

PEOPLE'S PLAN
FOR ECONOMIC DEVELOPMENT OF INDIA

By

B. N. BANERJEE,
G. D. PARIKH,
V. M. TARKUNDE,

MEMBERS OF
THE POST-WAR RECONSTRUCTION COMMITTEE
OF THE INDIAN FEDERATION OF LABOUR.

1944

Printed by M. N. Kulkarni, at the Karnatak
Printing Press, Chira Bazar, Bombay No. 2
and published by A. K. Mukerjee, Secretary,
Indian Federation of Labour, 30, Faiz Bazar,
Delhi.

CONTENTS

	PAGE
FOREWORD	i
CONVENER'S LETTER	iii
THE REPORT :	
I. INTRODUCTORY	1
II. FUNDAMENTAL CONSIDERATIONS OF PLANNED ECONOMY FOR INDIA	4
III. THE PLAN OF ECONOMIC DEVELOPMENT	11
IV. CIRCULATION OF COMMODITIES	36
V. REQUIREMENTS OF THE PEOPLE	38
VI. OPERATION AND FINANCING OF THE PLAN	42
VII. CONCLUDING OBSERVATIONS	53

FOREWORD

Last year I was requested by the Government of India to prepare a paper on labour and post-war reconstruction, which was to be submitted to the Pacific Relations Conference. In that paper, the general line of economic development of our country from the point of view of labour was indicated. Although the paper was called 'Labour and Post-war Reconstruction', it was pointed out in the paper that labour was not treated as industrial workers only, but as the entire mass of people engaged in productive occupations. Since then, the Indian Federation of Labour has been discussing the question of preparing a plan of economic development in detail. Finally, in December 1943, on the occasion of its annual Conference at Bombay, a committee was set up to draft the plan on the basis of what had already been covered.

The fundamental problem of Indian economic life is the problem of poverty. It cannot be solved on the basis of the capitalist mode of production. The guiding principle of the plan prepared by the Post-war Reconstruction Committee of the Indian Federation of Labour is, therefore, production for use as distinct from production for exchange. Increased production and equitable distribution are the cure for the evil of poverty. Increased productivity of labour and employment of a large volume of labour in more productive occupations are the conditions for the creation of additional wealth.

Under capitalism, production is limited by the purchasing power of the people. Only as much goods are produced as can be sold profitably. The maximum amount of goods that can be sold is limited by the poverty of the bulk of the Indian people. Therefore, under capitalism the creation of wealth is bound to be restricted and the capitalist mode of production will preclude equitable distribution even of the limited wealth created. The problem of poverty will not be solved.

Under capitalism, the rise in the standard of living of the people will be restricted by the purchasing power that capitalism can distribute. The distribution of purchasing power takes place through the medium of wages and the purchase of raw materials; that is to say, ultimately it is conditional upon the total volume of production. But, given the poverty of the bulk of the Indian people, production for exchange cannot be expanded beyond a certain limit without creating the crisis of over-production.

That is a vicious circle. The plan indicates the only way out. Production is to be planned, not with the object of increasing the purchasing power of the people, but with that of supplying their requirements. The object is not to create effective demand, which for reasons given above is bound to be restricted, but to estimate human demand and to equate production with it. In order to satisfy the most elementary requirements of the people—food, clothing, shelter, health and education—the productive capacity of the country must be increased many-fold. The existing industries will have to be expanded and new industries established.

Where will the required capital come from? Private capital will not be available for production for use. The plan, therefore, aims at financing itself. Wealth is created by labour. Therefore, a substantial increase in national income can be expected to take place in that sector of the national economy where the largest volume of labour is performed. In our country, that sector is agriculture. Rationalisation and modernisation of agriculture, therefore, are placed in the forefront of the plan. That will of course require development of irrigation, communications (railways and roads) and certain branches of basic industries (electrification, chemicals, engineering etc.). With a total capital expenditure of Rs. 1,600 crores in the first three years of the plan, it is estimated that agricultural production will increase to an extent as will leave a substantial surplus for the financing of the subsequent stages of the plan. Rationalisation of agriculture includes nationalisation of land and liquidation of indebtedness, so as to relieve the peasantry and leave it in possession of a large part of its surplus produce.

The capital for the initial investment will be found out of the sterling balances, income resulting from the nationalisation of land, estate duty, inheritance tax and mobilisation through Government borrowings of the accumulated wealth which at present remains out of the process of production. *It is estimated that, at the end of ten years, agricultural production will increase by 400% or more, and industrial production by 600%. The standard of living of the masses will rise by 300%, exclusive of the services such as health, education and housing which will be provided for them.*

The plan has been submitted to the Indian Federation of Labour by the Post-war Reconstruction Committee. It will soon be discussed and endorsed by it. Meanwhile, having regard for the fact that the idea of planning is being discussed with great interest, I think it will be useful if a plan from a different point of view is submitted to the public, hoping that it may contribute to the public discussion.

M. N. Roy

From,

V. M. TARKUNDE, BAR-AT-LAW,
Convener,

THE POST-WAR RECONSTRUCTION COMMITTEE,
INDIAN FEDERATION OF LABOUR.

To,

THE GENERAL SECRETARY,
INDIAN FEDERATION OF LABOUR.

DEAR COMRADE,

I have great pleasure in submitting to you the report of the Post-war Reconstruction Committee of the Federation. The committee was appointed at the annual conference of the Federation held in Bombay on the 27th, 28th and 29th of December 1943, under the following resolution :

“ Indian labour has under the leadership of the Indian Federation of Labour contributed materially to the successful prosecution of the war and the destruction of Fascism. Having done that, and while continuing to do so during the remaining period of the war, Indian Labour must now turn its attention to the problems that will face it immediately on the termination of the war.

“ The major problem that will face it will be the problem of employment, made more intricate by the demobilisation of lacs of soldiers and sailors, and the displacement of millions of workers engaged in war works and war industries. The scarcity of employment will depress the living standards of those who will be fortunate enough to secure or to retain employment and will thus intensify the problem of want, disease and misery for the overwhelming majority of the Indian people. It is on the basis of gainful employment that the problem of social security can be solved and the advantages of a higher standard of living and a better cultural life can be secured to the workers and the other exploited masses.

“ Evergrowing and ever more profitable employment cannot be secured for workers within the framework of a society where

production takes place for profit. The apprehension of falling profits is already persuading the employers to raise the bogey of post-war slump, and on that excuse to cut down production. It is on this basis that the vested interests are preparing their plans for post-war reconstruction. Such plans run counter to the interests of labour and they will also arrest the progress of the entire society. Labour must oppose all those plans and must prepare its own plan for post-war reconstruction and endeavour to secure for it the backing of the overwhelming majority of the Indian people. This Conference appoints a committee of Prof. B. N. Banerjee, Prof. G. D. Parikh, and V. M. Tarkunde, Bar-at-law, (Convener), to prepare such a plan and authorises the Executive Committee to take all necessary steps for its popularisation and implementation.

“The implementation of the plan cannot take place unless labour has an effective voice in the Government of the country. This Conference, therefore, urges upon the Indian labour the necessity of striving for the attainment of political power and re-affirms its resolve to help all such activities as would lead in that direction.

“This Conference deplors the fact that labour has no representation in the various committees set up by the Government of India and Provincial Governments except in U.P. for considering the problems of post-war reconstruction, and emphatically demands adequate representation for labour on all such committees.”

The plan for economic development, outlined in our report, has been prepared on the basis of the spirit of the above resolution.

I have to thank all those who helped the Committee in the preparation of this report. They are too many to be individually mentioned; though the Committee would very much desire to do so, and the help of each of them has been to us of great value and significance for the preparation of our report.

Yours fraternally

V. M. TARKUNDE,

Convener, POST-WAR RECONSTRUCTION COMMITTEE

March, 10, 1944
Delhi.

INTRODUCTORY

1. The idea of economic planning has come to stay in the economic practice as well as thought of the inter-war period. The general failure of the capitalist economy throughout the world, the recurrent stoppage of the wheels of production under it, the appearance of the economic crisis as the constant feature of capitalism, the phenomenal rise in unemployment in the capitalist countries of the world, and the magnificent achievements of the planned economy of the Soviet Union are some of the factors which have contributed to the popularity of this idea of planning. The repercussions of this change which economic practice and thought were slowly undergoing all over the world were bound to be felt in India also. They have produced here a strong desire for a planned economy in the post-war period. It is, however, necessary to point out that the enthusiasm for economic planning and its advocacy from different quarters are not a result of these repercussions alone. There is a further reason. They are a product of the realisation on the part of both, those who strive to preserve the *status quo*, as well as those who work to bring about certain essential and desirable changes in it, that their objects cannot be attained in the absence of a planned economy. It should thus be clear that there is nothing sound in the idea of economic planning *as such*. Planning in itself does not ensure the economic progress and well-being of the community. To ensure these, it is necessary to go into its purpose, spirit and character.

2. This would be quite clear from the experience of the two countries in which production was planned in the inter-war period. The Soviet Union and Nazi Germany are the cases in point. The Soviet planning, which was based on the socialisation of the means of production, and which restored production to its original purpose of satisfying the human demand of the community from that of making profits, attained a large measure of success in raising the standard of living of the Russian people. Its achievements in this respect were only qualified by the considerations of ensuring the defence of the Soviet Union from hostile attacks at the hands of those who saw, in the success of the Soviet experiment, a threat to their economic privileges and power. But in spite of its being influenced by this all-important consideration of defence, the Soviet experiment did lead to an improvement in the standard of

living of the Russian people to an extent as would have been unthinkable within the framework of the capitalist economy. It is true that, but for this need of defence, the improvement would have been much greater. But such improvement as did actually take place, even under the necessity of diverting a large volume of resources, human and material, to the purpose of defence, was sufficiently conspicuous to startle the entire capitalist world.

3. This must be distinguished from the economic planning under the Nazi regime in Germany. The German planning did not touch either the private ownership of the means of production or profits as the motive of production. The economic recovery of Nazi Germany, therefore, took place on the basis of a planned expansion of the producers' goods industries, and especially of armaments. The failure of capitalism to ensure a continual increase in the total volume of consumption by the community, and thus to ensure a continual expansion of the consumers' goods industries, leading thereby to a rise in the standard of living of the people, was responsible for giving this direction to economic development in the Nazi planning. The result of this planning was a ruthless regimentation of the entire German nation and the destruction of all freedom of the German people, not only economic but also political, social and cultural. The crisis inherent in the economy, based on the profit motive, could not be solved even then. On the other hand, it dragged Germany into the present war which is an outcome of planned capitalism i.e. Fascism.

4. The considerations mentioned above will have to be taken into account when we think of planning the economic life of India. It is sheer economic blindness, if not a deliberate mischief, to talk of both the Soviet and the German planning as if they belonged to the same category. The spirit and nature of the Soviet planning cannot be grasped by the jargons of the "deductive" economists. It is idle to believe that the achievements of the Soviet Union can be understood, copied or improved upon by us without bothering about any of the fundamental questions which the Soviet Union raised and boldly answered. Such a plea or claim is definitely a result of confused thinking, if not meant to confuse others.

5. This need not lead us to the conclusion that in planning our economy in the post-war period, we shall have to do nothing more than to imitate the Russian experiment or to pass through the same experience as the Soviet Union did. History does not permit such repetitions. The experience of the Soviet Union will not be repeated elsewhere in the same manner. Its value consists in its being a guide in understanding the real nature and purpose of a planned economy, if such an economy were to lead to the result of

bridging the everwidening gap between production and consumption. Once this is understood, we shall be able to possess the proper outlook with which to approach this problem of planning. But the real nature of our problem will have to be discovered only on the basis of a detailed analysis and examination of the economic reality of our country. Such an analysis and examination alone can lead us to a correct and comprehensive grasp of our economic problem and thus suggest the ways of solving it successfully. The object of this solution must be to open up the prospect of an increasingly gainful employment for our people and thus to bring about an improvement in their standard of living.

6. The idea of raising the standard of living of the people has also by now become quite current and fashionable like the idea of economic planning. It must, therefore, be realised that mere statement of such an aim for a planned economy does not take us very far, granting that it does not take us astray. The aim must be shown as being linked up with and following from the particular proposals that might be made. There is no necessary connection between improvement in the standard of living of the people and a planned economy ; nor is there any between it and an increase in the national income. An increase in national income, it is true, is essential for any improvement in the standard of living of the people. But it is possible to imagine a manyfold increase in the national income with a considerable deterioration in the living conditions of the people. The important thing, therefore, is not for a planned economy to start with saying that it will lead to an improvement in the standard of living of the people, but to show actually how it will achieve that very laudable result. The fact is that it may or may not do so ; and it will depend upon the kind of planned economy it is.

II

FUNDAMENTAL CONSIDERATIONS OF PLANNED ECONOMY FOR INDIA

7. The central problem of Indian Economy is the problem of poverty. In the ultimate analysis, it is the result of the extremely low productivity of Indian labour. A major portion of this labour is performed on land with the help of primitive implements and methods. The result of this is that it is mostly under-employed. Some of it is even altogether wasted. The solution of the problem of poverty, therefore, lies in an increase in the productivity of labour. This can be achieved through the *mechanisation of production*, both agricultural as well as industrial.

8. It is contended that the problem of poverty of the Indian people can be solved by the development of large-scale industries in the country, and that it is in this respect that our potentialities still remain to a great extent unexploited. The view, however, is superficial and expresses only a half-truth. Like all other half-truths, it is also dangerous. "The industrialisation of a country holds some dangers for other countries, if the production of manufactured goods industries is undertaken mainly for foreign and not for home consumption, or if the bulk of the population does not benefit from the increase in the national income associated with industrialisation. The lack of an increase in the purchasing power of the population will result in the attempt to export the produce of the newly created industries and in the decrease of imports of consumers' goods (relatively to raw materials)."¹ It is an indisputable fact that the main difficulty in the way of development of large-scale industries in India has been the all-too-meagre purchasing power in the hands of a large majority of the people. That alone constituted an explanation of the phenomenon of over-production in a country so full of want as India. Any attempt to increase the purchasing power of the people will have largely to concentrate on agriculture, which affords the main channel of employment to a majority of the people. Agriculture, thus, should form the foundation of any attempt to plan the economic life of

1. "Industrialisation of Agricultural Countries" by H. Frankel, *The Economic Journal*, June-September, 1943, p. 196.

the country. A plan which overlooks this fundamental consideration, or does not put an adequate emphasis on the development of agricultural production in the country with the object of improving the living conditions of the cultivator, will inevitably lead to the consolidation of a fascist economy. A plan for raising the standard of living of the people will have, on the other hand, to concentrate, in the initial stages at least, on agriculture and thereby on the supreme necessity of expanding the internal market.

9. The expansion of the internal market will enable the industries to grow. It will lead to a growingly large volume of labour being diverted from agriculture, thus relieving the pressure on soil. It will lead to an increasing creation of new wealth in the country and thus open up the perspective of a rising standard of living for the people. But the process will be extremely slow, and may be periodically altogether checked, if production were to be for profit. The continually recurring experience of the working of capitalist economy, both in India as well as abroad, affords a more than sufficient justification for this view. Of late, this experience of the wheels of production coming to a standstill, because of the operations of the profit motive, has become almost a permanent feature of capitalist economy. The desire for quickening the pace of industrialisation, therefore, can only be fulfilled on the basis of a change in the motive of production. The object of industrialisation will have to be more productive employment of labour and natural resources for increasing the national income. Economic development along the lines and with the purpose indicated above is not possible on the basis of unrestricted private ownership.

