. The Plan expects that larger short-term accommodation from the Bank will also release some of the medium-term funds of the co-operative movement. The Plan suggests that henceforth the land mortgage banks, which grant long-term credit, should lay emphasis on loans for increased production. The Plan provides Rs. 5 crores spread over the next three years, to supplement the long-term resources of the co-operative movement.

The Plan lays due emphasis on the proper training for all grades of administrative, managerial and field staff in the co-operative departments and institutions. It provides Rs. 10 lakhs to set up 3 or 4 colleges for this purpose**. It suggests that training of subordinate staff should also be arranged for.

69. The institutional machinery for the supply of credit should conform to the precise requirements of the contemplated agriculture set-up. This study visualises that in the First Stage the agricultural population will be comprised of a mass of small holders. Cultivation will be mostly individual, but a system of common labour will be instituted by encouraging the peasants to unite in mutual aid teams. Mostly hand- or cattle-worked equipment, owned by individual peasants or mutual aid teams, would be used. There will be a restricted use of power-driven machinery, mostly government-owned. Sometime in the Second Stage, when general mechanisation of agriculture becomes feasible and necessary, there will be a mass amalgamation of small individual holdings into large co-operative farms. That being the contemplated course of development, we draw the following conclusions.

(a) Land mortgage banks will be unnecessary. These banks are best suited to meet the credit requirements of large

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*Ibid., Para. 14
**Ibid., Para. 8
landholders; but after the suggested land tenure reform, few such landholders will be left. They are best suited to the grant of substantial loans for the redemption of high-interest past debts owed to private money-lenders, or for the purchase of costly equipment. But we visualize that debts owed to private money-lenders will be largely/or greatly scaled down and made payable in easy instalments. There will, therefore, be no need for a specialized agency to advance money to the debtors to pay off private money-lenders. In fact it is impracticable for any such agency to take over the agricultural debts, running into hundreds of crores of rupees, owed to private lenders. And since state ownership of power-driven agricultural machinery is contemplated, there is no need for a specialized agency to advance money to agriculturists to enable them to buy costly equipment. Finally, in a society which strives to provide the tiller, and keep him provided, with land, the appropriate security for credit should be not land but the crops produced. Accordingly, banks lending against the security of land will in such a society be rather misfit. Land mortgage banks are in fact suited to agriculture based on capitalist farming. Since we do not contemplate development of this type of farming, we see no place for them in the visualized set up.

(b) No conceivable development of co-operative credit can possibly meet the requirements of the agriculturist in the desired measure for some years following land tenure reform. There are two pre-requisites of rapid development of co-operative credit: social and economic equality, and community of purpose among the agricultural population, and a sound structure of primary institutions. The proposed agrarian reform by liquidating feudlalism and transferring the land to the tiller will surely satisfy the first condition. But the fulfillment of the second condition is equally necessary. The Rural Banking Enquiry Committee has very appropriately commented: 'In any scheme for the setting up a sound and
efficient system of agricultural finance, sufficient emphasis must be laid on the building up of a sound structure of primary institutions — whether co-operative credit societies or multi-purpose societies,... The weakness of the co-operative structure seems to be mainly in these institutions where it comes directly into contact with the rural people rather than in the superstructure. But a sound structure of primary co-operative credit institutions implies a membership whose incomes provide a margin for saving, so that the primary societies may raise adequate funds from their membership and the borrowing agriculturists should be able to service the loans out of their income. But vast numbers of the landless and land-poor peasants getting land from the agrarian reform, would not have that much income. The co-operative credit movement can, therefore, be expected to make rapid progress only after agricultural progress has brought about an appreciable increase in the income of the peasantry. Clearly in the period immediately following the land reform, chief reliance for the supply of agricultural credit must be placed on some other than the co-operative credit agency. We consider that in this period government loans must play an important part in supplying agriculturists' needs. These may best be provided in the form of taccavi loans. But to make them fully effective, the administration of these loans must be freed from the defects pointed out earlier.

(c) Strong multi-purpose societies, able to employ competent staff, each serving a group of contiguous villages, appear to provide a sound base for the co-operative structure. The transformation of co-operative credit societies into multi-purpose societies, which is being currently attempted in several States**, thus appears to be a step in the right direction. But we must caution those concerned against forcing the pace of this development.

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it would be dangerous to try to pass over from co-operative credit to multi-purpose societies at a single jump. For a co-operative society’s failure to perform any one of its functions efficiently may wreck it entirely. The change-over should, therefore, be spread over a period of time. The co-operative credit societies should be enabled to grow into full-fledged multi-purpose societies by progressively taking on additional functions as they make themselves capable of efficient discharge of the latter. Similarly, when setting up a new society it would be wrong to try to create a full-fledged multi-purpose society at once. We know of cases where the attempt to form a co-operative society had to be abandoned because the inspecting staff insisted on a full-fledged multi-purpose society straightaway while the village people were yet prepared for only a credit society. To begin with, a new society should have only one or two functions, e.g. credit, marketing, supply, etc. As and when it begins to perform these efficiently, more functions should be added. A full-fledged multi-purpose society should be the objective and not the starting-point.

(d) The private money-lender has no place in the proposed socio-economic set-up. The objective would be to make the state and the co-operative agencies take his place as quickly as possible.

Remunerative Prices

70. The agriculturist should be guaranteed a remunerative price for his produce. 'The guarantee of an assured market for agricultural produce at a remunerative minimum price,' observes the Prices Subcommittee, 'constitutes..... an essential part of a nation-wide drive to raise agricultural productivity and output.... In the absence of any effective measures to stabilise prices at economic levels, the producer will have to
suffer the penalty of receiving uneconomic prices for the produce he markets, in return for his enterprise in increasing the productivity of his land. This anomalous state of affairs can be rectified only by guaranteeing him minimum floor prices for his produce*. Guaranteed minimum prices provide him both with the means and the incentive to increase output. In a decentralized, small-scale peasant economy, price policy also can serve as an important instrument for crop planning.

71. Agricultural prices should be held within the range which would be fair both for the producer and the consumer, i.e. should, in the interest of the producer, not be allowed to fall below a given level, and, in the interest of the consumer, should not be allowed to rise above a specified level. This range may be fixed with reference to that the Prices Sub-Committee called Fair Price Parity. The Sub-Committee defined a fair price as one which covers his \[ the agriculturist's \] cost of production and leaves him a net income which is approximately equivalent of the income obtainable in other comparable occupations, so as to provide him with an incentive for expanding production**. The fair price must naturally be related to prices of non-agricultural goods which enter into the agriculturist's cost of production or his cost of living, and to the charges that he bears on account of water-rates, land revenue, interest on co-operative or government loans, etc. Normally the minimum price should be equal to fair parity price while the maximum price may be fixed at 25% higher. Where minimum price is too high for certain categories of consumers, consumption may be subsidized. The minimum prices should be announced well in advance of sowing operations and remain unaltered during the crop-year. To induce the agriculturists to undertake long-term investments, guarantees should be periodically given that during a specified future period, the minimum prices should under no circumstances be permitted

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* Govt. of India, Report of the Prices Sub-Committee of the Policy Committee on Agriculture, Forestry, and Fisheries, 1946, pp. 11-111.

** Ibid.
to fall below a specified level. Initially the policy of price fixation should apply only to principal food-grains, jute, sugar-cane etc. In due course, less important crops may also be brought within its operation.

72. The maintenance of agricultural prices within the desired price-range necessarily involves the elimination of wide and frequent fluctuations in agricultural prices, such as have occurred in the past. Given below, for instance, is the course of agricultural prices between Sept. 1949 and March, 1952.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Rice</th>
<th>Wheat</th>
<th>Gram</th>
<th>Tea</th>
<th>Gour</th>
<th>Cotton raw</th>
<th>Jute raw</th>
<th>Wool raw</th>
<th>Oil-seeds</th>
<th>Tobacco leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-dev.</td>
<td>498</td>
<td>544</td>
<td>318</td>
<td>385</td>
<td>328</td>
<td>412</td>
<td>474</td>
<td>377</td>
<td>644</td>
<td>644</td>
</tr>
<tr>
<td>Pre-valuation</td>
<td>501</td>
<td>515</td>
<td>345</td>
<td>432</td>
<td>485</td>
<td>440</td>
<td>479</td>
<td>597</td>
<td>657</td>
<td>1003</td>
</tr>
<tr>
<td>Korean (Sept.17)</td>
<td>553</td>
<td>591</td>
<td>381</td>
<td>406</td>
<td>307</td>
<td>491</td>
<td>1400</td>
<td>907</td>
<td>718</td>
<td>1314</td>
</tr>
<tr>
<td>Korea (June 24, 50)</td>
<td>541</td>
<td>512</td>
<td>381</td>
<td>361</td>
<td>250</td>
<td>504</td>
<td>811</td>
<td>433</td>
<td>602</td>
<td>902</td>
</tr>
<tr>
<td>Post-Mar.29 (Apr. 14, 51)</td>
<td>521</td>
<td>501</td>
<td>350</td>
<td>217</td>
<td>134</td>
<td>415</td>
<td>590</td>
<td>335</td>
<td>423</td>
<td>902</td>
</tr>
<tr>
<td>Percentage of variations over Jan.26</td>
<td>10.4</td>
<td>14.8</td>
<td>10.4</td>
<td>-6.0</td>
<td>-57.1</td>
<td>11.6</td>
<td>192.3</td>
<td>51.9</td>
<td>9.3</td>
<td>31.0</td>
</tr>
<tr>
<td>5</td>
<td>-5.8</td>
<td>-15.2</td>
<td>-8.1</td>
<td>-46.6</td>
<td>-36.1</td>
<td>-15.5</td>
<td>-57.9</td>
<td>-63.1</td>
<td>-41.1</td>
<td>-31.4</td>
</tr>
<tr>
<td>5</td>
<td>3.7</td>
<td>2.1</td>
<td>8.1</td>
<td>-39.9</td>
<td>-46.4</td>
<td>-17.7</td>
<td>-27.3</td>
<td>-22.6</td>
<td>-29.7</td>
<td>-25.8</td>
</tr>
</tbody>
</table>

Thus in just two months, i.e. between January 26 and March 29, 1952, the price of gram fell by 8.1 %, of raw cotton by 17.7 %, of raw wool by 22.6 %, of tobacco leaf by 25.8 %, of raw jute by 27.3 %, of oil-seeds 29.7 %, of tea 39.9 %, and of gour by as much as 46.4 %. Price fluctuations of this
order are inconsistent with a determined drive for increase in agricultural production. It is imperative first to attain and then to maintain the desired range of agricultural prices. Success in this field requires the attainment of a stable, dynamic equilibrium between the supply of and the demand for agricultural products at the desired price level. Since we contemplated expanding agricultural production, dynamic equilibrium involves that the continual shift in the supply of produce is offset by a proportionate shift in the demand curve.

As the supply curve shifts from $S_1$ to $S_2$, and from $S_2$ to $S_3$, its depressive effect on price is neutralized by the shift of the demand curve from $D_1$ to $D_2$, and from $D_2$ to $D_3$, with the result that the price level remains unchanged (i.e. $P_1M_1 = P_2M_2 = P_3M_3$)

73. Stable dynamic equilibrium requires stable supply and demand, for it is not easy to offset wide fluctuations in one by opposite fluctuations in the other. To stabilize the supply of agricultural produce, the influence of the natural factor on production should be reduced to the minimum. Extension of irrigation facilities, prevention of floods, eradication of pests and diseases, etc., are some of the measures that may be taken to that end. But no amount of human action can make agricultural production completely immune from the whims of Mother Nature. Actual output will, therefore, seldom be equal to the planned output. Supply may, however, be stabilized in the face of fluctuations...
in output by maintaining and manoeuvring reserves. When actual output falls short of the planned target, the reserves may be drawn upon, and when it exceeds the latter, they may be added to. Finally, the maintenance of a stable parity between different agricultural prices will rule out wide fluctuations in the area under different crops. If necessary, the area under different crops may also be directly controlled. State trading will facilitate stabilization of prices. When the government exercises a monopoly, it can maintain the desired price by buying and selling at that price. But where private trade is also allowed, the movement of prices beyond the desired range may be prevented by the state undertaking to buy and sell unlimited quantities at the ceiling and the floor prices, respectively.

Stable demand in the context of expanding agricultural output means a continuously expanding market for such output. The contemplated steady rise in living standards and the expansion of business activity in the non-agricultural sector will be the most important factor creating a continuously expanding market for food and raw materials. Other steps may, however, be taken to the same end. Since in normal peace-time conditions economic activity in the countries of private enterprise is subject to wide fluctuations, India's present dependence on these countries for providing a market for her exportable surpluses should be reduced. India should direct a larger proportion of her exports to the Soviet Union, China, and the People's Democracies of Eastern Europe which, (since they have stable, expanding economies) can be counted upon to provide a stable, expanding market for India's export products. India should support all international measures to stabilize the prices of staple products at levels fair alike to exporting and importing countries. Such imports of agricultural products as discourage domestic production should be discouraged. Speculative activities and hoarding should be reduced to the minimum through, inter alia, developing co-operative and state trade. If (at the desired price) the demand is too high, rationing may be introduced.
74. The policy of ensuring prices fair both to the producers and the consumers of agricultural produce requires that the margin between the prices paid by the latter and received by the former should be reduced to the minimum. Currently this margin is unreasonably wide, due to heavy transport charges, multiplicity of intermediaries, heavy market charges and the tendency of prices to fall at harvest time and to rise thereafter. The agriculturist is also cheated by the dealers through various fraudulent practices. The remedies are: improvement of communications, the establishment of regulated markets, the promotion of co-operative marketing and state trading, and the supply of easier credit to the peasant to increase his holding power. The need to reduce transport charges is one of the reasons for the emphasis laid in this study on the construction and improvement of village roads during the first stage of industrialization.

Several states have enacted legislation providing for the establishment of regulated markets. This legislation provides for the constitution of market committees, comprised of the representatives of growers, arhatias, government, etc. to administer the mandis; standardization of market practices, marketing charges and weights and measures; licensing of weighmen and brokers; and the suppression of various fraudulent and undesirable practices. The UP, West Bengal, Bihar, Orissa, and some other states, however, do not have regulated markets. Even in some of those states which have enacted Agricultural Produce Markets Acts, a large number of markets continue to be unregulated. There is the need to make such legislation universal and sufficiently comprehensive. The Plan contemplates regulation of all important markets in the States by 1955-56. But perhaps the most important measure to improve marketing is the promotion of co-operative marketing and state trading. In China, for instance, the development of supply and marketing co-operatives in the villages and the development of state trading at the wholesale

* See Para. 123 below.
level have increasingly obviated the need for middle-men. The post-liberation period has been marked by a great flowering of the co-operative movement. The membership of the co-operatives has increased from 5 million in 1949* to 106 million in August 1952**. The supply and marketing co-operatives form by far the largest number of co-operatives. In Nov. 1951, they accounted for 86.7% of the co-operative societies and 84.3% of the co-operative membership***.

These co-operatives sell the farm products as well as the products of the handicrafts and subsidiary occupations of their members. They also supply the members with farm implements, fertilizers and seeds, insecticides and consumer goods. The co-operatives mostly sell the produce to the state trading organizations and buy their members' requirements from the latter. They thus serve as a useful link between the state economy and the decentralized economy of millions of peasants. This makes it possible to bring even the decentralized sector within the orbit of the national plan. The development of these co-operatives is fostered in several ways. The state trading organizations supply them with low-priced consumer commodities and give them priority when purchasing farm-products. Low-interest loans are extended to them by the state banks. They are allowed a tax rebate of 20% over other enterprises. Free remittance services and reduced charges on farm insurance are other privileges allowed to them.