10. It is a matter of common knowledge that even the most minimum essential requirements of a large number of our people are not satisfied at present. That being the case, a large volume of consumers' goods can be absorbed in the country if they are sold at prices within the reach of the people. It will be necessary to expand the present industries to a great extent, and start many new ones in order to provide for these essential requirements. And the process of industrialisation can soon be quickened and developed so as to equate production with *human* demand. It is improbable that private capital will be coming forward for a long term investment of this kind. Not only the yield on such investment will be almost nominal, but on occasions it may even be entirely absent. That being the realistic appreciation of the situation, industrialisation including the mechanisation of agriculture will have to be financed by the state. Industries, built or expanded with the help of public funds, will naturally have to be under the control of the state. Production for well-being cannot

be planned on the basis of private enterprise guided by the profit motive.

11. It will also be necessary to control industries in which private capital has been already invested. The free and uncontrolled operations of the profit motive may lead to the stupid result of killing the goose that lays the golden eggs. Private capital can be entitled to a fixed maximum revenue of 3% which should be guaranteed by the Government. Since the industries will be called upon to sell their output at prices fixed by the Government, if any industry fails to bear this charge of 3%, the payment should be made by the Government by an inclusion of it in its regular budget. We are of the opinion that it should be possible for private capital to see its way to the acceptance of the above suggestion. It not only involves freedom from the vagaries and fluctuations of the market, but will also save it from the periodic booms and depressions. If the tempo of industrial development in the country is to be quickened, we see no possible alternative to the one of "rationed" capitalism.

12. To talk of state control in the absence of control over the state is meaningless. If the state control, referred to above, is to be properly and effectively exercised with the object of attaining the aims outlined so far, the future state in India will have to be a genuine democratic state. To be so, the state will have to be founded by a constitution having the following for its Fundamental Principles :

- (1) The supreme sovereignty belongs to the people, to be exercised through the direct control of the executive as well as the legislative functions of the State by the elected representatives of the people.
- (2) The Federal Democratic State of India is to be composed of a number of autonomous republics built on the basis of cultural and linguistic homogeneity as far as possible.
- (3) All component parts of the Federation are to have a uniformly democratic constitution.
- (4) The land as well as the underground riches are the collective property of the nation.
- (5) Promotion of the productivity of labour through the introduction of modern mechanical means of production is the responsibility of the state.
- (6) Heavy industries and banks are subject to state control.
- (7) Cultivators are entitled to hold land without any disability, subject to the payment of a unitary land

tax. Small agricultural producers are to be free from all other taxation except local rates.

- (8) Promotion by the state of large scale co-operative agriculture through the supply of modern machinery and cheap credit.
- (9) An irreducible standard of living for all labouring in fields, factories, mines, transport, offices and schools, to be guaranteed by a minimum scale of wages.
- (10) Employment or relief is a right of citizenship.
- (11) Nobody shall labour for more than six hours a day, for more than six days a week, and every worker shall be entitled to one month's leave with full pay every year, and women workers to three months' maternity leave.
- (12) Free and compulsory secular education for all children upto the age of sixteen.
- (13) Promotion of public health and sanitation is a charge of the state.
- (14) Freedom of Press, Speech and Association to be constitutionally guaranteed to all but the enemies of the people.
- (15) Fullest freedom of religion and worship.
- (16) Identical rights and responsibilities of citizenship for men and women.
- (17) Protection for the rights of minorities through proportional representation on public bodies.
- (18) Complete cultural autonomy.

13. The object of the planned economy must be to provide for the satisfaction of the immediate and the basic needs of the Indian people within a period of ten years. These are in respect of food, clothing, shelter, health and education. In order to satisfy these needs, it will be necessary to expand the present production of wealth in the country. To achieve this expansion of production, with the object of ensuring to everybody in the country adequate nutritive food, sufficient clothing, a decent shelter, and freedom from disease and ignorance, should be the purpose of the planned economy.

14. It must however be emphasised in this connection that increase in the production of wealth does not by itself ensure the satisfaction of the immediate and basic needs of the people. The question of distribution of the new wealth produced assumes in this respect a great significance. The problem of distribution can

neither be divorced from that of production nor from that of the kind of social structure and productive relationships that will be retained in the planned economy. An economy, which will retain the present out-moded system of land tenures or usury or will permit in an unrestricted manner the operations of private ownership and profit motive, will never be successful in solving the problem of distribution in a satisfactory manner. On the other hand, an economy which will not be able to solve the problem of distribution in a satisfactory manner will have to tackle the problem of production itself within the framework of its own limitations. It cannot visualise a continual expansion of the consumers' goods industry, for example, for it does not permit a continual expansion of the total volume of consumption by the community. A careful perusal of some of these basic considerations will show that expansion of production, if it is to take place with the object of raising the standard of living of the people, cannot and therefore must not be brought about on the basis of the *status quo*. Certain essential and necessary changes in that *status quo* are an indispensable precondition for planning the economic life of the country.

15. There is a further reason why the changes emphasised above are necessary. It is essential for the economic progress of the country that the surplus produced in the economy should be available for the purpose of being reinvested into it so as to raise its general technical and productive level. The production of such a surplus is a natural result of human productive activity. The lines along which the future economic progress can be visualised by us necessitate that that surplus should be available to the Peoples' State for the purpose of reinvestment, thus helping to quicken the pace of economic progress of the country. The surplus to-day is being diverted into a few private pockets and the limitations of the profit economy prevent its reinvestment. The richness of the few has thus become a direct cause of the poverty of the many and this poverty operates as a rigid barrier in the way of economic progress and prosperity. It is, therefore, an essential condition of economic progress of the country that the private channels to which the surplus is being diverted to-day must be rigidly controlled, so as to make it increasingly available to the State for the purpose of reinvestment, and that the motive of production should be changed so that it will continually be reinvested into the economy with the object of making available to the people an increasingly gainful employment and thus an ever-rising standard of living. Any attempt to plan the economic life of the country will have to take account of this consideration, if it is to be undertaken with the purpose of raising the standard of living of the people. The ideal of quickening the economic progress of the country can be realised only if the large portion of wealth, which today goes out of the process of production because of its being

privately appropriated by a few individuals in the country, can be harnessed for the purpose of being reinvested into the economy by the People's State.

16. The importance of agriculture in a plan of post-war economic development has already been emphasised. It has been made clear that the basis of our planned economy will have to be agriculture, and in the initial stages of the plan, we will have to concentrate on it. Given the present structure of our agrarian economy, any attempt to increase the productivity of the soil cannot be successful, and if successful, will only lead to the benefit of the rent-receivers and the moneylenders, leaving the tiller of the soil as poor as at present. The cultivator of the soil has been caught to-day between the gigantic pincers of the twin forces of landlordism and usury. These have deprived him both of the incentive as well as the means of increasing the productivity of the soil. To provide him with that incentive and the means should be the task of the state, and that can be done only if the planned economy of the country is based on the liquidation of rackrenting and usury, without involving any undue hardships to the parties concerned. The entire land as well as the underground riches will have to be nationalised, thus leaving no intermediary between the cultivator of the soil and the state. Similarly the entire rural indebtedness will have to be liquidated, thus freeing the peasant from the clutches of usurious capital. These two are the essential initial preparatory tasks for the planned economy, and they will lead to an initial increase in the purchasing power of the cultivator. The state will have to undertake them, if the economic life of the country is to be planned with the object of raising the standard of living of the people.

17. We have mentioned above the supreme necessity of nationalising the underground riches in the country. In the absence of even tolerably adequate and reliable statistical material, it has been found extremely difficult to indicate any rough estimates for that purpose. But nationalisation of the underground riches of the country must be the *sine qua non* of the post-war policy of the state in this respect. Suitable methods will have to be found out for implementing that policy.

18. In order that the plan may be successfully implemented and may attain its objects, it will also be necessary for the state to exercise an effective control over the banking and other financial institutions in the country. It will further have to exercise a monopolistic position in respect of foreign trade as well as all financial transactions with foreign countries. These controls would be indispensable in view of the fact that their absence will endanger or menace the carrying out of the plan itself. It will also

be necessary that the circulation of commodities between the rural and the urban areas takes place through co-operatives, and till the time this is completely achieved, the turnover of goods through private or the so-called normal channels of trade will have to be rigidly controlled and the operations of the profit motive in this respect will have to be checked. The experience of artificial shortages and heartless profiteering that we have had during the period of the war must provide us with a lesson in this respect and that lesson will have to be borne in mind in the post-war period.

19. The plan outlined in the following pages refers to British India only. But we are of the opinion that a planned economy for India will have to embrace the entire country and the Indian states will also have to join this endeavour for promoting the well-being of the people. It can be possible, in that case, to revise the estimates we have roughly made and a plan for the entire country can be outlined. For the present, absence of any adequate statistical material with regard to the Indian states has prevented us from outlining a plan for the entire country. But we must make it clear that it is not at all intended by this omission on our part that British India can carry out a plan of its economic development in the manner outlined in the following pages, leaving the so-called Indian India to itself.

20. The estimates made in the following pages are at best of the nature of rough approximations. The inadequacy as well as the inaccuracy of the statistical material available at present is proverbially well-known. We feel it necessary to mention this consideration for the simple reason that quantitative expressions carry with them associations of precision and exactitude. The price level on the basis of which the estimates have been prepared is the quinquennial average of the years 1934-39. Another point we would like to clarify in this connection is with regard to the industrial potential of the country. It is true that this is almost unknown today. Therefore, one of the important things to do, during the period of ten years covered by the plan, will be to take extensive geological surveys of the country and to discover the resources that can and have to be exploited. But such knowledge as we actually possess for the time being does vindicate the planning of an initial swing of economic development of the country and it is on this ground that the estimates and the calculations in the plan have been made.

III

THE PLAN FOR ECONOMIC DEVELOPMENT

21. Agriculture constitutes the principal industry in the country and nearly 70% of our population depends for its subsistence on land. Whatever the development of industries that we can visualise within a period of ten years, agriculture will still continue to provide employment to a major portion of our population. That being the case, it is essential that labour employed in it must be made far more productive than what it is at present. That will not only lay a stable foundation for the economy, but will also lead to the accumulation of an enough investable surplus, the investment of which can raise its general technical and productive level.

22. The food situation during the period of the war has given sufficient cause for anxiety. It is now known and accepted almost by all, excepting perhaps the interested ones, that the scarcity in the country has been mostly artificial in character, brought about by the blocking up of the normal channels of trade through the operations of the profit motive. Still it is true that there exists a certain amount of deficiency in the total production of food stuffs in the country from the point of view of feeding adequately the present population. The situation must assume a serious character if we take into account the normal increase in population at the rate of about 5 millions per year. It is well-nigh impossible to estimate what the present food crisis has cost to the country. It has almost sapped the energy, vigour and vitality of an entire people. The provision of an adequate nutritive diet to the entire people, undernourished for centuries together, must therefore be the first concern of the planning authority. That will also enable the country to have a stable and efficient labour supply. It will be necessary to change the average Indian diet so as to include in it more nutritive food stuffs, and the planning authority will have to pay attention to the production of these. The targets to be aimed at in respect of the production of foodstuffs will have to be such as will leave an exportable surplus, after adequately feeding the population of the country. The same consideration will apply, with greater force, in the case of the

non-food crops. Agricultural production will have to be increased many-fold in order to attain the objectives set forth in the plan.

23. It may be usefully recalled in this connection that the development of agriculture in the Soviet Union was also due to similar considerations. It could thereby find, in the initial stages of planning, a sum of about one and a half billion roubles in foreign currency, for the purpose of purchasing equipment for executing the programme of industrial development. The increased productivity of agriculture in the Soviet Union was expected to contribute to the process of industrial development by making available an investable surplus to the state. The same should be the criterion for the planned economy for India. It is applicable to India with all the greater force, for the population of the Soviet Union was much less than that of ours and yet agricultural production was expanded manyfold.

24. Abolition of the antiquated land tenure system in the country as well as the liquidation of usury are the essential pre-conditions for increasing the productivity of agriculture in a manner calculated to benefit the cultivator. It is not at all necessary that the feudal rights should be confiscated. But it is essential that the state should acquire them on the basis of payment of such compensation as will not involve any undue hardships to the parties concerned, nor increase unnecessarily the burden on posterity. Land should be nationalised so that no intermediary will be left between the cultivator and the state. With this object in view, the recommendations of the Land Revenue Commission of Bengal (1938), presided over by Sir Francis Floud, should be generalised.

25. A majority of the members of the Floud Commission expressed the view that "no other solution than state acquisition will be adequate to remedy the defects of the present land system No solution that can be proposed is free from difficulties and dangers but we are agreed that the present system ought not to remain unaltered." And again, "there is a clear majority on the Commission who are convinced that in order to improve the economic conditions of the cultivators, the Permanent system and the zamindari system should be replaced by a raiyatwari system under which the Government would be brought into direct relations with the actual cultivators by the acquisition of all the superior interests in agricultural land."²

26. While pointing out the advantages of state acquisition, the Commission observe, "As sole landlord, the Government would be in direct relation with the actual cultivators and would be in a very much stronger position than any private landlord to

2. Report of the Land Revenue Commission, Bengal, 1938, vol. I, para 94.

initiate schemes for the consolidation of holdings, the restoration of economic holdings, the provision of grazing land and the preventions of transfers of land to non-agriculturists. Government management, although it might not be universally popular, will certainly be more efficient and more in the interests of the agricultural population than zamindari management. Even if rents were enhanced under Government management, the increment, instead of going into the pockets of private individuals, would be returned in the shape of improved social services.”³

27. The Commission therefore came to the conclusion that, “whatever may have been the justification for the Permanent Settlement in 1793, it is no longer suited to the conditions of the present time. A majority of the Commission have also come to the conclusion that the zamindari system has developed so many defects that it has ceased to serve any national interest. No half measure will satisfactorily remedy its defects. Provided that a practicable scheme can be devised to acquire the interests of all classes of rent-receivers on reasonable terms, the policy should be to aim at bringing the actual cultivators into the position of tenants holding directly under Government.”⁴

28. The Commission plead for “the elimination of all grades of tenure”⁵ and are agreed that “any compensation to be paid must be calculated at a flat rate for all interests.”⁶ It is suggested by some of the members of the Commission that some of the provisions of the Land Acquisition Manual should not be applied in this case, for it was “drafted with the intention of acquiring small areas of private property for Government or Local Bodies or commercial companies.” As against this, there are others who plead for the application of the provisions of the Land Acquisition Act. “The Commission are however agreed that different rates of compensation for different classes of estates and tenures might be justified, but it would lead to endless difficulties and complications.”

29. The Commission could not reach an agreement as to the rate of compensation to be paid. At one extreme was expressed the view that the rate should be such as would enable the landlords to enjoy their present income, at another that no compensation need be paid at all. The actual rates suggested ranged from 5 to 20 times the net profits. “The rate which receives more support than any other is 10 times the net profit.”⁷ It may be mentioned

3. *Ibid*, para 95.

4. *Ibid*, para 96.

5. *Ibid*, para 98.

6. *Ibid*, para 100.

7. *Ibid*, para 101.

here that the Commission were considering the problem in so far as it related to the province of Bengal alone. In extending its recommendations so as to embrace the entire country, it will be necessary to reduce the rate to some extent.