75. In India co-operative marketing has made only very limited progress as yet. This is brought out below:

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** *People's China*, No. 17 (1952), Sep. 1, 1952, p. 30
*** Chang Chia-chie, op. cit., p. 10.
Co-operative marketing societies as yet handle only a small proportion of the total farm produce and an even smaller proportion of the rural population's purchases. While these societies have made sizable progress in Bombay, the UP and Madras, and some progress in Mysore, Coorg and Bihar, elsewhere they are either non-existent or insignificant. In Madhya Pradesh, Hyderabad and Pepsu, where these societies are found to have a large turn-over, they have been mainly concerned with the distribution of controlled and rationed articles or the procurement of foodgrains, and very little attention has been paid to marketing proper. In States where the movement has made greater progress, marketing societies are mostly single-commodity societies such as

Reserve Bank of India, Review of the Co-operative Movement in India 1949-50, 1952, p. 82.
cotton sale societies in Bombay, sugar-cane societies in the UP and Bihar, etc.*. Thus, unlike the supply and marketing co-operatives in China, they do not seek to market every type of produce of their members or to cover a wide range of the latter's requirements. The constitution and working of the apex marketing societies is far from satisfactory. They are not apex societies in the sense of being exclusively federations of marketing societies operating in the State, for they also admit individuals to their membership. Some of them are engaged mostly in the distribution of controlled and rationed articles and have not interested themselves in their role as a central agency for the marketing of the produce of their member societies and for co-ordinating the activities of individual societies in the respective states**. The storage facilities at the disposal of marketing societies are very limited and unsatisfactory. So far the societies have paid little attention to pooling, grading and processing of their members' produce***.

76. Since the agriculturist at present has very little holding power, markets are liable to be glutted in the period immediately following the harvest. This unduly depresses the price of produce at this time. Thereafter the prices have a rising tendency. The gain accrues to the private dealer who buys up when the prices are depressed, and sells off when they subsequently rise. An efficient system of credit which increases the peasants' holding power and a government guarantee to buy unlimited quantities at a minimum price will do away with this defect in the system of agricultural marketing. An integrated structure of co-operative marketing is very necessary to ensure orderly marketing and obviate the necessity for middle-men. The best results are likely to be obtained if credit, marketing and supply are entrusted to a single agency. There should be a pyramid of co-operative institutions, with primary multi-purpose societies at the bottom, Provincial or State Societies at the top, and Unions in between. In due course even an All-India Federation of Co-operatives may be set up. The societies higher up in the pyramid will finance those

* Ibid. ** Ibid., p. 85. *** Ibid., p. 86.
below them, co-ordinate their activities, market their produce, and provide them with goods required by their members. The creation of such a structure of co-operative institutions, free from their present defects noticed, would be an important step to agricultural progress.

77. The satisfactory development of co-operative marketing requires, first, that the hostility of private trade to co-operative marketing societies should be overcome. Secondly, such societies should be provided with adequate working capital. In India, buyers usually make payments after a time lag, so that co-operatives which do not dispose of sufficient funds have to keep the amounts due to sellers outstanding. Thirdly, where the produce requires processing, facilities therefor should be provided by the co-operative agency. The Plan suggests that the processing plants established in future should be owned by co-operative societies. The Central and the State Industrial Finance Corporations should provide finance to these societies for the purpose. Where the commodity does not need processing, the marketing societies should directly deal with consumer co-operatives.

Fourthly, marketing societies should have adequate share capital. For their capacity to borrow from the Apex Bank and the Reserve Bank for financing marketing operations depends upon their capital structure and owned reserves. Fifthly, adequate storage facilities should be provided in the mandis. The co-operatives should preferably have their own storage facilities. The States should grant loans and subsidies for the purpose. There is urgent need in the country for the establishment of licensed warehouses. This will facilitate the grant of credit by the Reserve Bank for the finance of marketing operations as the warehouse receipts would be acceptable as collateral to the borrowing societies' promissory notes. Several States have enacted Warehousing Acts. But the latter, being only

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* The Plan notes (Ch. 17, Para. 8) that the entry of a co-operative even as an agent is not favoured by the Trade. The latter sometimes boycotts sales through the co-operative agency.

** The Plan, Ch. 17, Para. 17.
enabling measures, have not succeeded in promoting the actual establishment of licensed warehouses*. States should also grant long-term loans for the purpose. Finally, to enable the peasant to get good prices for his produce, grading should be popularised. Grade standards are also necessary as a basis for the issue of negotiable receipts by ware-houses and for an economical use of storage facilities. Grading helps exports. The *plan promises that wool, bristles, lac, sheep- and goat-skins, cashew-nuts, vegetable oilseeds, oils, etc. will be brought under compulsory grading, in successive stages. As a result of grading, the export value of the above items is expected to rise by 8 to 10 crores.

78. If the various measures suggested in this study to increase agricultural output are carried out, India can attain self-sufficiency in foodgrains, raw cotton and raw jute within 3 to 5 years. The large amounts of foreign exchange now being spent on the import of these items will thus be released for the import of capital goods and technical skill. India could then embark on the Second Stage of industrialization, viz. that of rapid expansion of heavy industry. This will, in due course, provide resources for the technical reconstruction of the agricultural economy which will further push up agricultural output. The immensity of the scope for increase in agricultural output is indicated by the fact that even today China with a cultivated area of 245 million acres** (as against 324 million acres*** in India) has attained self-sufficiency in foodgrains and raw cotton even though her population exceeds India's by some 11 crores. There is no reason why India should be incapable of attaining yields per acre equal to China's; soil and climate in this country are in no way inferior.

* The *Plan, Ch. 17, Para.14.
** Ka Chia-Lung, *op.cit.*
*** The *Plan, Ch. 9, Para. 2.
II. FORESTRY

79. India's forests are a valuable economic asset. They provide timber and firewood, raw materials for several industries, hay-making and grazing facilities*, and herbs, fruits, barks, fibres and gums. They induce rain, act as wind-breaks, prevent dessication and erosion of the soil, check floods, beautify the country, make the climate more equable, and help in national defence. India's forest area is estimated at 130 million acres, i.e. 19.2% of the total area of the country**. For a densely populated country, this percentage is not very low. But the bulk of this area consists of just unproductive waste-land. Some 40 million acres of this land belonged to zamindars. Since the zamindari Abolition legislation transfers this land to the State, the former owners in anticipation of the transfer, tried to benefit by felling as large a number of trees as possible***. There had also been excessive felling of trees during the War. Moreover, the forest area is very unevenly distributed over the country. In the Indo-Gangetic basin the percentage of area under forests is very considerably below the national average. It is the paucity of firewood in this area which makes the consumption of cow-dung as fuel about the highest in India.** There is thus the need for the extension of the forest area in parts of the country where it is inadequate. Special emphasis should be laid on village forests, for they alone can help to put an end to the use of cow-dung as fuel. Village plantations should be established on unculturable waste land and along the banks of rivers, canals, roads, and railways. The peasants may be encouraged to plant saplings at suitable points on their holdings or on sub-marginal lands.

** The Draft Plan, 1951, p. 129.
*** The Plan, Ch. 21, p. 2.
* According to the Plan grazing in State forests provides fodder to 13 million cattle (Ch. 21, Para. 20).
• The Draft Plan, pp. 129-30.
*** Ibid., p. 130. The Plan puts the per capita availability of fuel wood in the country at just 0.02 tons per annum. (Ch. 21, Para 6).
The forests also need to be qualitatively improved in order to make them more productive. After a survey of the available waste-land to determine a system of balanced and complementary land use, a comprehensive programme of forest development, especially of reafforestation, should be launched. The Forest Policy Resolution of May 12, 1952, lays down that one-third of the total area should be under forests. It recommends that 60 ft. of the area in mountainous tracts and 20 ft. in the plains should be under trees. Scope for improvement in the production of forest produce in a more efficient way may be a great fillip to forestry.

The development of industries using forest products as raw material (e.g. plywood, paper, rayon, etc.) will lend a great fillip to forestry. The pulp required for staple fibre and rayon is imported from abroad. Pulp can be produced from the Himalayan soft woods. The annual supply of fir logs on the Himalayas is estimated at 1.8 lakh tons. The forest tribes should be educated, organised, preferably on a cooperative basis, and financially aided to under take the collection and utilization of forest produce in a more efficient way. The scope for increase in the production of lac and shellac is great.

At present the right to exploit forests is usually auctioned to contractors who ruthlessly exploit the ignorant,backward, or poor forest tribes. Industrialization will involve a mounting scale of capital construction. This will call for larger output of timber - an essential construction material. Suitably treated timber can help to economize steel. Since lumbering admits of both highly labour-intensive and capital-intensive methods, a rapid increase in timber output can be achieved immediately by employing more men and in the later stages by employing more machinery. The Plan contemplates an increase of one lakh tons in the availability of timber by 1955-56. It estimates that an additional one lakh tons may be obtained by developing the Andamans and one lakh tons through systematic exploitation of zamindarl forests.
In most lumbering areas, it should not be difficult to draw more labour into the industry, for the local inhabitants do not have much to do over a good portion of the year. Larger transport facilities will, however, need to be provided to move timber to the consuming centres. Such facilities are also needed to reduce the wastage of timber through fungal decay and insect attacks. Construction of small hill and forest roads with the help of locally available man-power and a more efficient utilization of inland water-ways would help to solve this difficulty. Extension and improved exploitation of forests can thus make an important contribution to larger employment and income.

III. FISHING

81. Fuller and more efficient exploitation of the country's fish resources offers sizable opportunities for increased employment and income. At present India exploits only a fraction of her fish resources. In the case of sea-fisheries, only the coastal waters are fished; there is little off-shore fishing, mainly because the small country craft cannot operate beyond a few miles off the shore. Likewise, in the case of inland fisheries, only a fraction of the total water area of 15 million acres is developed*. Currently the availability of fish is only lbs. 3.4 per annum per capita (lbs. 4.94 allowing for non-eaters)**. 70% of this is sea fish and 30% fresh water fish. The Plan expects the output of fish to increase from one million tons in 1950-51 to 1.5 million tons in 1955-56. Six million tons are estimated to be required for providing a balanced diet to the population***.

* The Draft Plan, p. 136
** The Plan, Ch. 23, Para. 5. The requirements of a balanced diet are put at 50 lbs. per capita per annum of fish and/or meat.
*** The Plan, Ch. 23, Para. 28.
During the First Stage the main emphasis should be on the development of inland, estuarial and coastal fisheries. The fullest development of deep-sea fishing would become practicable only in the subsequent Stages, when reliable data regarding location of fishing-grounds have been collected, when India is herself able to build trawlers, when facilities for the training of fishermen in deep-sea fishing have been created, and when the country can afford to undertake the more capital-intensive investment involved in trawler fishing. To develop fishing in inland, estuarial and coastal fisheries, the following steps may be taken:

(a) A rapid survey should be undertaken to determine the culturable waters and to investigate fish-seed resources for large scale stocking operations. (b) Measures should be taken to prevent the wastage of fingerlings and fry during their transport in connection with stocking operations. (c) Tanks and beels selected for pisciculture should be improved. The destruction of water hyacinth is particularly urgent. (d) Reservoirs formed in consequence of the execution of the multi-purpose projects should be used for fish-culture. (e) Scientific cultural practices should be adopted. (f) The fishermen should be organized on a co-operative basis. Currently they are exploited by middlemen on whom they depend, both for the supply of their requirements - boats, nets, yarn, soil cloth, etc. - and for the marketing of their catch. Co-operative organization, liberal state aid, and facilities for the acquisition of essential requirements, will enable fishermen to increase their income by producing more and retaining much higher proportion of their earnings. (g) Landing facilities should be provided along the coast for all type of craft. (h) The market for fish should be extended by providing quicker transport and refrigeration facilities. (i) Private proprietorial rights over inland waters should be extinguished for these hamper fish culture. This will be done by the contemplated land reform. (j) Suitable culturable waters should be selected for intensive development.
there is a deficit of fish seed resources, supplies should be arranged from surplus areas where large-scale production of fish seed should be encouraged. (k) Where feasible, fishing operations may be mechanized, either by using mother ships to tow or carry the small craft used in India, or by introducing small mechanized vessels like those used in Madras and Bombay of late. The fishermen may thus be enabled to reach the areas outside the range of existing craft and to fish for longer hours. (l) Over-fishing should be prevented. (m) The quality of preserved fish should be raised through improvements in fish curing.

IV. MINING

83. In 1949–49 mining engaged (as principal earners and working dependants) 633,000 persons, and accounted for a net income of Rs. 60 crores*. Coal mining accounts for the bulk of labour force engaged in, as well as the net income produced by mining. India's national interest requires that as a rule India's mineral resources must feed her own industries and not be exported. Mining development must, therefore, be linked to industrial development and not to export possibilities. India's mining industry has at present very low productivity. In the United States, in 1951, the 917,000 persons engaged in mining produced a net income of $4,576 million (Rs. 2180 crores at the current rate of exchange)**. Thus with about 45% more labour force, US mining industry produced 36 times the net income of Indian mining industry in 1948–49. Clearly, the required increase in mineral output must be obtained, not by further increases in mining labour, but by higher labour productivity through progressive mechanization and rationalization of mining operations. In this sector, from the very beginning, increase in income must be attained through more efficient and not larger employment.

* The data on net national income produced by mining for subsequent years are not yet available.
Next to agriculture, construction provides the greatest scope for the employment of idle labour-power. The high rate of investment required by industrialization necessarily involves a high level of construction activity. Over a wide range of construction work, both labour-intensive and capital-intensive methods are feasible. The choice of appropriate methods at any particular time should depend upon the relative supply of labour and capital. Since to begin with, development has to proceed under conditions of a glut of labour and paucity of capital, labour-intensive methods should be the obvious choice. Furthermore, till the amplitude of the seasonal demand for labour in agriculture is greatly narrowed down, the volume of idle labour during the slack season is likely to be very large. If construction activity could employ this idle labour, the scale of capital construction and the national income would greatly benefit. This would require great expansion of construction activity during the agricultural slack season, and its curtailment during the busy season. But this would be economical only if labour-intensive methods are used. For if capital-intensive methods are used, lots of equipment will remain idle over a good portion of the year. Moreover, the millions who take to construction work only during the slack agricultural season cannot possibly handle complicated machines and equipment. To employ their labour, relatively simple construction methods must be adopted. For the present, labour-intensive methods are the most appropriate. We can, therefore, look to expansion of construction activity to provide a major field for the employment of idle manpower.

Gradually, as the supply of capital relatively to labour improves due to the progress of industrialization, construction should change over to capital-intensive methods. The mechanization of agriculture, by reducing fluctuations in the seasonal demand for labour, would
obviate the need to adopt simple, labour-intensive construction methods to make possible the absorption of surplus agricultural labour during slack seasons. Construction activity would then proceed at an even pace throughout the year. This would make possible the full utilization of the available machines and equipment. From then on, the required expansion in construction activity would be achieved mainly through rising labour productivity.

VI. COTTAGE AND SMALL-SCALE INDUSTRY

86. Cottage industries are generally associated with agriculture, provide subsidiary employment in the rural areas, involve operations mostly by hand, and are carried on primarily with the help of the members of the family; the small-scale industries are mainly located in urban or suburban areas as separate establishments, produce with partially or wholly mechanized equipment, and employ hired labour. The Fiscal Commission distinguished between cottage and small-scale industries mainly the ground whether or not they employed hired labour.

87. During the first stage, cottage and small-scale industries must play a very important part in the expansion of national income through fuller employment of the available labour-force. The case for these industries may be briefly stated as under:

(a) The prevalent capital poverty and over-abundant supply of labour fully justify labour-intensive industries at present. The small enterprises and hand trades currently employ far larger numbers than mining and factory establishments: 149 million persons as against 38 million in 1949-49. The path which industrialization must take in India precludes a radical restructuring that provides whole-time occupation only in urban areas.

* They provide whole-time occupation only in urban areas.
alteration in this position for quite a few years to come. Both during the First and the Second Stages, the increase in employment in large-scale industry will be necessarily limited. During the First Stage, the contemplated expansion of industrial capacity being limited, the increase in employment will largely be only that made possible through full utilization of existing capacity. During the Second Stage, industrial expansion will be mainly in the field of heavy industries, which are necessarily highly capital-intensive; accordingly while net value added in manufacture will increase rapidly, the increase in numbers engaged in large-scale industry will be necessarily slow. Throughout this period the employment provided by cottage and small-scale industries must far exceed that provided by large-scale industry.

(b) On account of the paucity of investible resources and of the need to devote a high proportion of them to the expansion of heavy industry, it will not be possible to undertake large-scale expansion and modernization of the transport system during the first stages. Throughout this period, it is, therefore, necessary to avoid all unnecessary burdens on the transport facilities. Cottage and small-scale industries will help in this. By utilizing local raw materials and by catering to local markets, they avoid long haulages of raw materials or finished products that are a normal concomitant of large-scale production. Furthermore, in many cases, the disadvantage of a small-scale industry relatively to large-scale industry on account of higher cost of production may be partially or wholly offset by the relatively lower cost of distribution.

(c) Since cottage and small-scale industries use relatively simple and inexpensive tools and implements (which can be produced mostly within the country), their expansion and development make no heavy demand on foreign exchange resources.

Investment in these industries has a short fruition period. Accordingly they are very suitable in a period when the need for quick results is urgent.

(d) Till the amplitude of seasonal fluctuations in the demand for labour, and hence seasonal unemployment, in agriculture is largely done away with, cottage industries must play an important part in providing the agriculturist with useful subsidiary employment. The irregular scatter of the days of unemployment in agriculture makes such industries especially suitable for providing the peasant with work on days when he has no agricultural work to do. Again, by carrying jobs to the worker they overcome the difficulties of locational immobility of labour. Thus labour, which otherwise would remain idle, finds easy employment.

(e) Small-scale industries will provide employment to the energy and capital of small proprietors. Thus, funds and man-power which may otherwise remain idle, or find employment in the over-burdened retail trades or the highly undesirable practice of usury, will find employment in socially desirable production activity. The Plan looks to them to provide employment to trained and educated persons.

(f) Development of cottage and small-scale industries can play an important part in effecting a radical improvement in the supply of foreign exchange resources available for the import of equipment and services required for industrialisation. This they may do by releasing machine-made goods for export, or by replacing some of the goods at present imported.

(g) The use of electricity as motive power makes it possible to attain even with small-scale production fairly satisfactory levels of labour productivity over a substantial field of production activity. This greatly extends the scope for such industries in a modern economy. The same has also been the effect of some other technological developments such as

* Ch. 25, Para. 3.
While precise information regarding the conditions and problems of cottage and small-scale industries must await a detailed governmental survey, such as that suggested by the Planning Commission, the following are some of the commonly known difficulties confronting these industries: competition of imported and home-produced articles produced by large-scale units; shortage of suitable raw materials and fuel; paucity of finance; lack of suitable machinery and equipment; inefficient marketing arrangements; lack of facilities for vocational training; inferior quality and standards of production, and absence of suitable organization. Measures to overcome these difficulties are discussed below.

**Competition:** The problem may be approached along three lines. Firstly, preference should be given to such cottage and small-scale industries in the case of which the competition with large-scale industry is very limited. Rather the development plan should seek to associate the two on a complementary rather than a competitive basis; each being assigned the role for which it is best fitted. This suggests that the following cottage and small-scale industries should be selected for development: (a) those primarily concerned with the processing of local produce and selling in a predominantly local market; those connected with manufacture and repair of agricultural implements; those which produce artistic, semi-luxury or luxury goods, for which the demand is necessarily limited and fitful, and where the individual tastes of the consumer have to be catered for; those which supply materials or components for large-scale industries; those that provide various services associated with large-scale industries (e.g. repair services of various types); those where large-scale production does not yield great economies or where the personal supervision of the entrepreneur is of vital importance; and those which carry out many of the processes incidental to large-scale methods of

Secondly, steps should be taken to limit competition between cottage and small-scale industries on the one hand, and large-scale industries and imports on the other. Since during the first two stages the country will be able neither to invest much in large-scale consumer goods' industry, nor to provide for liberal import of consumer goods, throughout this period it should not be difficult to provide cottage and small-scale industries with adequate demand. Where a large-scale industry competes with a cottage industry, a co-ordinated programme of production and expansion should be adopted. A portion of the sphere of production may be reserved for the cottage industry concerned as has recently (1952) been done in the case of handloom weaving. We, however, are opposed to any closing down of a large-scale industry to make room for a cottage industry. For instance, we do not favour the proposed retrogression from rice mills to hand-pounding. For the object before us is to create, not merely more employment but also more income. Additional demand for cottage industry products created by forcing the competing large-scale industries to produce below capacity conflicts with the realization of this objective. An appropriate Stores Purchase policy can also help to ensure adequate demand for the products of cottage industries. We, therefore, welcome the government's decision that 'where basic considerations like quality, delivery date, etc. are comparable, the products of cottage and small-scale industry would receive preference over the products of other manufactures for the requirements of the Government', and that 'in the case of other products, according to the circumstances and merits of each case, a price advantage and suitable relaxation as regards specifications would be allowed'. Thirdly, the competitive efficiency of cottage and small-scale industries should be raised through improvements in production technique, management, marketing arrangements, availability of raw materials and finance, and standards and quality. Fourthly, a concerted effort should

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* The Plan, Ch. 24, Para. 12.
** The Plan, Ch. 25, Para. 21.
be made to develop the export of the products of these industries. There is reported to be considerable potential foreign demand for brass-ware, for example.

**Raw Material, Machinery and Equipment:** Cottage and small-scale industries should be assigned reasonable quotas of raw materials such as yarn, pig iron and steel, drugs and chemicals, etc. State trading and the organization of industrial co-operatives will facilitate the supply of raw materials to these industries. The Forest department should provide (at concessional rates) these industries with raw materials derived from forests. These industries should be provided with modern tools and implements and rendered technical assistance for the improvement of manufacturing processes. To this end, improved tools and implements suited to small-scale units should be designed, if necessary with the help of Japanese or other foreign technical experts, and manufactured within the country. The Plan has suggested the creation of an institute for village technology. A powerful incentive for the adoption of power-driven machines will be provided if cheap electricity is made available to these industries; their claims should, therefore, receive due consideration in the allocation of additional generating capacity created under the Plan. The Plan suggests the creation of new centres of small-scale production provided with power and other facilities. To enable the artisans and workers to make efficient use of improved machines, equipment and manufacturing processes, they should be suitably trained. Facilities for this may be provided either by the State or by the co-operative organizations of cottage and small-scale producers. The Plans of State governments provide for increase during the Plan period in the number of Industrial Schools from 365 to 465, of output of trained pupils from 14,750 to 21,797, of Technical and Vocational institutions from 260 to 470, and of persons trained therein from 26,702 to 42,997. The Plan has suggested

Ibid., Para. 16

The Plan provides 27 crores for extending rural electrification. (Ch. 4, Para. 24.)

Ibid., Ch. 25, Para. 25.
the creation of training-cum-production centres for the training of artisans. Cottage industries emporia can, besides helping to sell the products of these industries, help to provide artisans with information and guidance concerning new demands and designs. Extension work is as urgently needed in this sphere as in agriculture. To achieve effective results, there should be due co-ordination between research, training, and extension work.

Finance, Marketing and Organization: The best solution to the problem of finance and marketing confronting cottage industries is to organize them into multi-purpose co-operative societies. To begin with, each such society should function as a credit society. As it accumulates resources and experience, it should extend its functions to saddle such a society with all these functions from the very beginning would be gravely to prejudice its chances of success. The state can greatly encourage such societies by granting them subsidies and loans, allowing them priority in the allocation of raw materials, tools, implements, and electric connections, pursuing a favourable Stores Purchase policy, adopting these societies as the agency for the distribution of rationed goods, allowing tax concessions, and making available to them free or at concession rates the advice and consultation of technical experts employed by the State. The non-agricultural societies have made very limited progress hitherto.

The small-scale producers, as distinct from cottage workers, should be encouraged to form their own associations to aid and advise them in respect of supply of raw materials and components, improved samples and designs, efficient tools and implements, training facilities for artisans and workers, technical assistance for the improvement of manufacture.

* The Plan provides Rs. 15 crores for assistance to cottage and small-scale industries. It suggests that the financial aid from this provision and from State Finance Corporations should preferably be given to industries co-operatively organized. (Ch. X, Para. 15).

** In Nov. 1949, the Govt. of I. announced their intention to purchase one-third of their requirements in the shape of
processes, credit facilities, market research and intelligence, etc. To finance these industries, industrial finance corporations may be established in the States. The State Finance Corporations Act passed by the Union Parliament in Sept. 1951 grants the necessary authority for the purpose.

**Standards and Quality:** Cottage and small-scale industries should be encouraged and enabled to produce goods of the requisite quality and standards. Research in designs and techniques in specialised national laboratories and institutes, supply of modern samples and designs, introduction of improved tools and techniques, institution of standardisation and quality control, and adequate training of labour, are some of the measures conducive to that end.

89. With the progress of industrialisation, there will be a decline in the relative importance of cottage and small-scale industries, as well as a change in their composition. As modern large-scale industries, construction work, public utilities and social and cultural services provide the population with more productive employment in increasing measure, such cottage and small-scale industries as represent the pre-industrial stage of development, e.g. hand spinning and weaving, basket-making, flour-grinding, bidi-making, simple pottery, black-smithy and carpentry, oil-pressing by ghanis, crude tanning, cart-making, gar- and khandar-making, etc., are bound to decline. Cottage and small-scale industries which find their justification in the present capital poverty, inadequate transport and communication facilities, the need to economise foreign exchange, and the need to provide employment to the seasonally idle agricultural labour, will become progressively less important as the situation in all these aspects improves. But such small-scale enterprise as plays an essential role even in a highly industrialised country will flourish. When the demand is limited, irregular or fitful, or the individual tastes or requirements of the consumer are to be catered for, or electricity and the internal combustion engine enable small-
scale enterprise to use as highly productive machines and techniques as are possible for large-scale production, or the higher costs of production on a small scale are offset by lower costs of distribution, or for various reasons, the marginal social cost as distinguished from marginal individual cost in the case of small-scale industry is no higher than in the case of large-scale industry, or the small-scale industry is not competitive but complementary to large-scale industry, because either it produces parts or components of large-scale industries, or uses parts or semi-finished goods produced by the latter, small-scale production unit will continue to flourish even when India becomes highly industrialized. Taking all types of cottage and small-scale industries together, their relative contribution to the national income and to the volume of employment is, in the end, bound to fall to a much lower level than would be the case in the First Stage of development.

90. While recognising that cottage and small-scale industries must occupy an important place in India's economy during the first two Stages, and that even when India becomes highly industrialized, types of small-scale enterprise will flourish, we do not subscribe to the goal of decentralized economy based on the small unit machine, put forward by the Socialist Party leadership at the Paanchmari Special Convention (1952). To achieve true economic and political independence and to attain levels of productivity consistent with high standards of living, India must develop mining, metal, engineering and chemical industries and also power and transport capacities to serve them, i.e. she must develop coal and iron ore mining, ferrous and non-ferrous metal production, electric power capacity, railway and other modern transport facilities, aircraft manufacture, shipbuilding, heavy electrical engineering, industries producing automobiles, tractors and combines, modern construction and transport equipment, prime movers, heavy machinery, machine tools, heavy chemicals, fertilizers and pharmaceuticals, power alcohol and mineral oils, cement, newsprint, atomic-energy materials, modern defence equipment, etc. All these
industries are highly capital-intensive and admit of little decentralised production. Not to develop them is to perpetuate our low standards of living and economic and political dependence on foreign countries; and to develop them is to reject decentralised production based on small unit machine as the objective.

The socialist leadership has supported decentralised economy on the ground that it promotes economic and political democracy. This is a pure illusion. The experience of Japan which has a large decentralized industrial sector is quite instructive. 'It is interesting to note, however,' observes a League of Nations study, 'that while technically the production is decentralized and carried out in small plants, it is frequently dominated by large financial and commercial concerns which provide the plants with resources and direct their activities'. Clearly in Japan decentralized production has not promoted economic democracy. Yet has it promoted political democracy. No political regime in Japan has been anything like the vigorous political democracy which decentralized production is claimed to ensure.

The socialist leadership considers it a 'fathomless absurdity' to aim at the capital intensity of present-day Europe. They would warn us that an attempt to achieve this even in fifty years must involve 'ruthless suppressions', 'famine', 'untimely death of tens of millions', and 'unheard-of brutality and certain collapse'. All these fears are unfounded. This Chapter has pointed out that a rate of investment high enough to transform India into a highly industrialized country in 30 years or so, and a simultaneous steady rise in consumption is practicable. In the People's Democracies of Eastern Europe, which are currently engaged in high-speed industrialisation, and in China which is engaged in laying the foundation for this, a high and a rising rate of investment is practicable.

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**League of Nations, Industrialisation and Trade, Geneva, 1945, p. 52.**

**Report of the Special Convention of the Socialist Party (Pachmarhi), 1952, p. 156.**
of investment has gone alongside a steady increase in consumption. It may be pointed out here that in 1950 and 1951, while both investment and consumption increased in the countries of People’s Democracies which are engaged in industrialisation, they fell in Yugoslavia*, which is usually held up by the Socialist leadership as the model for progressive decentralization of economy. And this in spite of the fact that during these years Yugoslavia received large amounts of financial aid from the USA, the UK and France.

One objection raised against investment in capital-intensive industries is that it will provide employment to relatively small numbers, so that vast numbers will receive no benefit from this**. This plea, however, lacks substance. For we do not suggest that India should strive to create and expand only capital-intensive large-scale industries. Actually we propose that a substantial immediate increase in national income should be achieved through full employment of the working population mainly in labour-intensive activity. The consequential increase in national income will make possible a considerable increase, both in investment and consumption. As from the Second Stage, the bulk of this investment will be directed to capital-intensive industries. The sector of capital-intensive production will then steadily expand at the expense of that of labour-intensive production, and will absorb the labour released from the latter. This development will involve a steady rise in capital intensity and hence in labour-productivity. Moreover, there is little justification for the claim that small-scale industries are necessarily capital-light. It has been observed that ‘small-scale operation of the type that modern technological advances have made possible are highly capital-intensive within the given scale, and a large number of such industries may absorb a very large amount of capital’***. The same writer has

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further remarked that 'the overall capital-intensity of a system of small industries supported by wide-spread electrification and communication schemes would be very high, especially when the work unit are likely to be scattered and the average intake of electricity etc. very small. When cases are built up for a network of small industries on the ground of their 'lightness', the emphasis is generally put on the investment of the individual owner and not on the aggregate private and collective investment'. Industries that are capital-light are likely to be relatively inefficient. Many Japanese small-scale industries are in fact such*. Accordingly, if, even in the long period, development in India remains confined to capital-light small-scale industries, it would be impossible to raise labour productivity to the required level.

Finally, it is argued that unemployment is likely to be less infrequent under decentralised than under large-scale industry, and that 'since a worker in the decentralized small industry is usually not dependent on his wage-income, he is much less gravely affected by unemployment than is the dispossessed worker in large-scale industry located in big towns***. Against this we may mention that the experience of the Soviet Union and of the People's Democracies shows that industrialization is not incompatible with stable full employment. Why then sacrifice industrialization for fear of unemployment? An industrial economy free from cyclical upswings and downswings is surely feasible. And this is what we are out to construct. It may also be pointed out that planning will be much more difficult where there are a large number of small industries than when there are a small number of large industrial establishments.

* Ibid., pp. 176-77.
** League of Nations, Industrialization and Foreign Trade, 1949, p. 54.
91. The Plan lays considerable emphasis on the development of cottage industries. Indeed, the largest expansion of employment under the Plan is contemplated in this sector. The cottage industries are expected to provide additional employment to 20 lakh persons and fuller employment to 36 lakh persons. The bulk of additional employment, of 18 lakh persons, will be accounted for by the handloom industry. The contemplated increase in employment is, however, unlikely to be realised, mainly because of the inadequacy of measures to ensure sufficient demand for the products of these industries. The second year of the Plan, i.e. 1952-53, has actually been marked by a slump in these industries. Handloom weaving has been especially hard hit because of the improvement in the supply of mill-made cloth. A rapid increase in the purchasing power of the peasantry, concentration of new industrial investment mainly in heavy industries which do not compete with cottage industries, a high rate of investment, and restricted imports of consumer goods, provide the key to the problem of maintaining adequate demand for cottage industry products. The Plan fulfils none of these conditions in any satisfactory measure.

VII. LARGE-SCALE INDUSTRY

92. In recent years India's large-scale industries have been working considerably below capacity. The year 1951 was marked by a considerable improvement in this respect in light industries, but in the engineering industries the problem continued to be as acute as ever. The first objective should, therefore, be the fuller and more efficient utilization of existing capacity. It follows that during the First Stage, increase in income and employment in this sector will be achieved, mainly through fuller and more efficient utilization of the existing capacity, and only to a lesser extent through expansion of industrial capacity.