30. Considering the two methods of paying the compensation viz. in cash or in bonds, the Commission recommend the former to the latter. But this would not be a practicable proposition if the recommendations of the Commission are sought to be generalised in their application. Besides, the difficulties which the Commission point out in the case of payment through bonds are of an administrative character and are not very serious.⁸

31. We think it is essential to generalise in their application the recommendations of the Floud Commission, if the planned economy were to concentrate, in the initial period at least, on increasing the productivity of agriculture in a manner as will benefit the cultivator. It is already made clear why it must do so. The cost of state acquisition may be roughly estimated as follows :

32. Out of the total area of British India, according to survey, of about 575 million acres, about 188 million acres is under permanently settled zamindari tenure, while another 197 million acres is under the temporarily settled zamindari tenures. The total would be about 385 million acres. According to the Floud Commission, the level of rent paid by the Occupancy ryats in Bengal is about Rs. 3-5 an acre. On the other hand the average rent for all classes of tenants in U.P. is Rs. 6 an acre (para 203). The figures for Bengal and U. P. represent the minimum and the maximum levels respectively for the entire country. Of course it is extremely difficult and somewhat hazardous to calculate, on the basis of such meagre data, the income of the rent-receivers in the country. But taking into account the area under the Occupancy tenure in Bengal and the total area under the zamindari tenure in U. P., we think the average level of rent for the whole country may be taken as Rs. 5 an acre. Of the 385 million acres of land under the zamindari tenure, about 5% may be left out as land, the income from which is devoted to religious, charitable or similar other public purposes and the acquisition of which, in our opinion, ought to be compensated differently. The remaining area would be about 365 million acres. Assuming Rs. 5 per acre as the average gross income of the rent-receivers, the total income would be about 1825 million rupees. Out of this should be deducted 365 million rupees as the collection charges, cost of management etc., the deduction being 20% of the gross income. The figure recommended by the Floud Commission is 18%. The remaining

8. *Ibid*, para 102.

amount of 1460 millions would represent the net income of the rent-receivers which has to be compensated. The compensation to be granted should be 7 times the net income, which will amount to Rs. 1022 crores.

33. We think it essential that the process of state acquisition should also be applied to land, the income from which is devoted to religious, charitable, educational or similar purposes of public nature. The estates of this kind should be acquired in the manner recommended by the Floud Commission, so that the income available from them for these public purposes would not be reduced. We estimate such land to be not more than about 5% both under the zamindari as well as in the ryatwari tenures. This would work out to about 20 million acres in the zamindari areas and about 10 million acres in the ryatwari ones. The total gross rental from these 30 million acres would be about Rs. 150 millions of which 30 millions might be deducted as the collection charges. The net income to be compensated would thus be Rs. 120 millions. The compensation in this case should be $33 \frac{1}{3}$ times the net income. This will come to about Rs. 400 crores.

34. The ownership of land by the non-cultivators is not, however, a peculiar feature of the zamindari tracts. For a long time, in the ryatwari areas, a silent process of transfer of land from the cultivators to the non-cultivating sections of the community has been at work. Any proposal for nationalisation of land will have to take into account land in the ryatwari areas which has passed from the ownership of the cultivator to that of the non-cultivator. The land that has changed hands in this manner may be estimated at about 40%. The total area under the ryatwari tenure is about 190 million acres. Assuming 76 million acres to be the land that has changed hands in this manner, the total gross rental from this land may be estimated at about 380 million rupees. The cost of management in this case would be about 76 millions, thus leaving the net income of 304 millions of rupees to be compensated. The total compensation calculated at 7 times the net income would come to about Rs. 213 crores.

35. It will also be necessary to acquire the private rights in respect of the underground riches as well as the fisheries in the zamindari areas. Similarly the arrears in rent will also have to be paid off, after due inquiries, calculations being made on a fair basis. It is extremely difficult to arrive at a reasonable estimate in this respect. But we think that a sum of about 100 crores will suffice for all these purposes.

36. Thus the total cost to the State of nationalisation of land works out to about Rs. 1735 crores in the following manner :

	(In crores of Rs.)
Compensation to rent-receivers in the zamindari tenure ..	1022
Compensation for land the income of which is devoted to public purposes	400
Compensation to non-cultivating owners in ryatwari tenure ..	213
Acquisition of rights re : underground riches and fisheries, and arrears in rent	100
Total	1735.

37. The other problem that will have to be tackled, along with this problem of the outmoded land tenure system, will be the problem of rural indebtedness. The total rural indebtedness was estimated by the Central Banking Inquiry Committee in the year 1929 at about 900 crores of rupees. Subsequent estimates have, however, put the figure at a much higher level. The estimate according to the report of the Agricultural Credit Department of the Reserve Bank of India in the year 1937 is about 1800 crores of rupees. It is not possible that this might have reduced to any significant extent since the year 1937, nor can the so-called agricultural boom at present be said to have produced very substantial reductions. The moneylender in the country dominates more in that strata of the agricultural population which is relatively worse off. The boom can hardly be said to have benefited that strata. On the other hand, the debt represents accumulations of decades. The debt legislation in the various provinces has not, admittedly, been able to touch even the fringe of the problem. We feel it necessary, therefore, that the debt should be compulsorily scaled down and then taken over by the State. Experiments made in this direction in the province of Madras, for example, serve as a useful pointer. Under the working of the Madras Agriculturists' Relief Act of 1938, debts were scaled down by about 47% and the provisions of the Act can, by no logic, be characterised as drastic. In the Punjab, under the operations of the Debt Conciliation Boards, debts amounting to 40 lacs were settled for about 14 lacs. It should, therefore, be possible and must be considered as necessary to scale down the present debts to about 25%, before they are taken over by the State. Assuming the present indebtedness to amount to about Rs. 1,000 crores, the debt to be taken over by the state will come to about Rs. 250 crores.

38. The compensation to be paid to the rent-receivers as well as to the usurers will thus amount to Rs. 1985 crores. This should be paid in the form of self-liquidating bonds issued by the State. These should be for a period of 40 years at the rate of interest of 3%, and should be compulsorily retained by the State in its possession. The annual payments to be made by the State for these bonds will come to about Rs. 60 crores.

39. On the carrying out of these initial measures will depend the success of the planned economy for raising the productivity of

agriculture in the interests of the cultivators. Unless the *status quo* is changed in this manner, there can be no hope of improving the standard of living of the vast bulk of our peasantry, and therefore, no hope of building up an industrial structure in the country on sound, stable and secure foundations. We are aware of the difficulties in the way of carrying out the above measures, but we are unable to see any alternative to them whatsoever. No measure, as the Floud Commission rightly pointed out, can be free from all difficulties, and this holds good in the case of a country like India with much greater force, for we are thinking of the deliberate construction of the social structure here for the first time in our entire history.

40. Increase in the production of our agriculture can be brought about both by extending the area under cultivation as well as by the intensification of cultivation of the area which is already being cultivated. The former can be attained by bringing new land under the plough, while the attainment of the latter will demand the extension of irrigation, the provision of manures and of improved seeds, increase in the scale of cultivation from the tiny fragments of present to huge collectives, various schemes of soil conservation, and the association of modern machinery with the process of agricultural production. Opportunities are open to us at present to adopt both these courses.

41. It will be possible to extend the process of cultivation to vast tracts of land in the country. The report of the Food Grains Policy Committee observes, "A glance at the agricultural statistics of India shows the existence of very large areas of land described as 'cultivable waste other than fallow.' From this it would, however, be a mistake to jump to the conclusion that with such large areas lying uncultivated, it should not be difficult to produce the food required simply by extending cultivation to them. There are practical difficulties in bringing quickly such culturable but uncultivated areas into cultivation; otherwise the pressure of population and the land hunger of people would have brought them under plough long ago. Some of them are located in unhealthy tracts, others lack irrigation facilities, some again are situated in tracts where labour is not easily available and others again are such as would not yield economic return under normal conditions. The work involved in bringing the major portion of these lands under the plough is of a long range nature, and is more suitable for consideration and action on the basis of a post-war reconstruction plan. There are, however, areas not inconsiderable, which lend themselves to immediate production and they should be harnessed to the food production drive."⁹ In a paper read before the Crops

9. Report of the Food Grains Policy Committee, chapter 3, para 15, page 25.

and Soils Wing of the Imperial Council of Agricultural Research at Baroda, Dr. Maclagan Gorrie of the Indian Forest Service estimated the area that can be immediately reclaimed at 170 million fresh acres, out of which 140 million acres fall within British India. It has been emphasised that "collective action under the control and assistance of Government was the only way to ensure success." And again, "even the worst areas of deeply gullied uplands can be brought under the plough by the use of mechanical tractors, road graders, bull-dozers, heavy subsoil ploughs and even, where necessary, by the use of explosives." The net area sown in British India is about 210 million acres. During the period of the ten years' plan, this should be extended to about 100 million acres of new land. This would amount to bringing under the plough new land of about 50% of the present net sown area. The expenditure needed for this purpose has been calculated at the rate of Rs. 60 per acre on an average. That would demand a sum of Rs. 600 crores.

42. The total area irrigated at present is about 50 million acres, of which Government canals account for nearly 28 million acres. The capital outlay on these projects is about Rs. 153 crores. During the ten years of the plan the irrigation projects should be extended by about 400%. Extension of irrigation would be essential in order to derive the full benefits of the use of artificial fertilisers. In extending the irrigation works, account will have to be taken of the requirements and possibilities of the various regions and sufficient emphasis will have to be placed on works of what is known as the protective type. Similarly the different schemes will have to be carefully planned out from the point of view of the development of Hydel projects as well as the extension of inland navigation, all of which will be matters for expert opinion to decide. The total capital expenditure on this score would be about Rs. 600 crores. The maintenance charges will be about Rs. 15 crores.

43. The association of modern machinery with the process of agricultural production should be facilitated through the starting of state farms all over the country. There should be a farm for about 8 to 10 thousand acres of cultivated area and it should be equipped with modern mechanical means of cultivation, which it would be in a position to lend out to the peasantry in the neighbouring area. The farms should further be provided with an adequately equipped research institute for investigating the various problems of scientific cultivation and advising the peasantry about them. They should also have a veterinary branch for the purpose of experimenting in improvement in the quality of the livestock. Manned with an able and efficient staff of intelligent and enthusiastic rural workers and experts, and adequately equipped with mecha-

nical implements, these farms would function as centres for raising the educational and cultural level of the peasantry and helping and guiding it in times of difficulties. They would also be instrumental in hastening the process of collectivisation and training up a cadre of efficient and scientific rural workers from among the cultivators. The number of such farms to be started will be about 25,000. The capital expenditure for each of these farms has been estimated about Rs. 1,50,000, while the working expenses will be about Rs. 50,000. The total capital expenditure for the 25,000 state farms would thus be Rs. 375 crores, while the working expenditure will be Rs. 125 crores.

44. It would also be necessary, in order to increase the productivity of agriculture, to carry out various schemes of soil conservation. These would include anti-erosion measures, afforestation schemes and so on. The development of the forest resources of the country may also be conveniently included here. "Out of the total area of 1,25,000 sq. miles of state forests, nearly 54,000 sq. miles, i.e., about 43% are either inaccessible or profitless." Attempts must be made to develop these forest resources, for they can be a source of a large amount of wealth for the country which has as yet remained unexploited. Raw materials for a large number of industries can easily be obtained through this development. A sum of about Rs. 300 crores should be devoted for this purpose. The recurring expenditure will be about Rs. 15 crores.

45. An amount of Rs. 200 crores should be devoted during the period of the ten years' plan for the development of the various food industries in the rural areas. This is demanded in the light of the spirit of the plan itself, for it aims not merely at feeding the population but at feeding it well. A large number of such industries can be developed providing more nutritive food stuffs to the population, and the capital requirements in their case would not be very large. Hence the estimate has been put at about 200 crores of rupees.

46. The provision of adequate manures, improved seeds etc. to the cultivator would also be essential for increasing the productivity of agriculture. The requirements of the rice land in this respect have been estimated at about one million tons of ammonium sulphate. Other artificial fertilisers will also have to be provided to the cultivator and the expenditure in this respect will have to be incurred from time to time during the period of the plan. We think it necessary to provide for a sum of about Rs. 720 crores for all these purposes for the entire period of ten years covered by the plan. The requirements in respect of manures of the present sown area have been estimated at about 180 crores of rupees. But during the ten years of the plan, it will be necessary to allot from

year to year a part of this expenditure and therefore we have calculated the total expenditure on this score at the level of Rs. 720 crores.

47. The total expenditure for the period of ten years' plan on account of agriculture will be as follows :

(In crores of Rupees.)		
	Capital expenditure	Recurring expenditure.
Reclamation of land ..	600	—
Irrigation ..	600	15
State Farms ..	375	125
Soil conservation and development of forests ..	300	15
Rural industries ..	200	—
Manures, Seeds, etc. ..	720	—
Total	2795	155
		Grand Total 2950 crores.

48. The success of this plan for increasing the productivity of agriculture can be materially assisted through the promotion of collectivisation of agriculture in the place of the present cultivation of tiny uneconomic holdings. The individualistic small-scale cultivation of today cannot provide a sound basis for the development of industries in the country. The process of collectivisation, however, should be voluntary and the peasant should be helped and encouraged to participate in it as a result of his own knowledge and appreciation of the benefits of such participation. It will be possible for the state to promote collectivisation under the plan through stages. The first stage will be in the case of the new land to be brought under the plough, which can be done only as a result of a 'collective attack.' The next stage will be the state farms which will serve as examples for the peasantry of the benefits of collective cultivation. And the third stage will pertain to the land cultivated today as small unremunerative strips, with the cultivation of which modern machinery under such conditions cannot be associated. One of the ways of promoting the collectivisation of agriculture may be the extension of special facilities to the collectives in respect of the implements, manures etc. which are sought to be provided under the plan. It will also be necessary to diversify our present agricultural production, to introduce new crops, to initiate better systems of rotation of crops as well as to effect adjustments of the area under the different crops. All these are matters of details regarding which the planning authority will have to take decisions, guided by expert opinion and the prevalent conditions.

49. Rationalisation and reorganisation of our agriculture in the manner described above can alone provide a proper basis for the development of industries in the country. With an increase

in the output of our agriculture such as will not only satisfy the needs of the population but will leave a surplus to be reinvested into the economy, we can look forward to the growth of the different industries in a way that will ensure an improving standard of living to the millions in the country. Reform and reorganisation of our agriculture will guarantee a wide distribution of the increased income and will thus lead to an expansion of the internal market so as to enable it to absorb an increasing volume of consumers' goods. The development of the consumers' goods industries must therefore be the immediate objective of the plan. The reform of the outmoded land tenure system as well as the abolition of usury will leave at the very outset of the plan an additional purchasing power to the tune of about 300 crores of rupees in the hands of the rural population. Even if a part of this is collected by the State for the purpose of being invested into the economy, there will still be an initial increase in demand which can keep the existing industries in the country going. The increase contemplated in the output of agriculture in the plan will further expand the internal market to such an extent as will not only necessitate a many-fold expansion and development of the industries in the country but may, on occasions, necessitate the import of consumers goods to some extent.

50. This is the only proper course for a planned economy for India to adopt. Given the fact that a large volume of the essential demand of the community today remains unsatisfied, the first object of the planned economy must be to satisfy it. It may be pointed out here that this development is along different lines from that which took place in the USSR, but it must not be forgotten that the tempo of industrialisation in the Soviet Union was determined by the supreme necessity of making the Soviet, as early as possible, capable of self-defence in the eventuality of foreign aggression. That may not, and we hope in all probability will not, be the case with post-war India at least for a long time to come. Under such conditions, a mere repetition of the process as it developed in the USSR is neither warranted nor justified. We stand today in a position to benefit ourselves from the achievements of the Soviet Union. With the defeat of the Axis powers in the present war, the world of say 1950 will be entirely different from the world of 1920. And in the world of 1950 it should be possible to attain the industrial development of the country without subjecting our people to the sacrifices and privations which an unduly rapid tempo of development must bring in its train.