* This is brought out by a comparison of installed capacity and actual production of industries in 1950 and 1951 given in 'The Economic Weekly', Bombay, Vol. IV, No.281 1952, pp. 718-21, and also by the data on rated...
in certain specified fields. Thereafter, the expansion of industrial capacity will account for rapid increase in employment and income in this sector. To ensure first full utilization of existing capacity and then its rapid expansion, the requirements of large-scale industry in respect of the following should be fully met: demand, raw materials, power and fuel, transport facilities, construction materials and capital goods, skilled and unskilled labour, finance, efficient management, up-to-date techniques and processes, and a satisfactory state of industrial relations. Measures to meet these requirements are discussed below.

Demand

93. The high rate of domestic investment and restricted imports of consumer goods contemplated in this study will ensure adequate aggregate demand. As pointed out earlier, it is rather the excess than the shortage of demand that will present a tough problem for many years to come. But it is quite possible that when aggregate demand is running at a level high enough (so that further increase in it will generate widespread inflationary pressures), some industries may still be working below capacity because of inadequate demand. This will indicate lack of accord between the distribution of production capacity and of demand, as between different industries. The difficulty may be overcome, either by exporting the surplus produce (if that is possible), or by helping the industry to convert the surplus production capacity to other lines of production where demand may be threatening to outrun supply.

Raw Materials

94. The chief raw materials required by existing industries are (a) agricultural products, (b) minerals, (c) metals, (d) chemicals products, and (e) component parts. Up to 1950, raw material shortages were the main snag in production. Improved raw material position has been a major factor
responsible for the increase in output registered since then by several of India's major industries, especially cotton textile, jute textile and sugar industries. Raw material shortages could be overcome in four ways: by increased output, by economic use, by evolving more easily available substitutes, and by larger imports. The scope for larger output of agricultural products and minerals has already been discussed.

The shortage of pig iron, steel and aluminium must be made up by increased production; of copper, partly by increased production and partly by larger imports; of lead, zinc etc., by larger imports. During the First Stage the output of pig iron, steel and aluminium should be raised to the level where it not only covers the present demand but also leaves a margin for the further development of metal-consuming industries. The failure of the First Five-Year Plan to provide for an adequate increase in the output of iron and steel is regrettable. The output of pig iron available for foundries is to increase by only 0.31 m. tons and of finished steel by a mere 0.39 m. tons. Instead of making the country self-sufficient in steel by 1955-56, the Plan expects steel imports to increase from 0.28 m. tons in 1950-51 to 0.5 m. tons in 1955-56. This, surely, is not the way to lay the foundation of the rapid expansion of steel-consuming industries in the subsequent quinquennia. The paucity of investible resources and the need to achieve quick results require that during the First Stage the increase in output should be achieved through expansion of the existing units. The creation of new units should be undertaken in the Second Stage and there-after. At least a beginning, in some cases substantial progress, has been made in the production of chemical products used in industry. A systematic expansion of the chemical industry will be an important feature of industrial development contemplated in this study. As regards components, the Government should either itself set up plants

* See Chapter III.

** The Summary of the Plan, p. 29.
to manufacture them or induce the enterprises at present engaged in the assembling of imported parts to undertake their production. They may be given financial aid and helped to secure the required machinery and technical skill from abroad.

Economy in the use of raw materials may be ensured by a determined drive for general industrial efficiency. Waste should be avoided during both storage and manufacture. The evolution of suitable substitutes is a long-term solution. Immediately, it is unlikely to play an important part in solving the problem of raw material shortages. Accordingly, to the extent increased domestic production fails to meet the country's requirements, reliance will have to be placed mainly on imports. To that end, India should explore all possible sources of supply of the required materials, and make adequate provision for them in the foreign exchange budget.

Fuel and Power

95. Electric power continues to be in short supply. This is because the current output of electricity is ridiculously low, relatively to the size of the country. Norway, with less than one per cent. of India's population, produces about 3½ times more power! The monthly consumption of industrial power in India was only 217 million kwh., i.e. less than one-quarter of the daily output of power in the U.S.A. The ultimate solution of the power problem lies in the exploitation of the country's immense hydro-electric potential. But, as this Chapter has pointed out, during the First Stage the emphasis should be on thermal stations and small hydro-electric stations. No new vast multi-purpose projects should be taken up till those already in hand are completed. The laying of emphasis in the beginning on thermal stations is justified by the fact that there is

* UN, Monthly Bulletins of Statistics.
** The Plan, Ch. 26, Para. 50
no dearth of steam coal in this country, that thermal stations of moderate capacity involve much smaller investment and take much shorter time to complete than the big multi-purpose projects, and that eventually a power grid can be constituted comprising hydro-electric stations as well as thermal stations.

96. In recent years there has been very considerable improvement in the supply of coal to industry. The fault for the shortages that are still experienced here and there lies not with coal raisings but with coal dispatches. The remedy lies in further improvements in railway transport. As economic development, especially expansion of heavy industry, gathers momentum, the demand for coal will rapidly increase. The problem of coal output will then once again become very urgent. Since the present (1952) output per man-shift is only 0.34 tons, the increase in output will need to be obtained, not through enlarging the labour force engaged in coal mining but through technical reconstruction of the industry.

97. There is no dearth of liquid fuels at present. Imports, together with a small domestic output, fully meet the country's requirements. Should, however, the socio-economic measures contemplated in this study interrupt the flow of oil from the present sources, the problem will need to be tackled in four ways: (a) by exploring all sources of oil supply, including the Soviet Union** and Roumania, (b) by cutting down industry's liquid fuel requirements to the minimum, through substituting, where possible, coal and electricity for oil, (c) by developing domestic oil production, and (d) stepping up the output of power alcohol. The production of liquid fuels from low-grade coal is impracticable for the present, on account of the scale of investment involved and the period that must elapse before oil begins to be produced. The long-term solution of the oil problem has

* Indian Labour Gazette.

** Soviet oil output is currently (1952) running at an annual rate of 45 million tons and is planned to reach 70 million tons in 1955.
already been discussed in Chapter III.

Transport Facilities

98. In India, the railways are all important for meeting the transport requirements of industry. And there has been a marked improvement in recent years in railway transport facilities available to industry. The transport bottleneck has been largely got rid of. But the contemplated rapid increase in industrial as well as other production will entail growing transport requirements. Measures to enable the transport system to meet more fully present and future demands on it are outlined later in this Chapter.

Construction Materials and Capital Goods

99. To wipe out arrears of depreciation inherited from the War and the immediate post-War period, estimated by the Plan at Rs. 150 crores*, and to effect rapid expansion of capacity, a large supply of construction materials and capital goods would be required. The required increase in the supply of such goods and materials may be achieved through either larger output or increased imports, or both. The problem of securing larger imports of capital goods from abroad is discussed in the next Chapter. Here we discuss the scope and methods of ensuring larger domestic output of these goods.

100. The most important constructional materials are timber, bricks, lime, pebbles, sand, cement, steel and various types of fittings. The scope and methods of raising domestic output of timber have been discussed earlier. Bricks and lime are at present produced in small kilns which use highly labour-intensive methods. The output can be rapidly increased by drawing more labour into these fields.

* Ch. 29, Para. 33.
The kilns will, however, need to be adequately supplied with coal — a condition quite often not fulfilled in recent years. In subsequent periods, a steady increase in the output of bricks and lime may be achieved through progressive change-over to modern mechanised methods. There is no dearth of sand, stone and pebbles in this country. Given adequate transport facilities, it should not be difficult to ensure plentiful supplies at the construction sites. In recent years output and installed capacity have expanded faster in the cement industry than in any other major industry. The Plan seeks to raise installed capacity and output from 3.2 and 2.7 million tons, respectively, in 1950–51 to 5.0 and 4.6 million tons respectively in 1955–56. In 1951 the output was 31.98 lakh tons. The rapid increase in output and installed capacity in recent years, despite several adverse factors, indicates that conditions are highly favourable for the expansion of cement output in this country. It should not, therefore, be difficult to expand cement output pari passu with the contemplated increase in requirements. Various types of fittings, too, should present no serious problem. Many items could be produced within the country, and, in view of the quite modest outlay involved, it should not be difficult to provide for the import of the rest.

101. Steel, however, presents a tough problem. Demand already exceeds domestic output by several lakh tons. As long as the rearmament drive continues, the chances of securing large supplies from abroad are bleak. Every effort should, therefore, be made to speed up domestic output. During the First Stage, the bulk of new investment for large-scale industry should go to expand steel capacity by enlarging the existing works. In the subsequent

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* Appendix II to Ch. 29.

stages, too, a high proportion of the total national investment would go to develop steel-producing and steel-consuming industries. The steel industry feeds on itself. It can, therefore, be expected to grow at an increasing speed. This alone will provide the country with adequate supplies of steel.

102. India has already made a beginning with capital goods production. She produces small tools, textile machinery, diesel engines, centrifugal pumps, automobiles, tractors, locomotives, wagons, and coaches, trainer aircraft, steamships, etc. But the output is very limited; the quality in many cases unsatisfactory; the cost relatively high; many essential parts are imported so that "production" is more of assembly work than manufacture; output is very often substantially below capacity; and the special steels required in machine tool manufacture are imported. All these deficiencies need to be made up fast. The provision in the Plan for the expansion of capital goods output is very limited, being as under:

<table>
<thead>
<tr>
<th>TABLE 71</th>
<th>EXPANSION OF CAPITAL GOODS OUTPUT UNDER THE PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PUBLIC SECTOR</strong></td>
<td>Investment up to 1.4. in the 1951, Plan period</td>
</tr>
<tr>
<td>Projects</td>
<td>Investment Year of New or additional capacity (per annum) by 1955-56</td>
</tr>
<tr>
<td>Shipbuilding</td>
<td>150.0</td>
</tr>
<tr>
<td>Machine Tool Factory</td>
<td>14.2</td>
</tr>
<tr>
<td>Chittaranjan Locomotive Factory</td>
<td>1020.0</td>
</tr>
<tr>
<td>Rly. Coach Factory</td>
<td>-</td>
</tr>
<tr>
<td>National Instruments Factory</td>
<td>4.0</td>
</tr>
<tr>
<td>Indian Telephone Factory</td>
<td>120.0</td>
</tr>
<tr>
<td>Housing Factory</td>
<td>93.7</td>
</tr>
</tbody>
</table>

(Co[nd])
<table>
<thead>
<tr>
<th>Industry</th>
<th>Unit</th>
<th>1950-51</th>
<th>1955-56</th>
<th>Capital investment during 1955-56</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rated Production</td>
<td>Rated Production</td>
<td>N. lakhs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity</td>
<td>Capacity</td>
<td></td>
</tr>
<tr>
<td>Centrifugal pumps Nos.</td>
<td></td>
<td>33,460</td>
<td>34,310</td>
<td>69,400 80-85,000</td>
</tr>
<tr>
<td>Diesel engines</td>
<td></td>
<td>6,320</td>
<td>5,540</td>
<td>34,920 50,000</td>
</tr>
<tr>
<td>Automobiles (manufacturing)</td>
<td></td>
<td>30,000</td>
<td>4,077</td>
<td>30,000 30,000</td>
</tr>
<tr>
<td>Bearings</td>
<td>Srs</td>
<td>600</td>
<td>87</td>
<td>1,200 1,200</td>
</tr>
<tr>
<td>Electric Motors</td>
<td>HP</td>
<td>150</td>
<td>99</td>
<td>300 320</td>
</tr>
<tr>
<td>Electric Transformers</td>
<td>KVA</td>
<td>370</td>
<td>179</td>
<td>485 450</td>
</tr>
<tr>
<td>Machine Tools</td>
<td>Nos.</td>
<td>3,000</td>
<td>1,101</td>
<td>3,000 3,000</td>
</tr>
<tr>
<td>Locomotives</td>
<td></td>
<td>N.A.</td>
<td>N.A.</td>
<td>50 + 50 boilers</td>
</tr>
<tr>
<td>Underframes</td>
<td></td>
<td>N.A.</td>
<td>N.A.</td>
<td>400 400</td>
</tr>
<tr>
<td>Textile Machinery</td>
<td></td>
<td></td>
<td></td>
<td>1,50</td>
</tr>
<tr>
<td>Total investment in the expansion of Capital Goods Output in the Plan period</td>
<td></td>
<td></td>
<td></td>
<td>49.33 crores</td>
</tr>
<tr>
<td>Annual average of the above</td>
<td></td>
<td></td>
<td></td>
<td>9.86 &quot;</td>
</tr>
<tr>
<td>Source: Appendix I and II to Ch. 29 of the Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* includes investment in other light engineering industries.

103. The following are some of the measures that may increase output of capital goods. (a) Engineering units producing capital goods should be encouraged to raise their production to full capacity, to improve the quality of their output and reduce its cost, and to undertake not only the assembly but also manufacture of component parts. (b) Engineering units producing less essential durable consumer goods may, wherever possible, be converted to the production of capital goods. For instance, units producing electric fans may be induced to convert to production of electric motors. (c) The metal
and skilled labour requirements of engineering units should be met through larger domestic output and imports. (d) The expansion of industries producing capital goods should receive priority over others. It is because the development of metal and engineering industries will absorb large amounts of capital, that we have proposed that during the First Stage the bulk of resources available for industrial development, and during the Second Stage a high proportion of the entire investible resources, should go into the development of these industries.

The steps suggested to increase the domestic output of construction material and capital goods, required for wiping out arrears of depreciation and for new expansion in the industrial sector, apply in equal measure to the goods and materials required for meeting arrears of depreciation and new expansion in other sectors.

Labour

104. There is at present no shortage of unskilled labour for large-scale industry; rather most urban areas have a surplus of such labour. Nor is such a shortage likely in the foreseeable future. Large-scale industry can meet its requirements of unskilled labour initially by absorbing the unemployed and the unproductively employed, and subsequently by employing those released by the mechanisation of agriculture and the decline of such Cottage and small-scale industries as represent the pre-industrial stage of economic development. The natural increase of population is another source of supply of labour for large-scale industry.

105. The real problem concerns skilled labour. In every under-developed country there is bound to be a shortage of skilled labour, because of inadequate facilities for technical, vocational and business education and training. This

* Labour Investigation Committee, Main Report, 1946, p.325
** The term 'skilled labour' is used in a wide sense to cover all categories and grades of technical, supervisory, managerial and research personnel.
is but natural. Expansion of training facilities can proceed only alongside economic development; a country where the demand for skilled personnel of various categories was hitherto very limited cannot possibly be expected to have highly developed educational and training facilities. Existing facilities for technical and vocational education in India, and their contemplated development under the Plan are indicated by the following Table:

**TABLE 72: TECHNICAL AND VOCATIONAL EDUCATION IN INDIA**

<table>
<thead>
<tr>
<th>Technical and Vocational (excluding Industrial Schools)</th>
<th>Industrial Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of institutions</td>
<td>No. trained during the year</td>
</tr>
<tr>
<td>1950-51</td>
<td>260</td>
</tr>
<tr>
<td>1955-56</td>
<td>407</td>
</tr>
</tbody>
</table>

Source: *The Plan, Appendix to Ch. 33.*

106. The demand for skilled personnel must in the main be met by creating adequate facilities for technical, vocational, business and scientific education and training. The creation of such facilities must form an essential feature of the integrated economic development proposed in this study. While planning the expansion of such facilities, the following points may be kept in view.

(a) The expansion programme should be comprehensive enough. It should seek to create educational and training facilities for all categories and grades of skilled personnel, ranging from semi-skilled workers, through technicians, to technologists. In recent years, in the field of engineering and technology, there has been considerable progress made in respect of undergraduate courses. Most of this development, has been confined to basic courses; specialized courses have
not received due attention*. The available facilities for the following are woefully inadequate: training at the craftsman level, apprenticeship training, training for the upgrading of employed workers, training of technical teachers and instructors, re-training of retrenched personnel, training for business management and industrial organization, and post-graduate studies and research**. All these lacunae in the existing system of technical and vocational education and training should be filled expeditiously.

(b) The training courses should provide for a judicious combination of theoretical instruction and practical knowledge. "Know-how" is at least as important as bookish knowledge. The existing position in this respect is quite unsatisfactory, with the result that the trained personnel turned out by technical and vocational institutes are rated quite low by the employers.

(c) Suitable general education should form a part of the curricula in technical and vocational institutes. This is necessary to ensure that the trainees not only acquire professional qualifications but also have opportunities for their mental and moral development.

(d) To avoid both unemployment among the skilled personnel and waste of national resources, there should be proper co-ordination between the programme of economic development and that of expansion of educational and training facilities. This will ensure that at any particular time only those categories and grades of skilled labour are turned out whose services are in demand at that particular stage of economic development. Under an economy where development proceeds according to a Plan, co-ordination between the direction of investment and the expansion of facilities for technical and vocational education is rendered much easier. However, a complete survey of the available skilled personnel, preferably

* The Plan, Ch. 33, Para. 71.
** Except for a few courses at the Indian Institute of Science, Bangalore, and the Indian Institute of Technology,
through the Employment Service, is indispensable to meet this condition. The recent appointment, by the All-India Council for Technical Education, of a Technical Manpower Committee to assess the country's needs in technical personnel during the next five years is a step in the right direction. Another essential condition for such co-ordination is co-operation between Industry and Commerce on the one hand, and training institutes on the other. The Plan has underlined the need for such co-operation and made a few suggestions for it**.

(e) Training courses should be rationalised so that the time required for training is cut down to the minimum practicable. During the War, many countries adopted high-speed methods of technical training to meet the requirements of the rapidly expanding engineering industries. In the Soviet Union in particular, to make up large gaps created by the call-up of large numbers of skilled workers for military service, high-speed training methods were devised and adopted. China proposes to do the same in order to meet the requirements of a programme of high-speed industrialisation***. Wherever possible, the training methods adopted in all these countries should be adapted to the conditions and requirements of this country. Special emphasis should be laid on the system of 'training-on-the-job', for it economises equipment and instructional staff. Steps should be taken to make such training wide-spread, systematic and, as far as possible, standardised.

(f) There should be a careful selection of trainees for various trades, to ensure that they take to trades in conformity with their individual potentialities. This would require an efficient Vocational Guidance Service.

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*** The Plan, Ch. 35, Para. 89.

(g) Training facilities should be physically as well as financially accessible to those who deserve training. This would require wide dispersal of training centres, adequate provision for stipends, and extension of facilities for employed workers to continue their education and training in spare time. There is urgent need for the extension and improvement in the system of apprenticeship training. At present this system obtains in Railway Workshops, Government factories, dockyards and some engineering plants. The Labour Investigation Committee, in their Main Report (1946), have mentioned several defects, deficiencies of the present system of apprenticeship training. Most enterprises make no provision for such training, so that the number of apprentices is very limited. There is no precise definition and standardisation of terms of apprenticeship and training. In most cases the apprentices have no guarantee of employment when they have completed their training. The apprentices often have to pay fees for training. The employers quite often abuse the system by engaging more or less fully trained workers as apprentices and paying them no, or very much less than the normal wages. Even more common is the practice of inordinately dragging out the period of apprenticeship training with a view to avoiding the payment of normal wages to the workers concerned. The foregoing abuses call for urgent legislative and other measures to improve the existing state of affairs in this respect. Both on grounds of social justice and the need to provide the large, and in due course the predominant, public sector with skilled personnel who would be vitally interested in its efficient working, special efforts should be made to enrol promising actual workers and persons of working-class and poor peasant origin to middle-grade and higher technical institutes.

*The non-existence at present of adequate facilities for such part-time education and training is considered by the Plan an important lacuna in the system of technical education and training. (Ch. 33, Para. 77).
(h) The duration of the course must be long enough to make the trainee a really skilled craftsman instead of leaving him with half-knowledge. In recent years, there has often been an increase in the number of students enrolled by the training institutes without a corresponding expansion of physical facilities. This is not very desirable. Quality should not be sacrificed to number, especially when already the training standards are none too high. Refresher courses for skilled personnel are necessary to keep them well posted with up-to-date techniques. In case facilities for education, training and experience considered necessary for certain categories of trainees are not available within the country, provision should be made for sending them overseas. The need to economise investible, especially foreign exchange, resources, however, requires that persons should be allowed to proceed for overseas training only when the required training facilities are not available within the country, when the persons concerned have acquired skill enough to receive advanced training, and when the development programme calls for personnel with that training. At present any one with enough money is generally able to proceed abroad, whether or not the above conditions are fulfilled. There is thus a lot of waste of the limited national resources.

(i) At present facilities for professional, scientific and technical education and training are provided by a wide variety of agencies. There are institutions and schemes run by the Union Ministries of Labour, Education, and Works, Mines and Power, by Committees of the Government of India (e.g. the Indian Institute of Sugar Technology, Kanpur, controlled by the Sugar Committee of the Government of India), by the State Governments, Universities, Industries (e.g. the Technological Institute, Calcutta, set up some time ago by the Indian Jute Mills Association), and private trusts and other agencies. For a brief account of institutions providing technical education see the Ministry of Education Publication, 'Facilities for Technical Education in India', 1948, Delhi.
To achieve satisfactory results, efforts should be made to achieve full co-ordination between the facilities provided by all these agencies. This problem is reported to be engaging the attention of the All-India Council for Technical Education (AICTE) and the Council of Scientific and Industrial Research (CSIR). Standardization of training courses is also urgently called for. Some efforts have recently been made in that direction. The AICTE has framed National Certificate Courses for the training of engineering supervisory personnel. A National Trades Certification Investigation Committee has been appointed to suggest, inter alia, measures to co-ordinate and standardize the training and testing of craftsmen. The Board of Technical Studies in Commerce and Business Administration of the AICTE has prepared National Diploma and Certificate Courses for the training of different categories of personnel required for commercial occupations. Much more, however, remains to be done in this direction.

107. Skill-formation is a difficult and a prolonged process. Its difficulties, however, need not be exaggerated. The tendency towards division of labour and the automatization of production processes are greatly facilitating it. Modern automatic machinery requires 'skilled supervision but only routine efficiency from the ordinary labourers'. India can ease the problem of skill-formation by preferring, as between different types of capital equipment, that with low skilled-labour requirements, and by building new skill, where possible, 'on the base of the existing reserve of traditional skill'. The spread of literacy will also facilitate skill formation. Since private employers are usually reluctant to invest in the training of workers, as they are not sure whether the latter will stick to them after they have improved their skill, it may be necessary to impose on them a statutory obligation to that effect. If need be, the Government can suitably subsidize such training.

* B. Datta, op. cit., p. 185.
108. While the problem of skilled labour must eventually be solved through the creation of adequate facilities for technical vocational, business and scientific education and training, foreign experts will (for the present) have to be invited in adequate numbers to help run enterprises and training and research institutes. Even the quite modest programme of development for the country provided for in the Colombo Plan was estimated to require the services of 636 foreign experts*. The question of the availability of the required foreign experts and the country's capacity to pay for their services is discussed in Chapter VII. Here we mention some points which must be kept in view while recruiting such experts:—

(a) The experts should be sympathetic to the objective in view: higher standards of living and economic and political independence through industrialization. We should in no case allow foreign business interests or powers, unsympathetic to the cause of India's industrialization, to plant saboteurs and spies at strategic points in the economy.

It has been observed that "where economic advice as a form of 'technical assistance' is supplied to the under-developed country, this advice often pushes the under-developed countries towards policies, ideologically or otherwise attractive to the foreign experts dispensing economic counsel, but not necessarily conducive to economic development of the 'benefitted' countries." India should steadfastly guard herself against such technical 'assistance'.

(b) The foreign experts must in no case be allowed to interfere in the political affairs of the country.

(c) As far as possible, such experts should not be entrusted with the management of enterprises, which should, as a rule, be in Indian hands. Of course, their advice on how to improve management in particular enterprises or industries should be welcome. (d) Experts that have a contempt for the Indian people for their backwardness must not be recruited. The relations between the two must be based upon mutual respect. At least in their own country, the Indians should be free from insult by arrogant foreigners. (e) The experts should really be experts. We must not allow people who would be rated very low in their own countries to dump themselves on us as
The above applies in equal measure to the skilled personnel required in sectors other than large-scale industry.

109. Friendly advanced countries can render invaluable aid to India by providing genuine technical assistance for her industrialization. All such assistance should, therefore, be welcome. The Indo-US Technical Co-operation Agreement of January 1952 is, however, not very inspiring. For its main object is not to supply technical assistance for industrialization, but to 'facilitate the implementation on an expanded scale, of the Community Development Projects', which are concerned with agricultural and rural development. Nor do the US technical experts supplied under the Agreement meet most of the other conditions listed in the previous paragraph.

Industrial efficiency requires sound industrial management. The latter term covers the "whole range of organizational and managerial problems" connected with the conduct of an industrial undertaking from the production to the final sales stage". In India, the bulk of the privately-owned industrial enterprises are under the Managing Agency System*. This system is the product of the stunted growth of capitalism in this country. Capital and enterprise being scarce, the Managing Agency System provided an organizational device to initiate industrial development. The Managing Agents provided enterprise and a substantial part of the necessary capital, and were responsible for the management of the undertakings thus set up. Industrial enterprises were generally allowed loans and advances by the banks only because the Managing Agents personally held themselves responsible for their repayment. In cases where Managing Agents controlled a number of allied trades and industries, the system yielded some of the economies of vertical combination.

111. The Managing Agency System, however, has serious defects. (a) It has promoted the cartelization of the economy. Today a score or so of business houses, (a majority of whom are foreign, mainly British), control the bulk of the industrial capital in India. As pointed out in Ch. IV, the cartel capitalists have been concerned less with the industrial development of this country than with their own enrichment through extending their control over the economy. (b) The Managing Agents have often received excessive remuneration for their services. A Managing Agent's remuneration usually includes: (i) a commission on net profits or on turnover or sales, (ii) an

* For an account of the chief functions falling within the scope of industrial management, see Report of the Fiscal Commission 1949-50, p. 218.

** Measures for the efficient conduct of public enterprises are discussed in Ch. VIII.
office allowance; and (iii) a commission on purchases, sales and other services. The Managing Agent has often, with a view to increasing his own remuneration, unduly inflated net profits by making insufficient provision for depreciation and obsolescence. Since the Managing Agent holds his position by contract, the temptation to do the above is especially irresistible if there is any chance of the contract not being renewed. The position is even worse when the Managing Agent's remuneration consists of a commission on output and sales. For then he tries to increase output and sales even though this may adversely affect the profits earned by the enterprise under his charge. The office allowance paid to the Managing Agent has often been very much in excess of the out-of-pocket expenses incurred by him on behalf of the company, so that, in practice, it has 'in many cases, to all intents and purposes, become an additional source of revenue to a Managing Agent'. The commissions charged by the Managing Agent on purchases, sales and other services have become 'a source of prolific abuse'. Even though 'the remuneration paid to a managing agent is for services rendered by him for managing the affairs of a company and it is prima facie impossible to justify the payment to him or to any of his partners any separate remuneration for occupying any other managerial office vis-a-vis the managed company............. in some cases managing agents had put in their partners, or directors or managers of the private companies of which they were members, in managerial positions in the managed company, thereby indirectly augmenting their income or the income of their friends'. The existing law contains many loop holes, through which managing agents can unjustifiably supplement their incomes. Many managing agents have arrogated

* Govt. of India, Report of the Company Law Committee, 1952, p. 95.
© Ibid., p. 97. ☞ Ibid., p. 99.
<<< Ibid., p. 94.
to themselves powers and duties which under the Indian Companies Act really belong to the Directors. (2) The Company Act limits the duration of appointment of a managing agent to 20 years at a time but permits the renewal of the agreement. Lately, the practice has grown of securing from the present shareholders a renewal of the managing agency agreement long before the expiry of the present contract*. The present share-holders are thus called upon to extend the term of the Managing Agent before they have had sufficient time to assess his performance, and the future share-holders are deprived of their right to have a say in the matter. (d) There has in recent years been large-scale trafficking in managing agency rights in a manner detrimental to the interests of the share-holders. (e) The provisions regarding the payment of compensation to the managing agent in case of the termination of contract with him have been grossly abused through collusive arrangements and other devices**. There has also been widespread evasion of restrictions on loans by a company to its managing agent or the guarantee by it of a loan to him by a third party, loans to or by companies/happen to be under the same management, inter-company investment by such companies, and on undertaking by the managing agent of a business competitive with that of the managed company. (f) In the conduct of purchase and sales on behalf of the managed company, the managing agents quite often abuse their position to the detriment of the company concerned. (g) Through collusive arrangements, fictitious sales and purchases under-statement of production and sales, and other ingenious devices, the managing agents often enrich themselves at the expense of the State, the share-holders and the consumer. (h) There is always the chance of a Managing Agency passing into incompetent hands through change in the ownership of the controlling interest in it. Such changes can occur both when the Agency is a

* Ibid., p. 86. ** Ibid., p. 93.
public company and when it is a private firm. (1) The managing agency system is financial rather than industrial. The managing agents lack technical knowledge of their business; they are financial magnates rather than industrial entrepreneurs. The system is not, therefore, conducive to the adoption of up-to-date techniques and processes.

112. The Fiscal Commission*, the Company Law Committee** and the Planning Commission*** have all, implicitly or explicitly, favoured mending and not ending of the system. The main arguments advanced in favour of the preservation of the system are (1) that the country still lacks a properly organized capital market so that the Managing Agents, which perform the functions undertaken in advanced countries by issue houses or investment syndicates, are more or less indispensable, and (ii) that it may yet be possible to mend the system. The hope is expressed that 'shorn of the abuses and malpractices which have disfigured its working in the recent past, the system may yet prove to be a potent instrument for tapping the springs of private enterprise'. The Company Law Committee have made the following suggestions to that end:

(a) Private managing agency companies should not themselves be managed by managing agents.

(b) The period of a managing agency agreement should not exceed fifteen years in the first instance, and renewals of the agreement should be limited to periods of ten years. Further, no renewal, re-appointment or extension of the term of a managing agent should be made except during the last 24 months of the agreement due to expire.

(c) The legal provisions relating to the removal of managing agents should be made more stringent and wider in

** Report, p. 84.
*** The Draft Plan, p. 161; The Plan, Ch. 29, Para. 51.
scope. These should permit the removal of a managing agent not only when he is convicted of a non-bailable offence committed by him in relation to the affairs of the company, but also for gross negligence or mismanagement of its affairs and for any fraud or breach of trust in respect of any company under his charge.

(d) A managing agent should be permitted to transfer his office, only if the company approves of it by a special resolution.

(e) In the case of a change in the controlling interest of a managing agency firm, other than a public company whose shares are officially quoted on a recognized Stock Exchange, the managing agency agreements concluded by it should stand cancelled.

(f) The provisions in respect of the payment of compensation to a managing agent in case of the termination of his contract should be tightened.

(g) As a rule, a managing agent's remuneration should not exceed 12½ of the net annual profits of the company. No office allowance should be paid to him but he should be entitled to be reimbursed for all expenses incurred by him on behalf of the managed company and sanctioned by its Directors. No other payment should be made to a managing agent except within specified limits. The managing agent must be debarred from holding an office of profit in the managed company.

(h) There should be due clarification of the legal position of managing agents and their powers and duties vis-a-vis the Directors.

(i) To prevent evasion by managing agents of restrictions on the grant of loans to them by the managed company, or inter-company loans or investments when the...
companies are under the same management, and on undertaking by a managing agent of a business competitive to that of the managed company, the relevant provisions of the Companies Act should be further tightened up.

(j) The abuse of position by a managing agent in the conduct of buying and selling operations on behalf of the companies under his charge should be prevented through incorporating suitable provisions in the Company Law for the regulation of such transactions.

113. We, however, feel that the Managing Agency System has outlived its utility. If cartel capitalist control of the private sector is to yield place to the hegemony of the public sector, if the interests of the share-holders are to be adequately protected with a view to promoting savings and investment, if tax-dodging by private business is to be minimised through putting down the evasive practices made possible by the present-day inter-locking of financial control, and if conditions are to be created that would tend to place the management of private enterprises in the hands of technically competent entrepreneurs, the Managing System must yield place to a system where effective control rests in the hands of the Board of Directors. This change would require the closing of the present lacunae in the capital market so that managing agents are no longer indispensable to provide finance and the promotional services. If banking can do without managing agents*, there is no reason why they are indispensable for other sectors of the economy.