51. In advancing the above arguments, we do not at all plead for a neglect of the basic industries. The question is simply one of the tempo of development, one of the different degrees of emphasis to be placed on one or the other of the two broad cate-

gories into which industrial development is generally divided. In fact an adequate development of the consumers' goods industries, or the increase contemplated in the agricultural production of the country, is inconceivable without a substantial development of the basic industries also. The desire for the development of the basic industries is no doubt sound. It is true that in the absence of these industries, the foundations of a proper industrial development in the country must remain weak. With the rationalisation and reorganisation of agriculture, the precondition for such an industrial development would be created. But it is indeed a little pathetic, and may even prove to be considerably harmful, to start, with half-filled bellies and half-clad bodies, thinking in terms of automobiles and aeroplanes.

52. The industries on the development of which there should be laid a relatively greater emphasis by the planning authority should be the consumers' goods industries. An adequate development of these industries will be necessitated by virtue of the increase that is sought to be brought about in the productivity of agriculture and thereby in the income of the cultivator. It is not possible to indicate in details the targets to be fixed in respect of these industries, nor need we provide in any exhaustive manner a list of the various industries that will have to be developed. But it may be mentioned that we have to make up a great leeway in this respect. The per capita consumption of cloth in the country today is about 15 yards and even then the entire demand is not met by the textile industry that we possess. The per capita consumption of sugar is not even a quarter of an ounce per day while the per capita consumption of shoes is '09 pairs per year. The following is a list of the industries, more or less of an illustrative nature, which will belong to this category :

Textiles-cotton, wool, silk
 Leather goods
 Sugar
 Paper
 Drugs and Chemicals
 Tobacco
 Oil industry
 Furniture
 Glass etc. etc.

The total capital to be invested in all these industries, both fixed and working, would be Rs. 3,000 crores.

53: The development of the consumers' goods industries, to an extent contemplated by us, cannot be brought about without a substantial increase and development of the basic industries in the country. But in developing these industries, an adequate emphasis will have to be placed on the requirements of the plan. The indus-

tries that will have to be given a precedence during the ten years' plan will be :

Hydro-electric power
Mining and metallurgy
Iron and steel—with special emphasis on
agricultural implements
Heavy chemicals—fertilisers and pharma-
ceutical products
Machinery and machine tools
Cement
Railway engines, wagons etc. etc.

The list is only of an illustrative and indicative character. The total capital, both fixed and working, to be utilised for the development of these industries during the ten years' plan would be Rs. 2,600 crores.

54. It may be pointed out in this connection that there is abundant scope for the development of the above mentioned industries in the country. It is well known, for example, that our power resources have hardly been exploited to the extent of about 2%. The total Hydel resources estimated for the country are about 2,700 million H.P. On the other hand, "The per capita consumption of electricity in the country comes to about 7 units per year as against 120 in Mexico, 600 in England, or 2,000 in Canada."¹⁰ The scope for the development of mineral resources as well as coal is also considerable. Similarly all the raw materials needed for the production of artificial fertilisers, like ammonium sulphate for example, are available in the country. The only requirements in this respect would be those of suitable machinery.

55. The total amount of capital to be utilised for the purpose of the development of industries in the country would thus be Rs. 5,600 crores. This would be distributed as follows :

			(In crores of Rs.)
Consumers' goods industry	..	..	3000
Basic industry	..	..	2600
		Total	5600.

10. The following from a speech of Dr. S. K. Mitra, Secretary of the Indian Science Congress Association, at the Calcutta Rotary Club on July, 13, 1943, is noteworthy in this connection.

"The total output of work per capita in Great Britain per year is roughly equivalent to that which may be done by 1800 units of electric energy (Kilowatt-Hour). Of this work, only five per cent is done by man and animal power and the rest by natural power—gas, electricity, steam and water power. Now, each unit of electric energy represents roughly the work of two men per day. We may, therefore, say that every inhabitant of Great Britain has, as it were, 7 to 8 mechanical slaves working for him.

"Now take the case of India. Compared with Great Britain's figure of 1800 units, India's is only 120 units, and of this 70% is done by man and animal power and only 30% by natural power. India has only one mechanical slave per every six persons instead of 7 or 8 per each person."

56. All the new industries to be started during the period of the plan will be financed by the State. We have already made it clear why it will be necessary to do so. Industries financed from the public funds will naturally be owned and controlled by the State. This will also have to be accompanied with rigid control over the industries in which private capital has been already invested. It is not at all intended to suggest the expropriation of private interests in the industries ; but it is absolutely essential to control rigidly the operations of the profit motive. It will be necessary to sell the products produced at prices which will put them within the reach of the consumers. These prices would be fixed by the State. The circulation of commodities will have to be taken away from the influence of the laws of supply and demand, the vicious effects of which we have amply experienced during the period of the war. Under such conditions, control over the privately owned sector of industry will be all the more necessary in order to ensure continuity of production and the sale of the product at prices fixed by the State. The revenue permitted to private capital in these industries should be fixed up at 3%. Where the industry concerned cannot bear this charge, the State should guarantee the payment by including the charge in the regular budgetary allotments.

57. Another question to which we think it necessary to refer in this connection is the question of the small-scale and the cottage industries. These will present a problem which will have to be very delicately and carefully handled by the planning authority. The improvements in the standard of living of the people are, in the last analysis, dependent on the productivity of labour being increased. Increase in the productivity of labour depends upon the extent to which more and more perfected and developed machinery is associated with labour in the process of production. That being the case, any considerable use of the cottage industries cannot be reconciled with the spirit of the plan which is to open up for the people a prospect of continually improving standards of living. On the other hand, in certain branches of production, there would be limits to the extent to which mechanisation of the process of production can be carried out. With an enormous labour power at our disposal as we have today, it may be urged that the extension of mechanisation of production may spell disaster for a good part of the labour power, which may have to be left unemployed. This consideration, however, is mistaken for it is based on looking at the problem from only one angle. Extension of the process of mechanisation of production, instead of being accompanied with unemployment, may as well be accompanied with greater amount of leisure for all and thus may constitute the real foundation for the cultural development of the people. And this solution of the problem is alone consistent with the spirit of the

kind of planned economy which we are proposing. The problem of the extent to which the medium-sized, small-scale or cottage industries are to be utilised by the planning authority in the industrial development which is visualised will, we think, have to be tackled in the light of the above considerations.

58. A vast amount of labour will be released from agriculture as the process of collectivisation develops. It will be necessary to provide for its absorption into the economy. A part of it will no doubt be absorbed in the 'new land' the reclamation of which is aimed at in the plan, as well as in irrigation works. Then there is the development of the health and education and housing services, to which we shall presently turn, which will provide for a good part of the labour thus released. The expansion of industries to the tune of 600% or more, as well as the extension of communications, will provide for another important section. It is possible that a part of it may still remain to be absorbed, in which case it may be necessary for the planning authority to leave out a sector of industries for the operations of private enterprise. These industries will naturally pertain to that sphere which cannot be reached by the financial hand of the State. Private enterprise may be left to operate in this sector, subject to control by the State, not in respect of profits, but in respect of the terms on which labour is to be employed. It is needless to point out that these industries will be mostly small scale or medium sized industries. To define precisely the limits of this sphere will naturally be the task of the planning authority, and it is not possible for us to indicate it at this stage.

59. The development of agriculture and industries visualised in the plan will naturally lead to an enormous increase in the circulation of goods between the town and the country-side. Adequate development in the means of communications will, therefore, be indispensable for the purpose of coping with this increase. This development, further, will have to be an all-sided development. It will be necessary to increase the present route mileage of the railways, to extend the roads, to improve the ports, to increase the tonnage of shipping, to expand the facilities for inland navigation, as well as to extend the existing postal, telegraphic and telephonic services. All this will be demanded by the very process of development visualised in the plan.

60. The present route mileage of Railways in British India is about 34,000 miles, with a capital charge of about Rs. 795 crores. During the period of the ten years' plan, this should be extended by about 24,000 miles, i.e. nearly 70%, and the capital expenditure for this has been estimated at about Rs. 595 crores. The maintenance charges would be about Rs. 11 crores.

61. The target in respect of road development should be 160%. The present total route mileage of roads in British India is about 280,000 miles, of which unmetalled roads account for 220,000 miles. The increase sought under the plan should be of 450,000 miles of new roads. This would involve a capital expenditure of about Rs. 450 crores. All new roads will have to be metalled roads, and the existing mileage of unmetalled roads of about 220,000 miles would also have to be metalled. For the latter purpose, we calculate the expenditure at about Rs. 100 crores. Thus the total expenditure in this respect would be Rs. 550 crores. The maintenance charges are estimated at about Rs. 53 crores.

62. The existing tonnage of shipping is known to be thoroughly inadequate. It is estimated at about 270,000 tons. During the ten years period of the plan, it should be increased by 600,000 tons. It is extremely difficult to calculate the capital expenditure for the purpose, for it will depend to a great extent on the nature and size of the vessels, as well as the purpose they are expected to serve. We think, however, that a sum of about Rs. 125 crores will suffice for the purpose. The maintenance charges will be about Rs. 6 crores. The ships thus built or bought will be naturally owned by the State and will serve as a cheap means of transport for goods and passengers along the vast coastal lines of the country.

63. The increase in the tonnage of shipping can be properly made use of, and the traffic of men and materials along the coastal lines of the country can thereby be properly facilitated, only on the basis of an adequate development of ports. The principal ports in the country at present amount to about a dozen or so. An increase in the prosperity of the rural areas, and the production of a large amount of wealth there, must naturally increase the demand for traffic facilities and it would therefore be essential to develop a large number of additional ports which can facilitate such traffic. During the period of ten years of the plan, a sum of about Rs. 50 crores would, therefore, be allotted to the purpose. The maintenance charges in this respect would be nearly Rs. 5 crores.

64. Along with the development of ports, the planning authority will also have to pay attention to the task of developing facilities of inland navigation. It will be possible to link up this development with the different irrigation projects to a certain extent. It is extremely difficult to estimate the expenditure involved in this respect. We suggest that an amount of Rs. 50 crores should be devoted to this purpose. It will be seen that this can afford an adequate alternative to the railway transport and will also be cheaper. The maintenance charges in this case may be put down as about Rs. 5 crores.

65. An amount of Rs. 50 crores should further be spent on the development of the postal, telegraphic and telephonic services. This will mean an increase of these services by 200% or so. This extension would be indispensable in the light of the development that is planned for.

66. The total expenditure on account of transport and communications during the period of the ten years' plan will be as follows :

		(In crores of Rs.)	
		Capital expenditure.	Maintenance charges.
Railways	.. ..	595	11
Roads (new construction)	.. ..	450	53
Metalling the present unmetalled roads	.. ..	100	—
Shipping	.. ..	125	6
Ports	.. ..	50	5
Inland navigation	.. ..	50	5
Posts, telegraphs etc.	.. ..	50	—
Total		1420	80
		Grand Total	1500 crores.

67. The considerations mentioned in respect of the private capital invested in industries should also be regarded as being applicable to the private capital invested in the communications, such as, for example, shipping or telephonic services. It will be guaranteed 3% revenue by the State, while on the other hand services will have to be provided at rates fixed by the State. These services in which private capital has been invested will, therefore, precisely for the same reasons as in the case of industries, be controlled by the State.

68. To ensure to the millions in the country freedom from disease must be one of the main objectives of the planning authority. In order to achieve this objective, it would be necessary to construct all over the country a net-work of dispensaries in the rural areas, hospitals in all the big towns and cities, hospitals and sanitariums for special diseases, maternity and child welfare centres, etc. The provision of adequate water supply as well as improvement in the conditions of sanitation of the villages and towns will be an important part of the measures that will have to be taken for the purpose of ensuring a satisfactory level of public health.

69. There are nearly 500,000 villages in British India, and the total population in the rural areas is about 261 millions. The average population on that basis per village works out at 522. Assuming the number of these localities to remain the same during the period of the plan, with an increase in the population to about 300 millions the average would come to about 600. The object

of the plan should be to provide 1,000 to 1,200 of population in the rural areas with a dispensary. This dispensary should be more or less of the nature of a miniature hospital, with a provision of ten beds, four of which should be maternity beds, the remaining being for general purposes. The costs of construction of such a dispensary are estimated at about Rs. 2,000, while the initial equipment would cost an equal amount. The recurring expenditure for each of these dispensaries would be about Rs. 5,500. Thus the total capital expenditure for the village dispensaries would be Rs. 100 crores, while the recurring expenditure would come to about Rs. 137.5 crores.

70. For the urban areas may be constructed 5000 hospitals, each of which is to be furnished with 80 beds, of which 30 beds are to be for maternity. Assuming the population of the urban areas to increase to about 50 millions by the time the plan is carried out, this will amount to a hospital per 10,000 people. It may also be mentioned here that these hospitals would be able to cover the neighbouring rural areas easily for the purposes of such medical assistance as cannot be provided by the village dispensaries. The cost of construction for each of these hospitals is estimated at Rs. 30,000, while the initial equipment to be provided will cost another 30,000. The recurring expenditure for each of these hospitals is estimated at Rs. 50,000. Thus the total capital expenditure for the construction and equipment of these hospitals would come to about Rs. 30 crores while the recurring expenditure would be Rs. 25 crores.

71. An adequate amount of medical assistance to the people will demand, in addition to the above provisions, larger hospitals where up-to-date medical assistance can be made available to them. We suggest, therefore, the construction of 150 big hospitals in the cities. These should be evenly spread all over the country as far as possible, the guiding consideration being not the population of the city in which the hospital might be located, but the area and the population each would be able to serve by being located at a particular place. Each of these hospitals would cost about Rs. 4,00,000 for its construction, while the initial equipment would cost about Rs. 60,000. The recurring expenditure has been estimated at about Rs. 9,24,000. The total capital expenditure for the construction and equipment of these hospitals would thus come to Rs. 15 crores while the recurring expenditure will be Rs. 14.8 crores.

72. Each of the village dispensaries is to be provided with a maternity and child welfare centre, the cost of which have been calculated by us in the recurring expenditure. It would also be necessary to have these centres attached, in the urban areas, to the hospitals that would be constructed there. The total number of

these centres in the urban areas will thus be 5,000. We have estimated an expenditure of Rs. 4,000 per centre, the total expenditure in this respect being Rs. 2 crores. It may be pointed out in this respect that all this would be of the nature of current expenditure.

73. Provision must also be made for hospitals for the treatment of special diseases. Sanatoriums for tuberculosis, cancer hospitals, infectious diseases hospitals, children's hospitals, leper asylums and similar other institutions would be provided for in this category. The number of these institutions, to be started during the period of the ten years' plan, would be at least 5,400. On an average, the capital expenditure for each one of these hospitals would be about Rs. 1,60,000 inclusive of the equipment, while the current expenditure has been estimated on an average at about Rs. 90,000. The total capital expenditure needed for all these hospitals would come to Rs. 86·4 crores while the current expenditure would be Rs. 48·6 crores.

74. The provision of adequate water supply to the villages as well as the improvement of their sanitary conditions must be a part of any programme calculated to secure freedom from disease for the people. We suggest an expenditure of Rs. 250 crores in this respect for the rural areas. We may however point out that this figure is not based on any detailed estimate of the requirements of the rural areas, but is suggested on the basis of an average expenditure of about Rs. 5,000 per village. Calculations from village to village are impossible on the basis of the available data. But we think a sum of the magnitude of Rs. 5,000 may be found sufficient for the most essential requirements in this respect. For the provision of an adequate supply of drinking water, it may be necessary in certain villages to sink altogether new wells, in others the existing ones may have to be repaired, and so on. An amount of Rs. 50 crores should be spent in the urban areas for this purpose during the period of the plan.

75. Thus the total expenditure for the purpose of provision of proposed amenities of health to the people during the period of the plan would be as follows :

		(In crores of Rs.)	
		Capital expenditure.	Current expenditure.
Village dispensaries	.. ..	100	137·5
Hospitals in urban areas	.. ..	30	25
City hospitals	.. ..	15	14·8
Maternity and child welfare centres	.. ..	—	2
Special hospitals	.. ..	86·4	48·6
Rural water supply and sanitation	.. ..	250	—
Urban water supply and sanitation	.. ..	50	—
Total	.. ..	531·4	227·9
		760 crores	

76. We must however mention that the proposals made in respect of public health may probably be found still wanting in the light of what many of us may feel ought to be done. We have no desire of claiming that they present any adequate picture. They are suggested in the light of what has been regarded as being within the realm of possibilities during the period of ten years, as well as what happens to be the indispensable minimum that ought to be achieved by the People's State in this respect. Another guiding consideration has been that no income has been expected in our calculations from these services which will be rendered free to the people. *We wish to emphasize that, under our plan, all the services in respect of health, education and housing are to be rendered free to the population concerned.*

77. An improvement in the educational and the cultural level of the people will constitute the foundation of the People's State. To wipe out the present ignorance, to enable every Indian—man or woman—to see what the world holds, to awaken him to his great heritage, and thus to enable him to play his proper role in the mighty creative tasks that lie ahead—all these objectives can be achieved only on the basis of proper and adequate education being provided to him. A school for every thousand or so of the population, a middle school per every four primary schools, and a high school per every four or five middle schools, must be the minimum educational machinery to be created in the rural areas during the period of the ten years' plan. Similar institutions must also be provided for the urban areas in the country.

78. The total number of primary schools to be started in the rural areas is about 260,000. Each of these schools is estimated to cost for its construction about Rs. 2,000 while the equipment needed for such a school is estimated at Rs. 1,500. The current expenditure is calculated at about Rs. 6,180. Nearly 70% of this expenditure would cover the wage bill of the primary teachers. The long-felt and so-often-emphasised need of improving the conditions of school teachers has been taken into account while making these calculations. In a similar manner, the consideration that the efficiency with which the teacher would be able to do his task would depend upon the number of children he is expected to look after, has also been taken into account. A primary teacher would have ordinarily to mind about 25 to 30 pupils, though precise estimates in this respect are very difficult to make. The total capital expenditure for the primary schools in the rural areas would be about Rs. 91 crores, while the working charges for these schools would be about Rs. 160 crores.

79. The total number of middle schools to be started in the rural areas is estimated at 60,000. This would mean a school

for about 4,500 of the rural population. The building for each of these schools is estimated to cost Rs. 4,000 ; while the expenditure for the initial equipment would be Rs. 3,000. The working expenditure for each one of these schools manned with an adequate number of teachers is estimated at Rs. 15,550. The total capital expenditure for these schools would thus come to Rs. 42 crores, while the working expenditure would be Rs. 93.3 crores.

80. There should further be constructed about 15,000 high schools in the rural areas. Each of these high schools would serve 15,000 to 20,000 of the rural population. The expenditure for the building of each of these high schools is estimated at Rs. 15,000 while the initial equipment in their case would cost about Rs. 25,000. The working expenditure for each of these high schools is estimated at about Rs. 36,300. The total capital expenditure for these high schools would thus come to Rs. 60 crores, while the working expenditure would be Rs. 54.5 crores.

81. Corresponding to the educational machinery thus sought to be built up in the rural areas, there would be needed an adequate machinery in the urban areas also. In the urban areas the number of primary schools to be started is estimated at 40,000. The expenditure for the building of each of these schools is estimated at Rs. 3,000, while the initial equipment is estimated to cost about Rs. 2,250. The working expenditure for each of these schools would come to about Rs. 9,270. The total capital expenditure for all these schools in the urban areas is thus estimated at Rs. 21 crores, while the working expenditure would be about Rs. 37 crores.

82. The number of middle schools in the urban areas is estimated at 10,000. This would mean a middle school per four primary schools on an average, or per 4,000 people. The building of each of these middle schools is estimated to cost about Rs. 6,000 while the initial equipment would be of the value of Rs. 4,500. The working expenditure for each of these middle schools would be about Rs. 22,000. Thus the total capital expenditure for the middle schools in the urban areas would be Rs. 10.5 crores, while the working expenditure would be Rs. 22 crores.

83. The number of high schools to be started in the urban areas is estimated at 4,000. The estimate would imply a high school for about 10,000 of the population. Towards the end of the plan, the figure of high schools would be about 12,000 or so. The building of each of these high schools is estimated to cost an amount of Rs. 30,000 while an equal amount would be needed for the initial equipment. The working expenditure for such a high school is estimated at Rs. 50,000. The total capital expenditure for these high schools is thus estimated at Rs. 24 crores, while the working expenditure would come to Rs. 20 crores.

84. A comprehensive educational machinery will, in addition to the above mentioned institutions, demand a development of institutes for technical education as well as the growth of higher education. For the purposes of technical and university education, we think that a sum of Rs. 40 crores should be allotted. We may, however, point out that we propose to make a separate allotment for the huge army of technicians that will be needed for the purpose of execution of the plan.

85. A successful implementing of the plan will require a large number of technicians of all kinds, engineers, agricultural experts, mechanics, doctors, teachers, administrators and so on. It is not possible to estimate precisely the expenditure needed for the purpose. It may be further pointed out that, in the initial period of the plan, it may be necessary for us to import technicians from abroad, as the Soviet Union had to do for some time. Again, a large number of people would be trained through work during the period of the operation of the plan. The advance made by us during the period of the war itself might also be of material use to us in this respect. Taking into account all these factors, we suggest an expenditure of Rs. 150 crores for this purpose. It is not claimed that the allotment would be quite adequate. But it is definite that this will enable the planned economy to overcome the bottleneck in this respect, if at all one were to arise. The problem of training up the necessary number of technicians is not at all baffling or incapable of solution. In fact, the achievements of the Soviet Union under more difficult circumstances ought to show that, given a proper type of planned economy, this problem can be solved by us during a period of a few years.

86. We would like to mention in this connection another important consideration. As progress will be made in creating the above mentioned machinery, it will be possible for the People's State to make education compulsory at least up to and inclusive of the stage of the middle schools. The process of elimination may start only from the high school stage. Compulsory primary and middle school education must be the essential feature of the educational machinery organised by the People's State.

87. Hitherto, in our estimates of the expenditure involved in securing for the people freedom from ignorance, we have not taken account of adult education. We suggest the dealing of this problem in a different manner. Even after the above machinery that we suggest has been evolved, it will be obvious that a large number of children will be leaving the school at the age of fourteen or so. A child at such a tender age can hardly be expected to have attained the necessary amount of intellectual equipment essential for making him a healthy, intelligent and constructive

citizen of a democratic state. We think, therefore, that it is necessary not only to wipe out the illiteracy of the present adults, but also to make provision for some machinery for the cultural development of the people, some sort of continual adult education in a sense, as a permanent feature of the future Indian Democracy.

88. Guided by the above consideration, we suggest that in every village should be established a cultural centre, a small village club, equipped with a radio, a clock, a small library, and some material for sports. It should act as the centre of education, culture and recreation for the village population. The liquidation of adult illiteracy should also be the task of these centres. The cost of building for such a centre is estimated at Rs. 1,000, while another 1,500 may be required for the provision of the initial equipment. The working expenditure for these centres would be about Rs. 1,500 per centre. The total capital expenditure for these centres would be Rs. 125 crores, while the working expenditure would come to about Rs. 75 crores, assuming the number of such centres to be started in the rural areas as being 5,00,000.

89. In the urban areas, we estimate the number of such centres to be about 25,000. The cost of building each of these centres in the urban areas is estimated at Rs. 2,000, while the initial equipment would cost about Rs. 1,800. The working expenses are estimated at Rs. 2,200. The total capital expenditure for these centres in the urban areas would thus come to about Rs. 9.5 crores while the working expenditure would come to about Rs. 5.5 crores.

90. The total expenditure for securing the freedom from ignorance for the people would thus be as follows :

		(In crores of Rs.)	
		Capital expenditure	Current expenditure.
Rural Primary Schools	.. ..	91	160
Rural Middle Schools	.. ..	42	93
Rural High Schools	.. ..	60	54.5
Urban Primary Schools	.. ..	21 7e3	37 306.5
Urban Middle Schools	.. ..	10.5	22
Urban High Schools	.. ..	24	20
University and Technical Education	.. ..	40 55.5	— 12
Training of technicians	.. ..	150	—
Rural Cultural Centres	.. ..	125	75
Urban Cultural Centres	.. ..	9.5	5.5
		573	467
		Grand total	Rs. 1040 crores

91. Another problem that will demand an adequate attention of the planning authority during the period of the ten years' plan will be the problem of provision of decent shelters to the people. The conditions of housing in the country at present are distressful. Not only are human beings herded together like

animals in what may be styled as the apologies for shelters, but on frequent occasions, they are found to be sharing the same shelter with animals, with enormous detriment to their health and comforts. The problem indeed is so vast and acute that it will be almost impossible to look forward to an adequate solution of it, in the manner in which many of us may rightly desire, during the period of ten years. This is so in view of the fact that the solution will essentially depend upon the amount of surplus that will accumulate in the economy and that the planning authority finds it possible to divert for this purpose. The calculations made by us in this respect, therefore, indicate only the absolute minimum that must be done by the planning authority during the period of the ten years' plan.

92. The total number of houses in the entire country has been estimated at 76 millions, of which 10 millions are in the cities, while 66 millions are in the rural areas. While most of the houses in the rural areas are hardly habitable, conditions of acute distress exist in many of the cities. We therefore suggest that the entire population in the rural areas should be provided with shelter during the period of ten years. The per capita requirement of 100 sq. ft. of built area may be taken as the indispensable and absolute minimum, and the expenditure for this in the rural areas is estimated at Rs. 100 per head. Assuming that the provision is to be made for 300 million people in the rural areas, the total capital expenditure for this would be Rs. 3,000 crores. It will be possible to deduct from this the value of the existing facilities in this respect, on which score we suggest a deduction of 10%. Thus the total capital expenditure for rural housing during the period of the plan will be Rs. 2,700 crores.

93. In the urban areas, provision should immediately be made for the working classes and the lower middle classes. We have estimated on this score the total new provisions to be made as being for about 40% of the urban population. Assuming the urban population by the end of the plan to be about 50 millions, the new provisions to be made will be for 20 millions of people. The cost of providing a built area of 100 sq. ft. in the urban areas has been estimated at Rs. 200. This will bring the expenditure to be incurred in the urban areas to Rs. 400 crores. The maintenance charges would be about Rs. 50 crores.

94. Thus the total cost of housing during the period of the plan will be as follows :

		(In crores of Rs.)	
		Capital expenditure	Current charges.
Rural Housing	::	2700	—
Urban Housing	::	400	50
		3100	50
	Total	3100	50
		Grand total	3150

95. In the course of our calculations, we have shown the current expenditure separately in order to indicate the total cost the State will have to bear for keeping up the attainments in the plan when the plan is completed. Since current expenditure for a year on the different items has been added in our estimates, the burden will not be immediately felt by the State in this respect. It may be further pointed out that we do not propose to touch the sources of revenue of the State after the initial period of about three years is over. The plan, as we shall show when we turn to its financial aspect, is expected to be self-financing towards the end of the third year. That being the case, it will be possible for the State to meet the needs in this respect as a result of the increasing revenue it will be able to get on the background of the increased productivity under the plan.

96. The entire plan is thus for a period of ten years, involving an expenditure of Rs. 15,000 crores. The expenditure is distributed as follows :

					(In crores of Rs.)
Agriculture	....	..	..	..	2950
Industry	..	..	..	..	5600
Communications	..	..	..	..	1500
Health	..	..	..	..	760
Education	..	..	..	..	1040
Housing	..	..	..	..	3150
Total					15,000

IV

CIRCULATION OF COMMODITIES

97. The success of a plan, like the one which we are suggesting, would naturally and obviously depend upon the extent to which it actually brings about an improvement in the conditions of life of the millions in the country. To ensure the attainment of that object, we will not only have to increase the production of food stuffs as well as the other consumers' goods in the country, but will also have to see that these are made available in adequate quantities to the people at prices fixed by the State. In fixing up these prices, the State will naturally be primarily guided by the purchasing capacity of the people. This must be so in a community where the motive of production is changed from profit to use. But these considerations themselves imply that we cannot afford to leave the profit motive uncontrolled in respect of the circulation of commodities, once we have started to control and replace it in respect of their production. If the circulation of commodities is left over to the 'normal' channels of trade, which are known to behave in the most abnormal and anti-social manner, there would always exist the possibility of artificial scarcities, as have characterised the war period. These may even be motivated with the object of creating popular discontent, besides that of profiteering, and may be aimed at torpedoing the plan itself. It is, therefore, supremely important and necessary that the circulation of commodities between the town and the village should not be left to the private trade channels, but should be organised through the alternate channels of distribution, viz. Producers' and Consumers' Co-operatives.

98. The collective farms on the one hand can function as the wholesale co-operatives in the rural areas, while the state owned and controlled industrial plants can do so in the urban areas. Under these, should be organised a net-work of co-operatives all over the country, which will take up the work of distribution of commodities. These agencies will naturally be under the direct control of the consumers, and will be provided with commodities at prices fixed by the State at the source, and will have to sell them at prices fixed for them. The result will be the removal of

the difficulties arising from the operations of the profit motive in respect of the distribution of commodities and from the incalculable influence of the laws of supply and demand. It will be impossible to end the anarchy in production without ending the anarchy in the circulation of commodities also. It will be, therefore, necessary for the planning authority to organise during the period of the plan a country-wide network of alternate channels of distribution.

99. We are aware of the difficulties in the way of implementing this suggestion, though many of them are no doubt imaginary and are likely to arise in the absence of a sufficiently energetic action on the part of the planning authority. On the other hand, the problems such as that of absorbing, for example, the retail traders, who will be left with no place in the economy owing to the development of alternate channels of distribution, can easily be tackled under the plan. The co-operatives will themselves need a personnel, and these traders can easily be absorbed into the new machinery that will thus be created for the purpose of distribution. The active and vigilant watch of the consumers themselves will be able to safeguard their interests. While the retention of the so-called 'normal' channels of trade is bound to lead to a dislocation of the entire planned economy, the development of the alternate channels of distribution can ensure its success.

100. Pending the creation of such a country-wide machinery, which in our opinion need not take much time once the plan begins to be executed, the present channels of trade may be allowed to function, subject to rigid control of the People's State in order to ensure on their part behaviour in conformity with the spirit of the plan. A maximum revenue of 3% would also be permitted in this case, the basis of computation being the turn-over. In the case of retail traders, the margin may have to be somewhat higher.

V

REQUIREMENTS OF THE PEOPLE

101. It is estimated that, under the plan, agricultural output will increase by 400% and industrial production by 600%. We have already made it clear that the object of the planned economy must be to satisfy the essential and basic requirements of our people within the period of the next ten years. It is probable that this formulation might be misunderstood. We have therefore made it clear that it is not intended as the objective of the plan to attain a standard which, once attained, need not bother the planning authority any longer. In fact the objective of a plan like this, paradoxically enough, can never be completely attained. It is to create for our people a possibility of an ever-rising standard of living, on the basis of an ever more gainful employment. While keeping this objective constantly before us, we have suggested a plan which can, during the period of the next ten years, not only fulfil the condition of satisfying the essential requirements of the community, but provide it with a much higher than the minimum physiological standard of living. On the face of it, this may appear as a modest aim, but it will be found to be a significant achievement if we remember the terrible leeway we have to make up in this respect. It may further be pointed out that there is nothing in the plan which prevents its being fulfilled in a shorter period than that of ten years, which has been postulated for it. In that case, the progress will naturally be much greater than that we have visualised.