Industrial Relations

114. A satisfactory state of industrial relations connotes not merely avoidance of disputes between labour and management but enthusiastic and uninterrupted co-operation between the

* The Banking Companies Act, 1949, forbids the employment of managing agents by the banking companies.
two in the task of raising production. The Plan has acknowledged the importance of improved industrial relations for increased production, improvement of quality, reduction of costs and elimination of waste and suggested the following measures for the purpose:

(a) In specified cases strikes and lock-outs should not be allowed; instead there should be provision for compulsory adjudication or arbitration of disputes. (b) Disputes should be avoided through a system of elected shop-stewards to help redress the workers' grievances, Works Committees to undertake on-the-spot settlement of differences between the workers and the management, Joint Committees for different centres and industries to tackle questions of wider importance, precise definition of workers' conditions of employment by the employers through standing orders, and efforts by the labour or labour-welfare officers not only to prevent disputes but also to create mutual good-will and understanding. A procedure should be laid down to enable workers to approach the authorities at different levels for redress of their grievances. They should also be kept well posted with the state of the industry and the affairs of the establishment wherein they are employed. (c) Efficient and fair conciliation in, and arbitration of, disputes should be provided for. (d) Collective bargaining should be promoted. (e) A satisfactory wage-policy should be evolved and pursued. Its main features should be: no general rise in money-wages, unaccompanied by increase in productivity, wage-increases may, however, be allowed where they are necessary to remove anomalies or where the existing rates are abnormally low; restrictions on the remuneration of management, the distribution of profits and the issue of bonus shares to make the money-wage freeze acceptable to the workers; rise in real wages through fall in prices and increase in labour productivity; standardization of wages and the rationalization of wage differentials; amalgamation of the present dearness allowance with the basic wage; implementation of the minimum wages legislation; development of a proper basis for the present system of profit-sharing in the form of periodic bonuses — however, as long as inflationary pressures last.

The Plan, Ch. 34.
bonuses should not be paid in cash; institution of permanent tripartite Wage Boards to deal with questions relating to wages; and the creation of a statutory provident fund.

(f) Working conditions should be improved by effective implementation of the Factories Act (1948), the Mines Act, the Plantations Act of 1951, and the proposed legislation to regulate work in shops, establishments and motor transport services. (g) A correct policy regarding rationalization should be evolved and implemented. The essential features of such a policy should be: standardization of musters and the fixation of work-loads on the basis of technical investigations carried out by experts selected by management and labour; reduction in the number of workers, by not filling vacancies due to death and retirement; offers of gratuities to induce workers to retire voluntarily; restriction of retrenchment to workers freshly employed; absorption of surplus workers in other departments of the enterprises concerned, in government projects, and by expanding industrial capacity; provision of free re-earning facilities to workers rendered unemployed due to rationalization; and provision of incentives for sharing the gains of rationalization through higher wages and a better standard of living.

has, 115. The Plan/no doubt, made valuable suggestions for improving the industrial relations. But, under a regime with a pronounced pro-employer bias, some of these may arouse genuine fears. For instance, compulsory adjudication or arbitration may degenerate into a device to deprive the workers of their right to strike in order to enforce their legitimate demands; the suggested wage-freeze may provide the employers with an excuse to oppose even legitimate demands for wage-increases; profit-sharing may become a device rather than to get more work out of the workers than to make them share in the gain from increased productivity; rationalization may cause wide-spread unemployment and inordinately increased work loads; the contribution towards the compulsory savings scheme may involve hardships for the low-paid workers; and so forth.
But the socio-economic reconstruction and the programme of development contemplated in this study removes such fears. During the struggle for the realization of the suggested socio-economic reforms, the working class is bound to emerge as the leading force in society. The State will then be expected to stand guard over all the legitimate interests of workers. There will then be no room for political or sympathetic strikes. Compulsory adjudication and will not discriminate against the workers. The fact that the workers through their trade unions will have due say in the conduct of enterprises will remove causes of conflict between labour and management. Profit-sharing will then be a genuine device to make the workers share in the gains from increased efficiency. Government appeals to avoid stoppages and to increase production will meet with greater response. Workers' opposition to rationalization will cease when rapid economic development assures new jobs to all those rendered surplus in the existing employment. Industrial housing will have first priority in the programme of residential construction. The workers will be provided with social security at the cost of the State and the employer; Workers' education will have top priority in the programme of cultural uplift. Outstanding workers will be accorded the highest public honours. Emulation campaigns will be initiated. The formation of a single, united Trade Union will be promoted to facilitate, inter alia, collective bargaining. Labour legislation will be effectively enforced. All this will ensure not only industrial peace but enthusiastic cooperation of the workers in the task of increasing production.

Up-to-date Techniques and Processes

116. The need to equip industries with up-to-date techniques and processes, to substitute cheap and abundant materials for those in short supply and to find uses for materials which have hitherto remained un- or under-utilised, underlines the importance of industrial research. The years
since the attainment of Independence have been marked by increased emphasis on scientific and industrial research. The research programme has included (a) the scientific survey and appraisal of resources, (b) the development of improved processes and techniques, and (c) the application of the results of research to production. The most important development in this field, however, has been the establishment of eleven major Laboratories and Research Institutes in different parts of India; three more are to be established during the Plan period. It is hoped that the establishment of these Laboratories and Institutes will prove of special help to Cottage and small-scale industries which do not have enough resources for independent research. It may be suggested that in the beginning the main emphasis should be laid on applied, as distinguished from fundamental, research. Before we give priority to extending the bounds of basic knowledge, we should seek to apply existing basic knowledge to the improvement of industrial techniques and processes. And, in view of the prevailing backwardness, there is abundant scope for the latter at present.

117. Industrial research has up till recently been almost unknown in India. (a) Most industrial undertakings, being of small or medium size, do not have enough resources individually to set up research centres. And co-operative effort in this field has in general been lacking. The Research Institutes established with Government aid by the Ahmedabad Textile Industry's Research Association (Ahmedabad), the Silk and Art Silk Mills Research Association (Bombay), and the South India Textile Industry's Research Association (Coimbatore) are, however, a welcome development. (b) There has been an acute shortage of personnel qualified to undertake research work. (c) The research carried on in the universities, in the national laboratories established under the Council of Industrial and Scientific Research (CISR), and even by the Research Institutes has been largely theoretical, and unrelated to the concrete problems

* For details see the Plan, Ch. 28, Para. 3
confronting industry*. Lack of intimate contact between industries and the institutes engaged in industrial research explains why the latter's contribution to the industrial progress has been so little. The Plan underlines the importance of translating the results of laboratory research into commercial production. Provision is accordingly made for purchase of pilot plant equipment for most of the National Laboratories**. It is felt that in some cases pilot plant experiments will have to be followed by experimental production in semi-commercial or prototype plants. For this purpose the Plan supports the creation of the proposed National Research Development Corporation***. (d) There has not been much co-ordination of efforts between the various agencies concerned with research work, viz., university laboratories, research institutes set up by Industry, National Laboratories under the CIR, the Technological Research Laboratories attached to the Commodity Committees, and specialized institutes like the Indian Institute of Science, Bangalore, or the Forest Research Institute, Dehra Dun. In order that industrial research may play its due part in increasing production, improving quality, lowering costs and raising productivity, the above deficiencies must be made up.

To this end, while fundamental research may be entrusted to laboratories run by the universities or the CIR, applied research may best be undertaken in laboratories run by industries, if necessary, with government assistance. This will ensure a sufficiently intimate contact between industries and the scientists engaged in industrial research to enable the latter to make a useful contribution to industrial progress.

VIII. TRANSPORT AND COMMUNICATIONS

119. In a rapidly expanding economy traffic is bound to grow. This provides opportunity for the expansion of employment

* * Ibid., p. 224.
" The Plan, Ch. 28, Para. 24.
*** Ibid., Para. 25.
and income in this sector of the economy. To meet the country's requirements, all means of transport from pack animals to the ocean-going ships would need to be effectively mobilized, properly co-ordinated and efficiently used. Each mode of transport should be provided opportunity for development, in the sphere for which it is best fitted under the circumstances.

**Railways**

119. To facilitate the colonization of the country, the British laid great emphasis on railway construction. In consequence, India today has larger railway mileage in commission than any other Asian country. Since India's railway network is already fairly extensive, and since extension of mileage involves large investment, for the present, the emphasis should be not on new construction but on greater operating efficiency on the existing lines. To this end it is necessary to wipe out the large arrears in normal replacements and renewals, undertake measures for the welfare of the employees, effect improvements in signalling and inter-locking, and provide amenities to passengers. The Plan provides for an aggregate expenditure of Rs. 400 crores including 150 crores to cover the depreciation of assets during the period of the Plan.

**TABLE 73: THE RAILWAY PLAN FOR 1951-56 (Rs. CRORES)**

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<th>Item</th>
<th>Outlay</th>
</tr>
</thead>
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<td>64.87</td>
</tr>
<tr>
<td>Bridges</td>
<td>5.60</td>
</tr>
<tr>
<td>Other structural and engine works</td>
<td>43.41</td>
</tr>
<tr>
<td>Collieries</td>
<td>1.45</td>
</tr>
<tr>
<td>Ports</td>
<td>1.04</td>
</tr>
<tr>
<td>Rolling Stock &amp; machinery</td>
<td>207.96</td>
</tr>
<tr>
<td>Restorations</td>
<td>5.66</td>
</tr>
<tr>
<td>New lines</td>
<td></td>
</tr>
<tr>
<td>Special projects</td>
<td></td>
</tr>
<tr>
<td>Major bridges</td>
<td></td>
</tr>
<tr>
<td>Electrification of track</td>
<td></td>
</tr>
<tr>
<td>Conversion of narrow gauge</td>
<td></td>
</tr>
<tr>
<td>Passenger amenities</td>
<td>15.00</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.40</td>
</tr>
</tbody>
</table>

Source: The Plan, Ch. 31.
In addition, a portion of the lump sum provision of Rs. 50 crores made in the Plan for the expansion of basic industries and ancillary transport is also expected to be made available for railway development. During the Plan period, India is expected to produce 268 broad gauge and 170 metre gauge locomotives, 4,380 coaching vehicles and 30,000 wagons. She will import during this period, 641 locomotives, 1,294 coaching vehicles and 19,143 wagons. 400 to 500 miles of track are to be annually replaced.

120. In conformity with the general pattern of priorities in development accepted in this study, we would suggest the following policy in respect of railway development. (a) During the First Stage, no new lines should be constructed nor lines dismantled in war-time restored, except when this would imperil national security or seriously interfere with the realization of any major objective of the Plan. Large-scale expansion must be postponed to the Third Stage, when the country's heavy industry would be in a position adequately to meet the requirements of this expansion. (b) The less essential items in the rehabilitation programme may be postponed to the Second Stage, while the rest of this programme may be appropriately slowed down to release resources for the development of the railway equipment industries. India has already made a beginning with such development. The government-owned Chittranjan Locomotive Works are eventually expected to produce 120 locomotives and 50 spare boilers per annum. The capacity of the Tata Locomotive Engineering Company's Works in 1955-56 will be 50 locomotives. India produced 475 coaching vehicles and 2,924 wagons in 1950-51. The Plan provides for the establishment of a coach-building factory with a capacity of 300-350 coaches. The output far from providing a margin for meeting the accumulated arrears in replacements, falls short of the average annual renewals estimated at 190 locomotives, 650 coaches and 5,000 wagons. Moreover, many vital parts used in
locomotive manufacture are imported. The slowing down of the rehabilitation programme for two years or so, to provide resources for the development of the transport equipment industries will mean that the backlog of demand for railway equipment would stimulate the expansion of a key industry at home rather than provide employment abroad. Since the external finance requirements of the proposed rehabilitation are very high, slowing down of the programme will release, not only enough finance for the development of transport equipment industries, but also enough foreign exchange for the import of equipment and technical skill required for this. The strain on the railway system may be lightened by arousing the railway workers to put the existing equipment and facilities to the most efficient use, by raising railway passenger fares with a view to discouraging less essential travel, by full utilization of the possibilities of alternative means of transport, and by rationalizing the economy's transport requirements, with a view to avoiding long haulages and cross freights. Progress towards self-sufficiency will greatly relieve the strain on the railway system, for there will no longer be the need to move millions of tons of imported grain over long distances. Greater regional balance in the development of large-scale industry and the replacement of imported consumer-goods largely by the products of domestic cottage- and small-scale industries will also reduce transport requirements. To the same end, the 'telescopic' class rates adopted in 1949, (in which the unit charge declines with distance, so that long haulages are encouraged) will need to be suitably modified. The slowing-down of the

* There is ample justification for a further rise in railway passenger fares (which even now are about the lowest in world) when the proceeds are meant to provide finance for development. The incidence of the tax element in the higher fare charges will surely fall on the mass of the people. But who can suggest that in an under-developed country the high rate of fiscal saving necessary for industrialisation can be attained by taxing only the rich?
rehabilitation programme will undoubtedly mean that the passengers will have to do without amenities for a little longer, but this will be amply compensated by the fact that the creation instead of transport equipment industries will free the country from dependence on the outside world for vital equipment, reduce the pressure on the country's foreign exchange resources, and make possible rapid modernization and expansion of the railway system during the subsequent periods.

121. We thus suggest the following programme of railway development: the meeting of current depreciation of assets and a part of the accumulated arrears of depreciation, restoration or new construction of only such lines as are vital to national security or for some other major objective of the development Plan, and the creation of an adequate railway equipment industry, should be the main objectives during the First Stage; the elimination of the accumulated arrears of depreciation, restoration of the dismantled lines, the construction of other urgently needed lines and the electrification of lines subject to exceptionally heavy traffic during the Second Stage; and large-scale expansion of the railway network, its electrification wherever traffic justifies it, and the provision of adequate passenger amenities during the Third Stage.

Roads

122. The Plan provides for a total outlay of Rs. 108.9 crores: Rs. 31.2 crores are to be spent by the Central Government (of this amount Rs. 27 crores on National Highways) and the balance by the State Governments on State Highways and village roads. Thus the public sector will invest more in roads alone than in large-scale industry! The money earmarked for national highways is to be spent on providing missing road links, the construction and improvement of
bridges, and improvement of road surfaces. Among state highways, preference is to be given to roads which open out areas at present inaccessible, assist production - particularly agricultural production - or serve as feeders to railways, or relieve congestion at certain junctions, or are necessary to provide customs posts and watch and ward services at the national frontiers.

123. Along with the Fiscal Commission, we deplore the recent bias against roads of 'local' as against those of 'all-India' importance*. During the First Stage, the emphasis should be on village roads, especially those which connect villages with marketing centres and railway stations, and on roads serving important construction sites; the development of national highways should be largely postponed to subsequent periods. The emphasis on village roads is justified on several grounds. This will facilitate the expected greatly increased exchange of rural produce for urban products. The country's bullock-cart resources will then be able to cope with the increased traffic, especially if improved carts fitted with pneumatic tyres are introduced. Increased traffic will thus go to provide larger employment and income to the rural population. Village roads will facilitate the supply of local materials for development projects. By bringing the rural areas into more intimate contact with the towns, they will aid the cultural uplift of the rural population as well as their mobilisation for work on the construction projects during the slack season. The cost to the government of such roads will be relatively small, because, firstly, compared to the National Highways, they will be more or less rough tracks and, secondly, a popular Government could introduce the principle that the Government provide the materials and equipment while the villages likely to

benefit provide free labour*. Since the National Highways usually run parallel to the railways, their improvement is not of very great urgency. The proper time for rapid extension and improvement of the National Highways and other trunk lines will be when India has begun to produce road-building equipment and materials on a sufficient scale, when the automobile industry is well developed, when the problem of petrol is satisfactorily solved, and when the investible resources are more plentiful than at present.

124. In India at present there are 47,475 operators of commercial motor transport, of whom more than 46,000 own five vehicles or less**. Efforts have been made to prevent unfair competition between roads and railways, and to induce the development of road transport along proper lines. The Motor Vehicles Act (1939) was the first major step in that direction. To the same end, in 1946 the Government accepted the policy of encouraging the formation of transport undertakings on a tripartite basis, viz., private operators, the State Governments, and the Railways. The investment on public road transport services at Rs. 17.13 crores by the end of 1952***. This investment is made up of contributions from the State Governments, the railways and the private operators. The States propose to invest Rs. 8.97 crores in road transport during the Plan period.