102. The progress of the plan will depend upon the extent to which a surplus accumulates in the hands of the planning authority for the purpose of being reinvested into the economy, so as to raise its general technical and productive level. The planned economy cannot promise a millennium from today to tomorrow. The task of feeding and clothing a population, semi-starved and semi-naked for centuries together, is a gigantic task. To abolish ill-health from a death-ridden country would be equally gigantic, and the same would hold good about the wiping out of ignorance accumulated for centuries. The progress of the planning authority in achieving successfully these objectives will depend upon the extent to which the planning authority is able to keep up the progress of economic development at an accelerating speed. This

will depend upon the extent to which it succeeds in getting an investable surplus from the economy for the purpose of reinvestment into it. The level on which, however, the start will be made will be extremely low. That being the case, naturally some time must elapse before we are able to witness any significant achievements in improving the conditions of the people. While making this clear, we would like to point out that every year of the plan must find the people better than during the preceding one. In deciding and collecting the investable surplus from year to year, the planning authority must be guided by this consideration.

103. The enumeration of the requirements of the community must to some extent appear arbitrary to many. Food, clothing, shelter, health and education do not furnish a complete picture of these requirements. They can be said to represent only the absolutely indispensable minimum. We have already made it clear that the provision of this minimum does not cover completely the objective of the plan. As a matter of fact, they can be said to be the basis from which the planned economy ought to start. But since we are lagging far too behind in this respect, the satisfaction of these requirements has been placed as the immediate objective of the plan.

104. The estimate of the requirements of the community which follows should therefore be taken only as indicative of the most minimum that must be achieved immediately and made available to the people by the planning authority. What will in fact be provided, as we shall soon show, will be considerably more than that, if the plan is implemented.

105. The most minimum requirements of the people in respect of food may be estimated as follows, on the basis of Dr. Aykroid's calculations of a well-balanced diet,¹¹ taking 2,600 calories as the average daily requirement of an adult.

Rice	..	..	..	..	10 ozs.	Non-leafy vegetables	..	..	6 ozs.
Millet	..	..	..	..	5 ozs.	Green leafy vegetables	..	..	4 ozs.
Milk	..	..	..	..	8 ozs.	Fats and oils	..	..	2 ozs.
Pulses	..	..	..	..	3 ozs.	Fruits	..	..	2 ozs.

The total requirements of the population of British India on this basis, assuming it to be by the end of the plan about 350 millions, will be :

Cereals	..	55 million tons.	Non-leafy vegetables	23 million tons.
Milk	..	1285 million gallons.	Green leafy vegetables	15 million tons.
Pulses	..	11 million tons.	Fats and oils	8 million tons.
		Fruits	..	8 million tons.

It is extremely difficult, on the basis of the extremely meagre data

11. The nutritive value of Indian Foods and the planning of satisfactory diets, Health Bulletin, 21, 1941, p. 15.

available, to calculate the extra output needed for the purpose of satisfying these requirements. If we add the population of the Indian states in these estimates, the figures will have to be higher by about 25% or more. It will be clear from the plan that we do provide for the satisfaction of these needs in an adequate manner. In fact, the provisions for food will have to be more than what is indicated by these calculations on the basis of Dr. Aykroid's formula, for the latter may be regarded as deficient in certain important respects such as meat or dairy products etc.

106. Besides food, clothing is another requirement in respect of which proper provision for every one will have to be immediately made under the plan. Confining ourselves to cotton textiles alone, we may take in this case the minimum per capita requirement as 50 yards of cloth. On this basis the total requirements for a population of 350 millions would be 17,500 million yards of cloth. The total productive capacity of the textile industry in the country has been estimated at about 4,500 million yards. If we add the requirements of the population in the Indian States, the quantity of cloth needed will be increased by about 25% or more. This can give us some idea of the expansion of a single industry, viz. cotton textiles, that we will have to bring about under the plan. Since the plan puts its main emphasis on the consumers' goods industries, we may point out that it will be possible under it to provide for the satisfaction of this need also.

107. The requirements in respect of shelter, health, and education have been provided for in the plan itself. The spirit of the plan, and the objectives of the planning authority as set forth, will provide a guarantee that they will be satisfied.

108. It is only planning along these lines that can ensure a rise in the standard of living of the people, an objective so dear to many hearts in the country today. Any other type of planned economy may lead to an increase in the national income or per capita income ; but these calculations are fictitious from the point of view of improvement in the standard of living of the people. That may not improve at all as a result of the national income being increased or the per capita income being raised. "A figure of national income in no way throws light upon 'the economic conditions of the various classes of the people.' Its compilation is very largely an academic exercise which should continue to be left to the statisticians, economists and other non-officials."¹² We do not, therefore, propose to go into the detailed but not-every-useful calculations of national income for the period covered by the plan.

¹². Report of the Indian Economic Inquiry Committee—vol. I, notes of dissent by Prof. A. R. Burnett-Hurst, p. 96.

109. The national income is today 'national' only in the sense of being 'produced by the nation.' This will not be so under the plan. A bulk of it will not go to enrich a few private pockets as it does today, leaving the people as poor as they are at present. On the other hand, a good part of it will take the form of a huge wage-fund distributed to the community, and the remaining will go to the planning authority for the purpose of being reinvested into the economy. The payment of 3% revenue to private capital or the compensation given to the landlords as well as the erstwhile usurers may be regarded as a part of this wage-fund.

110. The problem of ensuring the defence of the People's State has not been mentioned by us so far, nor do any calculations on that score figure in our plan. It is hoped that the victory of the democratic forces in the present world struggle will eliminate or at any rate considerably reduce the possibilities of aggression in the future. But in case it is found necessary to divert a part of our human and material resources for the purpose of ensuring the defence of the People's State, the nature of the plan itself will make it amply clear that the planning authority will be in a position to do so.

VI

OPERATION AND FINANCING OF THE PLAN

111. A plan involving a capital expenditure of Rs. 15,000 crores within a period of ten years may appear to be considerably difficult, if not utopian, to those who can think of finance only along the orthodox lines. A planned economy in which a bulk of the national income is diverted into private pockets, must naturally find the problem of investment on such a scale a colossal task. It would, however, present no insuperable difficulty in the case of a planned economy in which such a private appropriation of the national income is effectively controlled. The problem of finance becomes considerably simplified, for the reason that the planning authority in this case is in a position to divert the surplus accumulating in the economy for the purpose of reinvestment into it. Thus the problem of finance, which is usually a bugbear of all planners, need not present any difficulties worth the name, in the case of the kind of plan we are suggesting.

112. The initial preparatory period for the plan would be, we think, of about two years or so. This would be needed, among other things, for the purpose of carrying out the essential preparatory measures which have been suggested as preconditions for the improvement in the productivity of agriculture. Once these preconditions are fulfilled, as well as the other technical and similar preparation is made, the plan can begin to be executed.

113. We visualise an initial capital expenditure for a period of three years of the plan as Rs. 1,600 crores. With this investment into the economy in the first three years of the plan, the plan can be expected to finance itself. We would show at a later stage the various ways in which the initial finance can be raised and invested into the economy. At this stage we may assume, for the purpose of explanation of the process of what we term as self-financing, that the initial finance has been available to the State for investment.

114. For the period of the ten years covered by the plan, we propose in a broad manner, the following schedule of investments :

(In crores of rupees.)

Year	Agriculture	Basic industry	Consumers' Goods Industry	Communications	Health	Education	Housing	Total
I	200	100	-	-	-	-	-	300
II	350	100	100	-	20	30	-	600
III	450	100	100	-	20	30	-	700
IV	500	100	150	50	30	37	-	867
V	450	150	250	100	40	90	274	1,354
VI	450	300	400	200	50	100	288	1,788
VII	250	350	450	300	80	150	480	2,060
VIII	100	400	500	300	120	180	848	2,448
IX	100	500	500	300	200	200	726	2,526
X	100	500	550	250	200	223	534	2,357
Total	2,950	2,600	3,000	1,500	760	1,040	3,150	15,000.

115. Before we turn to the explanation of the above schedule, it is necessary to add to the above, another schedule indicating the details of investments in agriculture, which are as follows :

(In crores of rupees.)

Year	I	II	III	IV	V	VI	VII	VIII	IX	X
Reclamation of land	100	200	200	100	—	—	—	—	—	—
Irrigation ..	100	100	100	150	150	—	—	—	—	—
State farms ..	—	—	50	100	150	200	—	—	—	—
Soil conservation etc.	—	—	—	50	100	100	50	—	—	—
Rural industries	—	—	—	—	—	50	100	50	—	—
Manures etc. etc.	—	50	100	100	50	100	100	50	100	100
Total ..	200	350	450	500	450	450	250	100	100	100

116. Taking the two schedules together, it will be found that the initial expenditure has been concentrated on those items, wherein it is expected to bring in immediate returns. The expenditure on account of communications, for example, begins only in the fourth year of the plan, while that on housing in the fifth year. On the other hand, nearly 66% of the expenditure on agriculture has been concentrated during the period of the first five years of the plan as against about 20% of that on industries. It would be possible on this basis to call the first five years' period of the plan as the period of agricultural development, while that of the last five years as the period of industrial development. The growth of industries as well as the provision of the services such as those of health, education and housing will depend upon the extent to which a surplus is created in the economy, and the creation of that surplus will

naturally be the task of the principal industry in the country viz. agriculture. It is this consideration that delays the expenditure on all these items a little in the course of the schedules.

117. Looking at the schedules from a different angle, it will be seen that in the beginning a considerable portion of labour would be diverted to the purpose of reclaiming the cultivable land as well as for the irrigation schemes. This would tend to increase as we go to the second or the third year. A good part of this labour will be absorbed on the land itself that will be reclaimed in this manner. On the other hand, just as the irrigation projects come to an end, the housing schemes will begin to operate to absorb the labour freed from them. Another consideration to be taken into account in this connection is that any extensive use of manures will necessitate considerable expansion of irrigation. Similarly the development of rural or food industries will depend to some extent upon the growth of electrification, the projects of which would be linked up to some extent with the extension of the irrigation schemes. By the time the housing projects show a slackening tendency, the industrial development would be able to gather momentum. Accompanying it will be the development of communications to absorb a large amount of labour in them. These are some of the guiding considerations that we have taken into account while suggesting the above schedules. We may, however, add that the schedules are naturally only of an illustrative significance.

118. We may now turn to the estimates of incomes which will accrue as a result of the investments that have been suggested. In calculating these incomes, we are assuming that in agriculture, for all investments excepting that on the reclamation of land, the new income that will come as a result of investment of 1 rupee by way of capital will be 1.2 rupees. The income in the case of 'new land' sought to be brought under the plough can be estimated at 2 rupees per rupee invested. In fact, it should be possible to expect a higher income than this, for a part of this land is lying uncultivated simply because there is no labour locally available. In other cases, it requires some irrigation facilities, while in certain other cases, the cultivation is not found to be economic as a result of the existing primitive methods of cultivation. We think, therefore, that the estimate of income that we are assuming in this case is quite moderate and is justified. In the case of industries, the assumption is of new income of Rs. 5 per every Rs. 12 of capital invested.

119. Proceeding on the above basis, the following would represent the new incomes from agriculture and industries that can be expected during the period of the plan ;

(In crores of rupees.)

Year	Agriculture	Basic Industry	Consumption Goods Industry.
I	-	-	-
II	-	42	-
III	900	84	42
IV	1,600	126	84
V	2,280	168	147
VI	2,820	231	252
VII	3,360	354	416
VIII	3,660	500	604
IX	3,780	666	812
X	3,900	875	1,020
Total	22,300	3,046	3,377

Grand total—Rs. 28,723 crores.

It is out of this new income which will be created, in addition to the present one, that the finance for the plan is to be obtained.

120. We may now turn to show how that can be done. For this analysis, we may start with the agricultural income in the beginning. The value of the agricultural produce, including that of live-stock products as well as fishing, hunting and forest products for British India, has been estimated as Rs. 900 crores. If we take into account the fact that about 300 crores worth of income is diverted from this to the pockets of the landlords and the money-lenders, about 600 crores remains in the hands of the rural population. In fact, this is not a complete picture of rural incomes and we are aware of it. A part of the income is still further diverted to the middlemen, for example, which the above calculations do not take into account. Assuming Rs. 600 crores to be available for consumption to the rural population, we get a per capita income of about Rs. 23 for the rural areas. The measures that we have suggested viz. nationalisation of land as well as the abolition of usury, will leave initially the additional amount of Rs. 300 crores to the rural population. This figure of Rs. 300 crores we have taken on the basis of the estimates given in the earlier parts of the report, about Rs. 200 crores being the rent and Rs. 100 crores being the interest on a debt of Rs. 1,000 crores, taking it at the minimum rate of interest i.e. 10%, at which such debts are advanced. The burden of interest must actually be considerably higher.

121. Out of the Rs. 300 crores that will be left in addition to their present income in the hands of the rural population, as a result of the reform of the land tenure system and the abolition of usury, Rs. 150 crores should be mobilised by the State in the pre-first year of the plan. This can be regarded as the income from the nationalised land. During the period of ten years of the plan, the amount should further be collected every year, according to a

sliding scale, reducing every year the amount by Rs. 10 crores, until the figure of Rs. 60 crores is reached during the 9th year of the plan. This is all that the peasantry should be expected to pay to get out of the clutches of landlordism as well as usury. The tenth year of the plan will thus find the peasant free from these bonds. Out of this amount, the payment of Rs. 60 crores per year to the rent-receivers as well as to the usurers can be made, and the rest can be utilised for the purpose of being reinvested into the economy. The income from nationalised land would thus work out in the following manner :

		(In crores of rupees)					
Pre-first year of the plan	150
I	140
II	130
III	120
IV	110
V	100
VI	90
VII	80
VIII	70
IX	60
Total Rs.							1,050

Even after the income from nationalised land is collected in this manner, the income available for the rural population would increase by about Rs. 150 crores at least. This will mean a total rural income of 750 crores of rupees at the beginning of the plan itself, which gives, on this basis alone, a per capita income of 29 rupees. Thus an improvement in the per capita income by about 6 rupees is brought about at the outset under the plan, even before it begins to be executed.

122. For the calculations of rural per capita income during the period of the plan itself, we may now turn to the following table :

Year	Agri. income	(In crores of rupees.)			Income for consumption.	Rural per capita income Rs.
		Income from nationalised land.	Payment to rentiers etc.	Investable surplus.		
I	900	140	60	80	760	29
II	900	130	60	70	770	30
III	1,800	120	60	787	953	35
IV	2,500	110	60	1,242	1,198	43
V	3,180	100	60	1,678	1,442	51
VI	3,720	90	60	1,818	1,842	65
VII	4,260	80	60	1,955	2,245	77
VIII	4,560	70	60	1,776	2,724	94
IX	4,680	60	60	1,410	3,210	107
X	4,800	—	60	1,100	3,640	121
Total	31,300	900	600	11,916	18,784	—

The total agricultural income during the period of the plan thus comes to 31,300 crores of rupees. Out of this, income left over for the consumption of the community is Rs. 18,784 crores i.e.,

about 60%. Income reinvested into the economy is Rs. 11,916 crores of which the income left for reinvestment for the eleventh year is Rs. 1,100 crores. The net reinvestment during the period of the plan therefore amounts to 10,816 crores of rupees i.e. about 35% of the total agricultural income during the period of the plan. This will not appear as too high a proportion if it is remembered that from this, services to the tune of about Rs. 4,000 crores are sought to be provided for the rural areas alone during the period of ten years. The rural per capita income will have increased from Rs. 23 to Rs. 121 by the end of the plan.