The operational efficiency of State transport undertakings at present is, however, far from satisfactory; in the Punjab at least, few are making any profit. To improve efficiency, the Plan suggests that wherever road transport services are run by a State, a corporation should be formed for the purpose. We would suggest that before public transport services are further extended, the existing services must be brought to a satisfactory level of operational efficiency; State commercial enterprises must not be allowed to become a drain on public revenues. Further, the problem of railroad coordination has by no means been satisfactorily solved.

* This principle has already been introduced in the Punjab in the construction of water channels.

** The Plan, Ch. 31, Para. 82. *** Ibid., Para. 84.

© Ch. 31, p. 87.
In many cases, road transport services operate on routes parallel to the railways, with the result that neither has sufficient traffic.

Shipping

125. India's shipping tonnage and ship-building capacity are very limited; whereas her overseas trade aggregates four per cent. of the world trade, her shipping tonnage is less than half a per cent. of the aggregate world tonnage*. On the eve of the Plan Indian-owned shipping registered for operation on the Coastal and Overseas trade was just 3.91 lakh tons**. More than half of the coastal fleet is over 20 years old. Of the total shipping tonnage that entered and cleared Indian ports in 1950-51, Indian shipping accounted for only 2% and 2.96%, respectively. The position in respect of ship-building capacity is no better. The current capacity of her only shipyard - the Hindustan Shipyard at Vishakhapatnam - is only 2 ships a year. Engines, boilers and ancillary equipment are imported. Ship-building costs are relatively high*** because it is not an integrated unit of an optimum size, works below capacity, and is not supplied by the steel industry with plates and other types of steel of the most economical sizes.

126. On account of the inability of shipping companies to build resources and raise additional capital on the investment market, the Plan allocates Rs. 14.9 crores to the expansion of Indian tonnage. Of this amount Rs. 4.4 crores will be made available to the Eastern Shipping Corporation, and Rs. 4 crores and Rs. 6.5 crores to private shipping.

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** The Plan, Ch. 31, Para. 29.
*** The Plan accordingly envisages the subsidising of ship-building in this yard. (Ch. 31, Para. 31.)
In 1950, India is reported to have paid Rs. 40 crores as freight on imported goods, respectively. In addition, these companies will raise Rs. 4.2 crores themselves for the purpose. In 1955-56, Indian-owned tonnage is expected to rise to 600,000 tons, of which 315,000 will be for coastal shipping and the balance for overseas trade. The companies will, in turn, be required to ensure reasonable freight rates and passenger rates, adequate provision for replacement and renovation, and efficient and progressive management.

Rs. 14.08 crores have been provided for the acquisition and development of the Vishakhapatnam Shipyard. As from March, 1952, the yard has been taken over by the Hindustan Shipyard, Ltd., with an issued capital of Rs. 3 crores, two-thirds of which is held by the Government and the balance by the Scindia Steamship Navigation Company. The capacity of the Yard is to be raised to 50,000 DWT by 1955-56.

127. The size of India's foreign trade (Rs. 1634 crores in 1951-52) provides bright opportunities for the development of Indian shipping. Such development will provide substantial additional employment to Indian nationals, raise the country's national income, improve the balance of payments' position**, encourage shipbuilding in the country, and help to train sailors for the Indian Navy. The objectives before Indian shipping should be: 100% share of the coastal trade, and 50% of share in the overseas trade. The expansion programme provided by the Plan - an addition of only 215,000 tons in 5 years - is too inadequate. It may be pointed out that the Shipping Policy Committee (1947) had recommended the expansion of Indian Shipping tonnage to 2 million tons in the next 5 to 7 years. The tonnage should be expanded, both by rapidly stepping up the capacity of the Vishakhapatnam Yard, and by acquiring shipping from abroad. The expenditure of foreign exchange on this account will be offset by saving in payments of fare and freight charges to foreign shipping companies, made possible by the growth of Indian mercantile marine. During the First Stage, the Vishakhapatnam Yards.

** The Plan, Ch. 31, Paras. 51-59.
should be developed into an efficient self-sufficient unit. This, together with the expansion of the steel industry, will prepare the ground for the rapid expansion of shipbuilding and of Indian-owned shipping in the subsequent periods. To attain the above objectives, the investment in the First Stage in the development of the yard and the expansion of the Indian-owned tonnage will have to be much larger than provided in the Plan. At the same time, adequate facilities for the training of technical shipping personnel will need to be created. Some progress in that direction has been made in recent years. A College was established in Bombay in 1948 to train Executive (Dock) Officers. Similar Colleges are proposed at Vaishakhapatnam and Cochin. Marine Engineering Colleges have been opened at Bombay and Calcutta; others are proposed at Vaishakhapatnam and Cochin. A system of apprentice training for educated young men with pre-sea training courses for them is to be introduced. There is also the need to fill the 'serious lacuna' in the present facilities for technical training for shipping personnel pointed out by the Fiscal Commission, viz. the absence of an organized scheme for the training of Dock and Engine-room crew. The Plan provides Rs. 110 lakhs for the training of marine engineers and merchant navy ratings.

128. The annual capacity of India's five major ports is at present about 20 million tons; the tonnage actually handled in 1949-50 also amounted to the same figure**. There is thus no reserve capacity for coping with expansion of trade. There is also the need to provide a natural outlet for traffic previously catered for by Karachi, and to replace and renew port equipment. Accordingly, the Plan provides Rs. 29.27 crores for the rehabilitation, modernization and expansion of the five major ports, Rs. 12.05 crores

** The Plan, Ch. 31, Para. 49.
for the Kandla Port (a substitute for Karachi) and Rs. 8 crores on the provision of facilities for the oil refineries, making a total of Rs. 54.22 crores. In addition, Rs. 2 crores are provided for light house development. In our opinion, it would have been better if the Plan had provided for larger investment in the development of ship-building industry at the expense of allocation for port development. The pressure on port facilities could be considerably eased by stopping imports of foodgrains and curtailing those of long- and medium-staple cotton, consequent on increased domestic output, and by curtailing the export of minerals. In all these ways demand on port facilities could be reduced by about 5 million tons (i.e. 25% of the total demand in 1949-50). Investment on the scale provided for in the Plan for development of ports and harbours would then have been unnecessary. Again, it is regrettable that the Plan provides only Rs. 0.1 crores for the development of inland water transport. The transport potentialities of inland water-ways thus remain as before, and receive no attention.

**Civil Aviation**

129. Vast distances, good flying conditions over the greater part of the year, and situation astride the world air routes between the East and the West, make India admirably suited for the development of air transport. Nor can the importance of air transport services for civilian as well as defence purposes be over-emphasized. But large-scale expansion of civil aviation cannot be taken up in the First Stage; it must be postponed to subsequent periods. At present the available traffic is very limited. This, according to the Air Transport Enquiry Committee's Report, is the main reason for the 'far from satisfactory' financial position of the civil aviation companies. Aircraft and other equipment has to be imported from abroad. The proportion of external finance to total finance required for development is, therefore, very high. The industry being highly capital-
intensive, investment in it makes relatively small addition to employment and income. Large-scale expansion of air transport will, therefore, be feasible only when the volume of available traffic is much larger, when the country can herself manufacture aircraft and other equipment, or when the strain on foreign exchange resources is less acute, and when the supply of capital is more plentiful. The Plan allocates Rs. 22.87 crores for the development of civil aviation. The Plan considers that 'under the present conditions of traffic load and intensity of operations .... economic operations will be possible only if the existing companies merge into a single unit'*. Accordingly, the Plan envisages the creation of a single public Corporation in which, the existing air transport companies, if they wish so, will be allowed a minority interest. Rs. 9.5 crores (out of the total allocation of Rs. 22.87 crores) are provided for the payment of compensation to the existing air companies for acquisition of their assets by the proposed Corporation. Not much would be lost if during the First Stage the programme of development is made even more modest.

Communications

130. The Plan provides Rs. 50 crores for the development of postal, telegraphic, telephonic and wireless communications. The fact that under the Plan the public sector is to invest Rs. 79 crores (including Rs. 5 crores in the form of assistance to the private sector) in large-scale industry and Rs. 50 crores on the development of communications (excluding means of transport) strikingly brings out the wide difference between the objectives and priorities accepted by the Plan and those envisaged in this study.

* The Plan, Ch. 31, Para. 62.
IX. TRADE AND COMMERCE

131. Increase in output will stimulate trade. The consequent increase in income earned in this sector of the economy may attract more people into it. But this must be prevented. For, as pointed out in Chapter I, trade is already over-staffed in the sense that it employs more people than would be adequate to handle the current, even substantially larger, volume of business. The objective of policy should rather be to shift a good portion of those now engaged in trade into production. The greatest obstacle to such redistribution of the country's labour force is that, though over-staffed in the above sense, trade yields larger income per person than most of the other sectors of the economy*. This may, however, be overcome through measures such as the extension of state trading, imposition of sufficiently high commercial licence fees and the creation of better remunerative employment opportunities in production, which would sufficiently modify the relative attractiveness of distribution and production in favour of the latter. The income earned by Indian nationals and the employment obtained by them in trade would, however, increase to the extent that they expand their share in India's trade, especially foreign trade, at the expense of foreign nationals.

X. BANKING AND FINANCE

132. Banking in India has two sectors - an organized (modern) and an unorganized (indigenous) one. The first includes the Reserve Bank of India, exchange banks and other scheduled banks, and the second includes the numerous village money-lenders and the town shroffs. The non-scheduled banks stand on the borderline between the two. The needs of economic development will require a steady expansion of modern banking and financial facilities. The

current position is far from satisfactory. At the end of 1951, in the country as a whole, there was one banking office (scheduled) for every 136,583 of the population. In several States the position was far worse than that indicated by the national average.

<table>
<thead>
<tr>
<th>State</th>
<th>Population</th>
<th>Offices</th>
<th>Population per Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uttar Pradesh</td>
<td>6,32,54,118</td>
<td>375</td>
<td>1,68,678</td>
</tr>
<tr>
<td>Punjab</td>
<td>34,68,631</td>
<td>20</td>
<td>1,73,432</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>9,89,437</td>
<td>4</td>
<td>2,47,359</td>
</tr>
<tr>
<td>Hyderabad</td>
<td>1,06,52,964</td>
<td>75</td>
<td>2,48,706</td>
</tr>
<tr>
<td>Bihar</td>
<td>4,02,18,916</td>
<td>123</td>
<td>3,26,983</td>
</tr>
<tr>
<td>Assam</td>
<td>91,29,422</td>
<td>22</td>
<td>4,14,975</td>
</tr>
<tr>
<td>Vindhya Pradesh</td>
<td>35,77,431</td>
<td>4</td>
<td>8,94,358</td>
</tr>
<tr>
<td>Orissa</td>
<td>1,46,44,293</td>
<td>12</td>
<td>12,20,358</td>
</tr>
</tbody>
</table>

Source: Reserve Bank of India, Trend and Progress of Banking in India in 1951, p. 71.

Orissa has one banking office for 1.2 million of the population. Even when allowance is made for the 1,518 offices of non-scheduled banks, the banking facilities are undoubtedly very inadequate to meet the needs, alike of economic development or of a developed economy. So is also the case with financial institutions. Adequately to finance agriculture, cottage and small industries, and large-scale industry, appropriate financial institutions will have to be created and multiplied. Economic development will thus call for a steady expansion of the organized sector in banking and finance. But the need to provide agriculture, industry and trade with credit on reasonable terms requires that the organized sector should not merely supplement the indigenous type of banker but supplant him. This would involve steady contraction of the unorganized sector from
the very beginning. Since the organized sector even at a much higher level of development is unlikely to require anything like the number now engaged in the unorganized sector, development in the sphere of banking and finance will not provide additional employment, though it will certainly raise the income generated.

XI. EDUCATION AND CULTURE

133. Adequate educational and cultural facilities - adequate in quantity and quality - are an indispensable requirement of a modern civilized community. Quantitative adequacy means that such facilities should be available to all in reasonable measure. Qualitative adequacy signifies that they should ensure the realization of the two basic aims of education and culture, viz. the satisfaction of the occupational needs of the society and the mental and moral development of the individuals who compose it.

To train the senses, develop the intellect, stimulate critical and creative faculties, humanize the emotions, increase the capacity for enjoyment, foster a proper social outlook, arouse true patriotism, insculp subordination of self-interest to the larger interests of the community, build character - in short, to develop human personality in all its manifold aspects, is one function of proper education and culture; to qualify man for the economic role that he may be called upon to perform, is another.

134. That the educational facilities available in India are inadequate both in quantity and quality, is a subject of frequent comment, lay as well as professional. Some of these deficiencies may be noted here.

(a) A high proportion of children have no access even to primary education; a still higher proportion go without secondary education. At present educational facilities are provided for only 40% of those in the age-group
6-11, 10% of those of the age group 11-17, and 0.9% of those of the age group 17-25. And not all the children who join a school complete even the primary course. A considerable proportion of them drop out after spending one or two years at the school. Many even of those who leave the school after completing the primary course, being unable to afford books and newspapers, relapse into illiteracy in a few years' time. Consequently a high percentage of the adult population, especially of women, are illiterate. In India a very high percentage of illiteracy and a very acute problem of educated unemployment co-exist. The number of pupils handled per teacher is much too large for efficient teaching. In 1950-51, a primary school teacher handled on the average 39.6 students, a junior basic/teacher 39.8 and a secondary school teacher 26.9.

(b) There are wide disparities in the matter of provision of educational facilities, between rural and urban areas, between different sections of the society and between men and women. In 1949-50 girl pupils in the primary, middle and the high school stages were only 28.18 and 13 per cent. of the total number of pupils studying in these stages.

(c) The various stages of the educational system are not clearly and rationally marked out. The duration and standards of the primary and secondary stages vary considerably in different States. The relationship between ordinary and basic education remains to be defined. Education lacks a practical bias. There is great wastage through excessive failures. Far too high a percentage of teachers (41.4% of the primary teachers, and 46.4% of the secondary school teachers in 1949-50) are untrained. Women teachers are especially in short supply. The scales of pay and conditions of service of teachers are 'generally very unsatisfactory'.
(d) In the sphere of university education, there is complete lack of balance between facilities for non-professional and professional education. Unemployment is particularly acute among those with general education, and yet the enrolment in, and output of, non-professional colleges far exceeds those of professional colleges. Again, there is an equally serious imbalance in facilities for different types of professional education. Even though 68.2% of the working population are engaged in agriculture, the output of graduates and post-graduates in commerce is some five times that of agriculture. The annual output of law graduates is twice the output of graduates in engineering and technology! These facts are brought out below:

<table>
<thead>
<tr>
<th>TABLE 75: ENROLMENT IN AND OUTPUT OF COLLEGES IN INDIA - 1948-49</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Non-professional Edn.</td>
</tr>
<tr>
<td>2. Professional Education</td>
</tr>
<tr>
<td>(a) Teachers' Training</td>
</tr>
<tr>
<td>(b) Engineering and Technology</td>
</tr>
<tr>
<td>(c) Agriculture</td>
</tr>
<tr>
<td>(d) Forestry</td>
</tr>
<tr>
<td>(e) Medicine</td>
</tr>
<tr>
<td>(f) Veterinary</td>
</tr>
<tr>
<td>(g) Law</td>
</tr>
<tr>
<td>(h) Commerce</td>
</tr>
</tbody>
</table>

+ Calculated from the data on individual States given in the Ministry of Education Publication 'Education in the States of the Indian Union (1948-49)', Delhi, 1951.
++ Source: Govt. of India, Education in Universities in India, 1948-49, Delhi, 1952, p. 59.
+++ B.A. (Pass and Hons.) | 19,385 |
E.Sc. (Pass and Hons.) | 17,654 |
Total ... ... ... | 37,039 |
£ M.A. ... ... ... | 3,632 |
M.Sc. ... ... ... | 346 |
Total ... ... ... | 4,978 |
The children of the village and town poor form a very small proportion of the student body, especially in colleges. The available scholarships are too few and too small. Opportunities for part-time work by students are virtually non-existent. The poor, therefore, either do not at all send their children to school or withdraw them quite early. There is extreme inequality of opportunity in this field.

The quality of education is poor. In the primary schools the amount spent per student averaged just Rs. 18.1 in 1948-49. Methods of teaching are unscientific, and the courses of study irrational. There is undue stress on examinations and memory work. The education provided is largely unrelated, alike to the needs and the conditions of the country. It also tries to create a gulf between the educated and the mass of the people. The University Education Commission in their Report have pointed out serious defects in almost every aspect of university education. These include: teachers' lack of enthusiasm and freshness (70); insufficient and ill-equipped libraries and laboratories (70); low salaries of teachers (71); low standards of university teaching and examinations (84-85); large wastage through high percentage of failures (96); large percentage of third divisions (98); overcrowding in colleges (100-101); low standard of experimental work in both physical and biological sciences (100); insufficient number of working days (101); insufficient emphasis on tutorial or seminar work (103); the evils of the text-book system (104-5); poor facilities for advanced research (145-46); insufficient amount of research work by teachers (147); shortage of teachers in science (157); very inadequate agricultural education at the university level (182); purely theoretical education of the graduates in commerce, so that they are ignorant of the ways of business (207); inadequate and faulty school practice in teachers' training courses (182); lack of experience...
of school teaching by most of the staff in teachers' training colleges (213-14); very inadequate output of engineers (235); failure of engineering colleges to produce engineer-scientists (technologists) and to develop diversified courses (235); insufficient importance attached to work-practice in engineering education (237); over-crowding in medical colleges (266); inadequate and unsatisfactory facilities for post-graduate instruction in medical colleges (271-72); insufficient or no attention paid to certain types of medical education e.g. dental education, public health engineering, etc. (272); lack of facilities for professional business education, public administration education and education in industrial relations (Ch. VII); the continued use of English as the medium of instruction (Ch. IX); the dominance of an unsound examination system over instruction (346); insufficient attention to students' health (348-64); inadequate and unsatisfactory residential and dining facilities for students (374); absence of corporate life (386); and inadequate and deficient facilities for women's education (Ch. XII). As regards secondary education, the Commission considered it as 'the real weak spot in our entire educational machinery'.

135. The above-mentioned inadequacies and deficiencies, and the lacunae in, the educational system are but an aspect of the general state of under-development of the country. They are at once a consequence and an aid of backwardness. All-round development signified by industrialisation must provide for their progressive elimination. The development programme must, however, be related to the country's resources and needs at each stage of her development. Failure so to relate it will jeopardize the realization of the programme and reduce its effectiveness. Keeping in view the needs and resources of the country and the suggested sequence in her development, we suggest the following programme of educational progress:—
First Stage. The main objectives should be:

(a) Liquidation of adult illiteracy. The only practicable way to achieve this is to arouse and mobilize, through the agency of a relatively small number of paid organizers, the employed (or otherwise occupied)* educated adults to teach their illiterate countrymen.

(b) Universalization of primary education through an adequate expansion of the present primary school facilities.

(c) Substantial expansion of facilities for secondary education.

(d) Research to determine the "content" of school education that will be most conducive to the realization of the two basic aims of education**.

(e) Rectification of the structural imbalance in the available educational facilities. This would require curtailment of certain types of educational facilities (e.g. facilities for non-professional university education, especially in Arts) and expansion of others (e.g. facilities for technical, vocational and professional education in fields other than Law and Commerce).

(f) Reform of university education in the light of the University Education Commission's recommendations.

The Plan (which should mark what we have demarcated as the First Stage in India's industrialization) fixes the following targets for 1955-56 in respect of educational

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* For only they can render regular, part-time service free of charge.
** The Plan favours basic education for the age-group 6-14 (Ch. 33, p. 20). But as observed by the Draft Plan (p. 225), 'many aspects of this new approach call for systematic study and research'. The writer is not qualified to pronounce on the relative merits of different systems of education. But undoubtedly, it would be better if any new system is adopted only after its worth is unmistakably proved.
development. (a) Educational facilities are to be provided to 60% of the children in the age-group 6-11 (the percentage of girls in this age-group attending school is to be raised to 40%), and to 15% of the children in the age group 11-17 (the percentage of girls in this age-group attending school is to be raised to 10%). (b) 30% of the population in the age group 14-40 (10% of women) are to be provided with the benefit of social education. (c) In the field of university education, the main emphasis will be on consolidation rather than expansion.

Second Stage. The main objectives should be:

(a) Universalization of secondary education.
(b) Reform of school education, to give it an appropriate content.
(c) Rapid expansion of facilities for technical and vocational education.
(d) Provision of re-training facilities for those thrown out of employment by technological advances.
(e) Further improvement in the quality of university education and in research facilities.

Third Stage. The main objective would be the expansion of university education including non-professional education and of facilities for research, including fundamental research.

Clearly, throughout the three stages, expansion and improvement of educational facilities will provide employment to ever larger numbers and there will be a steady increase in income earned in this sector of the economy. If those engaged in printing and publishing were also counted, the number employed in meeting the educational needs of the country may in 15 to 20 years grow to six or seven times the present figure.

* The Plan, Ch. 35, Para. 13.
136. Economic development and educational progress will create conditions for the flowering of culture, poetry, the cinema, the theatre, music, dancing, painting, photography, sculpture—all will flourish. There will be a growing demand for tourist facilities, youth camps and sanatoria. This will mean expanding employment and increasing increases in the tertiary sector.

XII. HEALTH AND SANITATION

137. The present state of the nation's health is far from satisfactory. Malaria takes an annual toll of a million lives*. There are 500,000 deaths every year due to tuberculosis, and at any time 2½ million are suffering from this disease**. The incidence of sickness and mortality, especially among infants (127 per thousand) and women (maternal mortality rate is 20 per thousand live births), are very high. The expectation of life at birth is low (32.09 years for men and 31.37 years for women). A high proportion of the population suffer from various degrees of physical disability***. Poor health standards involve not only widespread suffering but also economic waste. One authority has estimated the annual loss to India (undivided) on account of malaria alone at anywhere between Rs. 147 and 187 crores.****

138. Health is not merely the absence of sickness; it signifies 'that positive state of well-being in which mind and body are able to function to their fullest capacity'. Better health standards necessarily require improved general living and working conditions. Adequate and unadulterated food—adequate not only in its calorific content but also in the quality and balance of various nutrients—, hygienic houses, fresh air, working conditions free from

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* The Draft Plan, p. 197.
** Ibid., p. 198.
hazards to health, and a cheerful atmosphere, are all necessary for high health standards. One objective of economic development will, therefore, be to provide these to the mass of the people. These measures of general economic improvement will, however, need to be supplemented by specific measures to improve health standards. These include provision of protected water supply to the population*, hygienic collection and disposal of community wastes**, expansion of sports and recreational facilities, spread of the knowledge and practice of the elementary rules of good health and good physique, and the creation of an adequate system of preventive and curative health service***.

139. The Health Survey and Development (1946) (the Bhore Committee) stipulated the following as the main requirements of an adequate Health Service: 'that the service should be available to all citizens, irrespective of their ability to pay for it', and 'that it should be a complete medical service, domiciliary and institutional, in which all the facilities required for the treatment and prevention of disease as well as for the promotion of positive health are provided'. The concrete programme for the creation of such a health service may be drawn in the light of the recommendations of the Bhore Committee, the Public Health Sub-Committee of the National Planning Committee, and the Planning Commission. We would, however, make the following suggestions:— (a) The expansion of health services should be accorded high priority. We endorse the Bhore Committee's view that 'expenditure of money and effort on improving the nation's health is a gilt-edged investment which will yield not deferred dividends to be collected years later, but immediate and steady returns in substantially increased

* In 1946 only 6% of the towns had protected water supply which served only 6.15% of their population (Draft Plan, p. 196). Since then the position has considerably worsened due to increase in the urban population, influx of displaced persons, and postponement of water supply development schemes. In rural and semi-urban areas, the position in this respect is 'altogether unsatisfactory'.

** The percentage of the total population served by the sewage system does not exceed 3% (Draft Plan, p. 196).
production capacity*. (b) The State should take on itself the responsibility for the preservation and maintenance of the health of the people. For only a State Health Service can meet the above-mentioned requirements of an adequate health service. (c) The health service should take the form of a pyramid of organizations in an ascending order of efficiency from the point of view of staffing and equipment. The higher organizations would not only provide technically superior service but also supervise, regulate and co-ordinate the activities of the organizations below it. (d) The service should be entirely free to the non-income tax payers; the income-tax payers may be subjected to a suitably graded charge. (e) Private practice by whole-time salaried doctors should be prohibited to prevent the present widespread misuse of their position by doctors employed in Government hospitals. Corrupt practices on the part of all categories of the hospital staff should be put an end to. Rather, special efforts should be made to imbue the personnel with the spirit of service to the people. (f) Training facilities should be expanded and training courses rationalized to make possible rapid multiplication of the various categories of health personnel. The trainees should be imparted instruction in their mother tongue at least in the lower-grade institutes. (g) Specialized field organizations should be set up and other measures taken to control communicable diseases including malaria, tuberculosis, smallpox, cholera, plague, leprosy, venereal diseases, etc. (h) Adequate research facilities should be provided. Special attention should be paid to examine which of the indigenous products, medicines and methods of treatment would be suitable for adoption by the State Health Service. (i) If possible, homeopaths should be absorbed into the State Health Organization after giving them further education and training. Domestic production of drugs and medicines, scientific and surgical apparatus, and instruments and equipment should be stepped up.

* Ibid., pp. 1-2
140. The foregoing measures for raising health standards in the country will open up larger employment opportunities. Health and sanitation is, thus, another field which, from the very beginning of the development programme, can look to steady expansion in employment and income.

XIII  SOCIAL SECURITY

141. A comprehensive system of social security is needed to protect the individual and his dependants against the exigencies of life such as unemployment, sickness, invalidity, disability, maternity, a large family, old age and death. In January 1949, 44 countries had old-age, invalidity, survivors' insurance and pension (or assistance) programmes, 36 had health and maternity insurance, 57 had workmen's compensation, 22 had unemployment insurance and 27 had family allowance programmes*. Even the infant People's Republic of China has put into effect a system of security providing for sickness, injury, disability, old age, death, maternity and other benefits entirely at the cost of the employers (whether private or government organizations)*. In India the Workmen's Compensation and Maternity Benefit Acts may be taken to mark the beginning of social security legislation for workers. The Employee's State Insurance Act (1948) constitutes an important landmark in that direction. The Act applies in the first instance to all factories, other than seasonal factories, using power and employing 20 or more persons, and covers all workers and employees drawing less than Rs. 400 per mensum. The administration of the scheme is in the hands of an autonomous body, known as the Employers' State Insurance Corporation. A smaller body, called the Standing Committee, is to work as the executive of the Corporation. To advise the Corporation on matters relating to the administration of medical benefit, there is to be a third body, called the Medical Benefit Council. The main

interests concerned, viz. Governments (Union and State), employers, employees, the medical profession and the Union legislature are to be represented on the three bodies.

142. The resources of the Employees' State Insurance Fund include contribution from employees and employers and grants, donations and gifts from the Union and State Governments, local authorities or any individual or body. The Union Government will make an annual grant to the Corporation, during the first years, of a sum equivalent to two-thirds of the administrative expenses of the Corporation. The principal employer is held responsible for the payment of his own and the employee's contribution. The rates of weekly contribution payable in respect of an employee are laid down in a schedule. The following benefits are provided to insured workers or the dependants: sickness benefit, maternity, disability benefit, dependants' benefit, and medical benefit.

The Corporation was inaugurated in October 1948. The scheme is to be put into operation by stages.

The President Fund Act of 1952 takes the system of social security a step further.

143. As economic development improves the country's resources, the scope of social insurance and its coverage will need to be extended. Benefits at present not provided for, viz. old-age pensions, family allowances, unemployment doles (till unemployment is finally abolished), rest homes, sanatoria, children's holidays, etc., will need to be made available. The number of those benefited by social insurance will steadily grow because of an increase in the number of workers and employees in consequence of industrialization and an improvement in coverage. We can, therefore look to a steady expansion of the system of social insurance. Here is another constantly expanding avenue of employment.
XIV. SOCIAL WELFARE

144. Social welfare activity concerns itself with "the underprivileged groups, neglected areas, the vulnerable sections of the community and those who are labouring under physical or moral handicaps". India has at present on her hands all these problems in ample measure. The vast rural areas, the backward classes, the women, children and youth, the physically handicapped and the morally depressed, call for social welfare work on an immense scale. These problems for the most part arise from current under-development and inequality. The ultimate solution must seek to destroy the very sources of these ills. In the meantime, however, social welfare agencies, both public and private, can do a lot of very useful ameliorative and remedial work. Most of this work must be done by unaided, voluntary, part-time workers. But there is also considerable room in this for the professionally trained, whole-time, paid workers, mainly to run the specialised institutions connected with social welfare work, to train and guide the part-time, honorary workers, and to co-ordinate their activities. Extension of social welfare work commensurate with the needs of the country will thus provide sizable additional employment.

145. Private agencies must play an important role in social welfare activities**. The State should, therefore, offer them, encouragement including provision of grants-in-aid and training facilities for their personnel***. But it should also regulate and co-ordinate their activities. At present the public have widespread and grave doubts regarding the conduct of the affairs of private welfare agencies, especially those remining widows’ and children’s homes, orphanages and goshanias. If these doubts could be dispelled through proper government control, the flow of donations to these institutions would greatly improve. Provision should,

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* The Draft Plan, p. 226.
** The Plan, Ch. 36, Para. 17.
*** The Plan provides Rs. four crores for strengthening, improving and expanding the scope of the activities of the private social welfare organisations (Ch. 36, Para. 17).
therefore, be made for compulsory registration of all religious and charitable trusts, submission by them of audited accounts and reports of activities, inspection of institutions maintained by them, and for regulations designed to ensure good governance of their affairs. Co-ordination of the activities of different welfare agencies either by the Government or by central organizations of these agencies is necessary to avoid overlapping, duplication and waste. The Union Ministry of Education has set up an Advisory Board of Social Welfare to co-ordinate the social welfare activities of the Union and the State Governments. There is still the need for a joint body representing government and private agencies engaged in social welfare work to co-ordinate the activities of the two. Adequate provision for social research, training of personnel in the light of the results of their research, priority to types of social welfare work which concern the most pressing social problems or those hampering development and is likely to yield quick results, and formation of community organizations, each embracing 'a manageable number of families living in close proximity in well-defined areas to undertake an integrated programme of social welfare activities' are some other suggestions to promote social welfare work.

146. The scale of social welfare work should be progressively stepped up till it is fully commensurate with the nation's needs. It should include the following activities: adult education; provision of libraries and reading-rooms; supply of sports and recreation facilities, especially for youth, women, and children; running of creches, nurseries and child-guidance clinics; provision of ante-natal, natal and post-natal care to women as well as assistance in family planning; supply of food supplements to expectant mothers and children; provision of facilities to students for cultural activities; development of hobbies and stimulation of interest in applied and social sciences; liquidation of prostitution and beggary through reform of those who practise it and their absorption in useful employment; training and
rehabilitation of the blind, the deaf and the mute; maintenance of lepers, the crippled, the helpless and the abandoned; reform of those given to sexual promiscuity, drunkenness and similar vices; reform training and rehabilitation of the delinquent child and the jail-bird, and so forth. Full development of social welfare activities will surely provide full-time employment to large numbers.

XV. RISE IN THE RATIO OF INVESTMENT GOODS TO TOTAL OUTPUT

147. So far we have been concerned with an increase in overall output but industrialization both requires and signifies also a rise in the ratio of investment goods to total output to a very much higher than the present. To begin with, the direction of investment should be governed by the need to fill the lacunae in the full employment of the working population and of the current industrial capacity. Thereafter, the stream of investment should be so directed as to transform the present backward, semi-colonial, predominantly agrarian economy into one of advanced industry and agriculture. The emphasis will, therefore, be on industry as against other sectors, on large-scale industry as against cottage- and small-scale industry, on heavy industries as against light large-scale industries, and on investment goods industries as against heavy industries producing durable consumer goods. The investment goods output will thus be a rising proportion of a growing total of overall output. This will ensure a high and a rising rate of investment alongside of a steady rise in consumption.