123. We may now turn to the income from industries which can be obtained for financing the plan during the period of ten years. The present net output of the industries for this purpose is estimated at about Rs. 300 crores, while the capital invested in the industries is about Rs. 600 crores or so. With the kind of control that we visualise in the plan on private capital in respect of the income that is diverted to it today, the charge of private capital invested in the industries will come to about Rs. 20 crores. We think, in addition to this charge, it should be possible to obtain from this source about Rs. 50 crores as income for the purpose of being reinvested into the economy. If, during the first year of the plan, Rs. 70 crores in all are diverted in this manner, and the rest of the income is left over for consumption, the urban per capita income works out to Rs. 57 per year during the first year of the plan. For the subsequent period of the plan, the following table will make the position clear :

(In crores of rupees)

Year	Industrial Basic Ind.	Income Cosum. goods	Total new income	Total indus. income	Charge of private capital	Investable surplus	Income for consum.	Urban per capita income Rs.
I	—	—	—	300	20	50	230	57
II	42	—	42	342	20	50	272	63
III	84	42	126	426	20	80	326	81
IV	126	84	210	510	20	112	378	94
V	168	147	315	615	20	110	485	106
VI	231	252	483	783	20	242	521	116
VII	354	416	770	1,070	20	493	557	124
VIII	500	604	1,104	1,404	20	750	634	140
IX	666	812	1,478	1,778	20	947	811	162
X	875	1,020	1,895	2,195	20	1,315	860	172
Total	3,046	3,377	6,423	9,423	200	4,149	5,074	—

The total income from industries during the period of the plan would be Rs. 9,423 crores, of which Rs. 5,074 crores have been left for consumption, i.e. about 54%. On the other hand, the financial contribution of our industries for the building up of our economy would be to the tune of Rs. 4,149 crores, i.e. about 49%.

Out of this, Rs. 1,315 crores is the amount allotted for the purpose of reinvestment during the eleventh year of the plan, and therefore the net investment from our industries for the purpose of developing the economy comes to Rs. 2,834 crores i.e. about 30% of the total income from industries. It may be pointed out here that the discrepancy between the contribution of agriculture and that of industries is bound to be there in the beginning, since the initial contribution to be made for the development of the economy comes to a great extent from our agriculture. It will however be seen that, with the growth of industries that will be brought about in this manner, it will be possible for us to have gradually a greater contribution from industries as against agriculture. This is already seen in the tenth year of the plan, in which agriculture is expected to contribute for further development of the economy only 1,100 crores of rupees as against the contribution of industries to the tune of 1,315 crores of rupees.

124. It is necessary to point out in this connection that the calculations of the per capita income that we have given in the last columns of both agricultural and industrial incomes during the period of the plan, are arrived at after taking into account the increase in population during the period. On the other hand, it will also be clear that they have been made, *not in the manner in which* the calculations of this nature are usually made on the basis of the so-called 'national income,' but on the basis of the income available for consumption only during the period.

125. The question may arise in this connection as to how is the State to obtain the investable surplus that has been shown in these tables. In the case of the industries, the question will not be of a serious nature. Since the industries will be *mostly owned and controlled* by the State, it should be possible for the State to divert that part of the income from industries which it thinks necessary for the purpose of reinvestment. The technical device for doing so may be a turnover tax as in the case of the USSR, levied on industries financed by the inclusion of the investment in the State budget. The proceeds of this tax will represent the totality of the net income from the respective industries accruing to the state. The State budget will thus be ultimately balanced.

126. In obtaining the investable surplus from agriculture, the position will be somewhat more complicated. But on a closer view, it will appear that the difficulty will not be very serious in the case of the two sectors of agriculture viz. the 'new land' which is to be brought under cultivation as a result of a collective attack under the control and with the assistance of the State, and the State farms. For the rest of the land, the *position will get more and more simplified* as the movement for collectivisation develops. In

the meanwhile suitable tax measures, particularly a land tax, should be able to bring a good part of this surplus. The need for borrowing is not altogether precluded, and may arise on occasions, in which case a state which is bringing about every year an improvement in the living conditions of the agriculturist will have the strongest appeal and will, therefore, be in the most favourable position to borrow.

127. *The essence of this method of financing the economic development of the country which we are suggesting, consists in the fact that the income which passes to the landlords, usurers or private capital is sought to be rigidly controlled under it. That alone creates the possibility of the investable surplus accumulating in the hands of the state, to a constantly rising extent. And we have already made it clear that the speed of economic development is dependent on the extent to which such an investable surplus is available to the planning authority.*

128. On the other hand, it will be clear that this accumulation of investable surplus in the hands of the planning authority is accompanied with a continual improvement in the standard of living of the people. The figures regarding the per capita income in the tables will show this, and it may further be pointed out that since the plan commences with the necessary and essential changes in the socio-economic framework, the income left over for consumption will be widely distributed under it. The contrasts of riches and poverty will not be seen on the scale on which they are seen today ; and the standard of living of the entire community would improve. All these achievements are possible for a planned economy like this, simply because it prevents the rich of today from becoming richer tomorrow at the cost of the poor.

129. It will be clear from the statistical position that we have sought to explain so far, that the income to be invested into the economy from the fourth year of the plan onwards will be obtained from the economy itself. It will be possible to have this investable surplus because of the investments during the first three years of the plan, which are almost concentrated on those items of expenditure which will bring in an immediate income. The initial finance needed for the plan for the period of the first three years will be Rs. 1,600 crores. We shall now turn to the question of how this can be obtained by the People's State. Out of this amount of Rs. 1,600 crores, Rs. 240 crores will come up to the second year of the plan from the income from nationalised land. This will be the net income from this source for the purpose of reinvestment. The total collection would be of Rs. 420 crores out of which Rs. 180 crores will go to the rent-receivers and the usurers as the interest on the bonds issued to them by the State. We have

further visualised a sum of Rs. 100 crores to come into the hands of the planning authority from the industries in which private capital has been invested, once they are controlled, during the first two years of the plan. Thus the total available will be Rs. 340 crores. Our requirements of initial finance will thus be reduced to Rs. 1,260 crores.

130. The sterling balances to the credit of India today amount to about Rs. 1,000 crores. It is possible that, owing to the war in the Pacific, the amount may further increase. It will not be possible for us to get the entire amount immediately after the war is over, no matter how much we may desire to have it. The sterling balances on the other hand are of the nature of an *inter-Governmental* loan. They belong to the people of India in the last analysis, and should be available for the purpose of economic development of the country which will lead to an increasing well-being for the people. The initial preparatory period of the plan is of two years or so. And then for three years in the beginning, the plan will have to be financed from what we already have instead of, as in the later stages of it, from what we will be able to produce. For this period of five years, therefore, we expect a sum of Rs. 450 crores to be realised from the sterling balances for the purpose of this development. Thus in all we have a sum of Rs. 790 crores out of the requirements of initial finance of Rs. 1,600 crores. The remaining amount of Rs. 810 crores will have to be collected by the State and then the need for the initial finance will be satisfied.

131. Can the collection of the sum of Rs. 810 crores be regarded as being beyond the possibilities of practical financial considerations? We do not think any reasonable student of the Indian economic reality will make that contention. It represents about 45% of the national income. But let it be remembered that the collection is spread over a period of about four to five years. If it is spread over a period of four years, it actually amounts to a collection of 11% of the national income for the purpose of reinvestment into the economy. If it is spread over a period of five years, the percentage comes to only 9% or thereabout.

132. Let us now look at the problem from a slightly different angle. The national income of British India has been estimated at about Rs. 1,800 crores. The inequalities existing at present are responsible for putting about 30% or more of this income into the pockets of about one per cent of the people. Surely, this amount of Rs. 600 crores is not reinvested into the economy every year. The reason for it is the limitations set by the profit economy, which have been mentioned by us in the earlier part of the report, on such a reinvestment. What happens then to this

amount ? It is obvious that a good part of it is not available for investment into the economy of the country at any rate, but often takes up the character of wealth which is out of the process of production. Why can it not be harnessed for the purpose of developing and quickening the economic progress of the community which will rid our people of poverty and starvation, sufferings and disease, ignorance and backwardness, which have characterised their lives for centuries together ?

133. We have indicated so far that the amount needed for the initial finance for the plan can be obtained. The concrete measures that will be suitable for this purpose will naturally have to be devised by the state. It will be, however, clear that the amount that is needed is quite within the realm of possibilities. The estimates of even the so-called hoarded wealth in the country exceed the amount, granting that they are not underestimates. We would however like to suggest that the amount needed for the initial finance of the plan should be obtained through measures of taxation, the burden of which will fall on those shoulders in the community which are strong enough to bear it. Some of the taxes for this purpose are an estate duty, graded in a sufficiently steep manner, and an inheritance tax or death duties. In the absence of adequate statistical material, we cannot go into the detailed estimates from these sources or suggest them in a more concrete form. But we think the income from these sources will suffice for the purpose of implementing the plan in the initial period of three years. In case it is not found to be so, it may also be necessary to resort to compulsory borrowings, wherever such a possibility exists. The inflated reserves of the industries will provide with another source. Finally, the credits accumulated by our industrialists abroad can also be found suitable for the purpose.

134. Finally, we may touch the point concerning the external finance that will be needed for the execution of the plan. This would obviously be obtained through the export of the surplus of agricultural produce. With a sufficiently diversified agricultural production, it will be possible for us to find a custom for these products, particularly in the post-war years. It may also be pointed out in this case, that just as we make greater and greater progress during the later stages of the plan in respect of industrialisation, it will be possible to absorb an increasing quantity of the increased agricultural output inside the country itself. Another source for obtaining the external finance needed for the plan will be the export of the minerals which are also sought to be developed under the plan.

135. Thus the total finance of Rs. 15,000 crores needed for

the purpose of the execution of the plan will be obtained as follows :

(In crores of rupees)	
Sterling balances	450
Initial Finance—estate duty, inheritance tax, death duties etc. etc. ..	810
Income from nationalised land in the pre-first year of the plan ..	90
Income from agriculture for reinvestment during the period of the plan	10,816
Income from industries for reinvestment during the period of the plan	2,834
Total	15,000

VII

CONCLUDING OBSERVATIONS

136. Before concluding this report and presenting a plan for the economic development of the country which we were asked to prepare according to the resolution of appointment of our Committee, a plan which would represent adequately the point of view of Indian labour, we think it necessary to go briefly into some of the suggestions which are generally made from various quarters for the future economic development of India. One such suggestion, which is very popular in different quarters, is concerning the necessity for India to obtain what is called a "balanced economy." The suggestion is made on the assumption that the present economy of India is unbalanced, and therefore those who make it immediately jump to the conclusion that all that needs to be done is to bring about an industrial development of the country which will ensure for it a proper balance between industry and agriculture. We must emphasize in this connection that this view is entirely superficial and erroneous. Indian economy today in fact is a backward economy. What we need therefore is not a mere development of industries in the country which will ensure a proper balance between agriculture and industries, but a well-planned and well-coordinated progress of both these aspects of our economic life so as to attain economic progress and prosperity and thus ensure for the millions of India a solution of their problem of poverty. It is precisely this kind of development that we have suggested in our plan. It will be the gravest of misfortunes for our people to think that there is little or nothing that needs be done with regard to our agriculture, which is already, so to say, developed, and that all that we have to do is to give a push to the growth of industries in the country, so that the economy will be a balanced economy. In fact normal development of industries is inconceivable, as we have made abundantly clear in the earlier part of our report, on the basis of the primitive, backward agriculture that we have in the country today. A really unbalanced economy will ensue from the development along the lines suggested by those who often advance this stock argument of "balanced economy."

137. Let us now look at the problem from a different angle. It is a well-known fact that nearly 70% of our population depends

for its subsistence on land. It is also equally well-known that, whatever the industrial development that we may visualise and carry out in the immediate future, a major portion of our population will still depend on land. The improvement of the standard of living of these people is dependent upon the productivity of their labour. That cannot happen unless the development of our agriculture is taken up by the planning authority as its important and primary concern. It is primary because of the simple reason that a majority of the people depend for their subsistence on agriculture. All idea of improving the standard of living of the people must be of the nature of an idle pastime, on occasions quite harmful in its implications, if it does not take account of this simple fact of supreme importance. We cannot improve the standard of living of the people by showing disregard for that of a majority of them.

138. It is sometimes urged that the development of agriculture is *merely in continuation of the economic policy that we have been following so far, under a foreign Government, when we were not masters of our own fate.* The argument, however, does not cut much ice. Any serious student of the economic life of our country will know that such a development did not take place at all for all these days. On the contrary, it can be contended that agriculture, on balance, has been deteriorating during the past few decades or so. It is for the first time that we shall be having an opportunity of reconstructing our principal national industry *viz.* agriculture, and the future of the country must be dark indeed if we shirk in that task.

139. Another important aspect of our economic life which we think we should touch at this stage of our report is the problem of numbers. It is indeed a stupendous task to plan the economic life of a fifth of the human race. But the problem becomes still more baffling when we remember the 5 millions or so of extra mouths to feed, that appear on the scene every year. Nothing important in this respect can be done during the period of the plan. It is, however, hoped that the improvements in the standards of living of the people that will be brought about under it and the growth of the secular outlook on life which will naturally accompany such improvements, will operate ultimately as an effective check on this growth. The new avenues for cultural development that are *bound to be opened up* will be a further contributory factor in this respect.

140. The plan outlined by us is primarily a plan of economic development. It is, therefore, outside the scope of its provisions to discuss the problem of an all-round social security for the people. The basis for the provision of such security will, however, be laid as a result of the increased production of wealth under the plan. The

provision of such security ultimately depends upon the extent to which a surplus can be produced in the economy. It will be possible to introduce schemes of unemployment insurance, old age pensions etc., during the period of the plan when considerable surplus of this nature will be produced. The desire to have all these schemes is entirely sound, and when the basis for their introduction is created, the planning authority will have to move immediately in the direction of introducing them. From the beginning the plan itself will open up increasing avenues of employment for the labour in the country and thus of improving their living conditions.

141. The plan clearly indicates improvements in the standards of living of the people from year to year of its operation. Calculated only on the basis of the income available for consumption from our agriculture, the rural per capita income, as we have already shown, will rise from Rs. 29 per year during the first year of the plan to Rs. 121 per year during the last or the tenth year. The rise for the urban population for the corresponding stages will be from Rs. 57 to Rs. 172 per year. This implies a net improvement by over 300% for the rural population, and by 200% for the urban. We start from a much lower level in respect of the former than the latter. Yet the gap between the rural and urban incomes which is found today will be filled to a great extent during the period of the plan. Looking at the figures from a different angle, it will be seen that the average per capita income from these two sources works out to Rs. 33 per year during the first year of the plan. The average for the tenth year calculated in a similar manner comes to about Rs. 128 per year. *This means that the common man of India will live four times better as a result of the execution of the plan.* The planning authority, we may further add, will have to pay greater attention to those backward strata of our population, such as the scheduled castes for example, who have had practically no experience of 'hope' in their lives for centuries together. If indeed we need a planned economy with the object of achieving the aim of improving the living conditions of the millions in the country rather than for enriching a few private pockets, it will have to be along the lines that have formed the basis of the plan that has been suggested here.

142. Such an improvement in the living conditions of the people, along with a vastly improved and developed network of social services in respect of health, housing and education, can serve as the foundation for the cultural development of the people. When the primary human needs of the people are thus adequately satisfied, when security and leisure are made available to all, when the present is freed from sufferings and the future from uncertainties, there can take place a tremendous cultural progress of the people who have hitherto been almost in the backwaters of civilisa-

tion. A whole people would be roused to the mighty creative tasks that lie ahead, will discover a purpose in life, and will take gigantic strides forward along the path of social and cultural progress to catch up with the world and take up their rightful position in the family of nations. The plan thus opens up the possibility of unlimited economic and cultural progress and this will be attained in the future at an accelerating pace.

143. India will not be able to plan her economic life in isolation. A plan of economic development for India will, therefore, have to be such as will fit in in the probable world context after the war. It is extremely difficult to hazard any opinion in this respect at this stage. But we may only point out that a plan of this type, leading to improvements in the standard of living of one-fifth of the human race, will indeed be one of the greatest stabilising factors in the world economy of the post-war period.

144. We are unanimous regarding the contents of the report and the suggestions it contains for the future economic development of the country.

March, 10, 1944.

B. N. BANERJEE.
G. D. PARIKH.
V. M. TARKUNDE (*Convener.*)

INDIA TO-MORROW
A NEW APPROACH TO PLANNING

BY
B. K. SHAH
FELLOW OF THE INSTITUTE OF ACTUARIES (London)

PADMAJA PUBLICATIONS,
BARODA

First Published August 1944

Sole Selling Agents :
PADMA PUBLICATIONS LTD.
Fort, Bombay

Printed at Sadhana Press, Raopura, Baroda by Kishansingh Chavda and published by him
for Padmaja Publications, Baroda. Aug. 1944.

CONTENTS

	PAGE
INTRODUCTION	i-iv
CHAPTER I—A BRIEF SURVEY OF THE "15-YEAR ECONOMIC PLAN." ..	1
CHAPTER II—THE SOVIET FIRST FIVE YEAR PLAN.. .. .	9
CHAPTER III—PUBLIC REACTIONS TO THE 15-YEAR ECONOMIC PLAN ..	20
CHAPTER IV—A NEW APPROACH TO PLANNING	38
CHAPTER V—INDUSTRY	50
CHAPTER VI—AGRICULTURE	64
CHAPTER VII—TRANSPORT AND COMMUNICATION	81
CHAPTER VIII—TRADE AND COMMERCIAL POLICY	87
CHAPTER IX—SOCIAL SECURITY	92
CHAPTER X—CONCLUSION	103

INTRODUCTION

“Europe is at present experiencing one of the greatest and swiftest breakdowns in the history of civilisation.” The Second World War has shaken the very foundations of human society, and has laid bare certain deep-seated weaknesses in the world’s economic, political and social systems as they existed before the present war. It is now fully realised on all sides that fundamental and far-reaching changes in the economic, political and social systems are essential if the world is to march to an era of peace, plenty and prosperity. Already, plans for a new world organisation have been proposed; we have President Roosevelt’s Four Freedoms, the Atlantic Charter, the International Monetary Plans, etc. Practically every belligerent country is busy preparing individual plans for its social and economic development after the war. Indeed, it is no exaggeration to say that the world is at present saturated with a planning philosophy.

The need for planning and ordered development is no where greater and more insistent than in the so-called backward countries. Ours is a land of proverbial hunger, disease, misery and squalor. The country presents the greatest contrasts in its social and economic life. We have the ruling princes, zamindars and affluent merchants and industrialists on the one hand and a large majority of the population living in dire poverty on the other. Our national income is too small to permit a reasonable standard of living to the 400 million who inhabit this land. In the new order to come, our first problem will be to harness the human and material resources of the country with the set objective of substantially increasing the production of wealth so as to assure a reasonable standard of living to our countrymen. India can attain her economic salvation by destroying the five giant evils which Beveridge has described in his famous report, viz. Want, Disease, Ignorance, Squalor and Idleness. This difficult task will call for the creation of a national will, leading to national action. It must be realised that we are at the parting of ways—we must plan or perish.

Even though the Government fully realise the gravity of the situation, it appears that they are doing nothing more than *mere tinkering* with the problem of national planning in their traditional, bureaucratic ways. Largely to satisfy a clamant *public opinion*, the Government appointed a number of Committees to prepare plans for post-war development of India. Though the Committees have been appointed since long, nothing substantial has so far been achieved except for the publication of a few blueprints on subjects of post-war planning such as education, civil aviation, the extension of the existing railways and road mileage, etc. No unitary, comprehensive plan has yet been formulated, nor does it appear that such a plan is on the agenda. It must be remembered that the various sectors of a national economy are closely inter-linked and they act and react on one another. The formulation of a *sectional plan*, therefore, without reference to the other sectors and uncoordinated with the whole national economy, does not help us and will not carry us far in the realisation of our goal.

The most important non-official plan that holds the field at present and which has considerably helped to mould and focus the public opinion on the urgent need for planning is the "Plan for the *Economic Development of India*," popularly known as the '15-Year Economic Plan.' The Plan has been variously received in the country. While the idea of the planners of putting the country on a sound industrial basis so as to enable her to attain a front rank among the world's leading nations has been generally acclaimed, the methods of financing such a huge plan have been sharply criticised. The important lacunae in the formation of this Plan are: (1) the problem of the distribution of wealth; (2) the ownership of the means of production, and (3) the role of the State.

The Roy Plan is more or less an improved version of the 15-Year Economic Plan. It lays more emphasis on the need for agricultural planning and goes a step further by suggesting Rs. 15,000 crores as the amount required to finance the Plan.

This book approaches the whole problem of planning from a new angle. In view of the fact that the fulfilment of our planning will call for the mobilisation of our national resources, sacrifices from the people and immense national assistance in the matters of financing, organisation

and the execution of the plan, it is imperative that the ownership of the means of production must be vested in the public and that the net dividend must be equitably distributed. In order to achieve these objects, it is suggested that a system of public board ownership and management of our means of production will be best suited for the development of most of the sectors of India's national economy. Under this system, it is not proposed to turn over the management to bureaucrats. A careful study of the problem suggests that it is possible to devise a system which while retaining the commercial principles will safeguard collective interests of the people. Although such a system will retain the incentive of profit, private enterprise and property will be subordinated to social needs. The principal aim of the proposed system is to protect the collective interests of the people against vested interests. There can be no doubt that the introduction of the principle of public ownership, control and supervision of the means of production is of the very first importance in relation to the necessity of increasing the national income and at the same time abolishing the extremes of poverty and possession of surplus wealth.

The idea of a public board or a public corporation as an agency to develop the national economy is not a new one. A notable instance is furnished by Italy, where, twenty-two Corporations were created by the Italian Government in the year 1934 for controlling, rationalising, disciplining and organising Italian economic life on a scale more complete than ever attempted by any other country.

Another important instance of the kind is suggested in the Report on the post-war problems of the Cotton Industry prepared for the Board of Trade by a Committee of the Industry, headed by Sir Raymond Streat, Chairman of the Cotton Board. In summarising remedies prescribed by the Committee to arrest the decay of the industry, the "Economist" observes—

"The Committee's main recommendation is for a strong Statutory Central Organisation, coming close to the pattern of industrial self-government, to administer such remedial prescriptions as will in its view be necessary to restore the industry's health, that is, to ensure a suitably sized cotton industry, affording stable and congenial employment to

workers, a fair return to capital and a solid contribution to national well-being.

“Such a central organisation would take the form of a post-war Cotton Board, appointed by the Government after consultation with the industry, responsible to the Government rather than to trade organisations, but free to take decisions in the interests of the community and the industry as a whole.”

It is admitted that we need not blindly follow a system adopted by any particular country. We must evolve a system of our own which will suit our national genius. In view of this, it is suggested that our planning should proceed on the basis of vesting the ownership and management of the means of production in public boards. It is hoped that the evolution of the system suggested above will prove more suitable to the undertaking and development of our national economy. Such a system only can yield most of the advantages afforded by private initiative and profit incentive reconciling them with collective interests and a collective outlook.

CHAPTER I

A BRIEF SURVEY OF THE "15-YEAR ECONOMIC PLAN".

The eight Industrial Magnates have published a "Plan of Economic Development for India." The Plan discusses—

- (a) the objectives to be kept in mind ;
- (b) the general lines on which development should proceed ; and
- (c) the demand of the Plan on country's resources.

The Planners have made it clear at the outset that it is not a complete scheme, that it contains no reference to such essential matters as the organisation, distribution methods and technique required for carrying out the plan, which, they say, are under examination by them.

The basic assumptions made in suggesting the Plan are :—

- (a) the existence of a National Government with full freedom in economic matters ; and
- (b) the economic unity of India.

The machinery suggested for the creation and the execution of the plan is—

- (a) the creation of a National Planning Committee in which the various interests concerned will be represented, and
- (b) the creation of a Supreme Economic Council for administration of the plan.

Both these bodies would work under the authority of the Central Government. Co-ordination of their duties and functions, and harmonising their relations with the regional governments constitute two of the most important problems of the Plan.

The principal objective set up under the plan is to double the per capita income within a period of 15 years. The prefactory period for putting the plan into operation is expected to take 3 to 5 years. Allowing for an increase in the population, it is estimated that it will be necessary to treble the present aggregate national income.

It is appreciated by the Planners that the fulfilment of the Plan is bound to be full of difficulties, specially the following :—

- (a) it runs counter to deep-seated prejudices and traditions ;
- (b) it involves personal discomfort and sacrifice ;
- (c) it may be hindered by political differences.

The Planners are fully aware of the tremendous influence of the post-war international situation on India's economy.

The Planners have clearly stated that the scheme is in reality not of colossal dimensions. Financial concepts have completely changed. Under a planned economy, money or finance is not the master of a country's economy but its servant and instrument.

The Planners have given an excellent statistical survey of the minimum necessities of life covering, food, clothing, shelter, health and education.

THE ECONOMIC PLAN :

The Economic Plan put forward by the Planners proceeds as follows :—

The objective put up by them is to treble the national income within a period of 15 years from the starting of the Plan, i. e., after 3 to 5 years of preparatory work. The income position in the year 1931-32 and that suggested under the Plan is given in the Table below :—

Activity	1931-32		At the end of the period of the Plan		
	Income Crores Rs.	% Composition to Total Income	Income Crores Rs.	% Composition to total Income	Increase %
Industry	374	17	2,240	33.9	500
Agriculture	1,166	53	2,670	40.5	130
Services	484	22	1,450	22.0	200
Not classified	176	8	240	3.6	36
	2,200	100	6,600	100.0	200

The Plan is designed to increase the national income by establishing a balanced economy, that is, increasing the percentage contribution of income from industry and services. Even with this changed percentage composition, the essentially agricultural economy of the country will remain.

The Planners have come to the following conclusions as regards expansion in the various sectors of the national economy :—

A. INDUSTRIES :

(i) That it is essential for the success of this economic plan that basic industries should be developed as rapidly as possible ;

(ii) That adequate scope should be provided for small scale and cottage industries along with large scale industries (specially in consumption goods industries) ;

(iii) That the " net product " ratio to Capital varies according to industries and to the extent to which capitalistic methods of production are employed and technological advances are made use of. Assuming a ratio of capital to net product at 2, for a net industrial output of Rs. 2,240 crores, a capital of Rs. 4,480 crores would be required for the industrial section of the Planning.

B. AGRICULTURE :

It is not possible that more than 130% increase in agriculture will be absorbed in this country. The increase has been deliberately fixed low—it is made clear that no ambition to export agricultural produce in the initial years is entertained.

The plan envisages readjustment of the areas under cultivation to increase the production necessary to feed the population.

Certain fundamental reforms to deal with the problems of agriculture are imminent, such as :—

(a) Fragmentation and scattered holdings—it is suggested that we adopt compulsory co-operative farming ;

(b) Liquidation of the burden of agricultural indebtedness—it is suggested that the debt be reduced as far as possible by conciliation and the balance be liquidated through loans from co-operative societies ;

(c) Soil erosion—it is suggested to introduce terracing, afforestation etc.

The increase in agricultural production is expected by improving the yield per acre by rationalising agriculture in the matters of irrigation, rotation of crops, manures, better seeds and better implements. A comprehensive scheme of model farms is also considered to be quite essential.

The agricultural sector of the Plan is estimated to call for—

Non-recurring expenditure of Rs. 1,095 crores

Recurring expenditure of Rs. 150 crores

C. MEANS OF COMMUNICATIONS :

Railways :—To the total route mileage of 41,000 miles in 1938-39, it is planned to add 21,000 miles of new railways at a cost of Rs. 434 crores with a maintenance at Rs. 9 crores, making in all a route mileage of 62,000 miles.

Roads :—To the existing roads in British India admeasuring 74,000 miles metalled and 2,26,000 miles unmetalled, it is planned to add 300,000 miles at a cost of Rs. 300 crores, the maintenance of which is estimated at Rs. 35 crores. Metalling of the existing unmetalled roads of 226,000 miles is estimated to cost Rs. 113 crores.

Shipping :—It is suggested to add more harbours at a cost of Rs. 50 crores ; the maintenance of which is estimated at Rs. 5 crores.

For the means of communications of the plan it will call for :—

Non-recurring expenditure of Rs. 897 crores.

Recurring expenditure of Rs. 49 crores.

D. EDUCATION :

In the execution of a comprehensive economic plan, willing co-operation of the people is essential, the pre-requisite of which is literacy and better understanding.

An intensive industrial and agricultural development on such a vast scale will necessitate training of an army of technicians, workers and administrators.

Surveys of our natural resources like minerals, hydro-electric power, soil etc. will also call for an army of specialists.

Education calls for programmes of primary education, adult education, secondary and vocational education, university education and scientific education and research.

It is also necessary under the Plan not only to eradicate illiteracy but to impart cultural and vocational education also.

The Plan will call for—

Non-recurring expenditure of Rs. 267 crores

Recurring expenditure of Rs. 237 crores.

E. HOUSING :

The housing provision is necessary for the existing population as well as for the estimated increase. The cost on housing is estimated at—

Non-recurring expenditure of Rs. 2,200 crores

Recurring expenditure of Rs. 318 crores.

A capital expenditure of 200 crores is estimated.

THE FINANCIAL PROVISIONS OF THE PLAN :

Activity	Non-recurring Expenditure	Recurring Expenditure	Capital necessary
Industry	4,480	..	4,480
Agriculture	1,095	150	1,240
Communications	897	49	940
Education	267	237	490
Health	281	185	450
Housing	2,200	318	2,200
Miscellaneous	200	..	200
	9,420	939	10,000

The Planners have dealt with the two sources of finance that can be tapped—

- (i) External Finance, and
- (ii) Internal Finance.

External Finance resources of the country are estimated at Rs. 2,600 crores made up as follows :—

The country's own credit balances in the form of sterling balances	Rs. 1,000 crores
The hoarded wealth of the country in terms of gold & treasures likely to be invested in the form of capital	Rs. 300 crores
Foreign loans	Rs. 700 crores
Favourable balance of payments over a period of 15 years @ Rs. 40 crores per annum	Rs. 600 crores
	<u>Rs. 2,600 crores</u>

Internal Finance resources of the country are estimated at Rs. 7,400 crores as follows :—

Savings	Rs. 4,000 crores
Created money	Rs. 3,400 crores
Total:	<u>Rs. 10,000 crores</u>

The Planners believe that capital or finance plays a sub-servient role in a planned economy. They have expressed themselves in unequivocal terms that :

(i) there is nothing unsound in having "created money" in a planned economy. It is of a self-liquidating character ;

(ii) "Created Money" creates a gap between the volume of purchasing power in the hands of the people and the volume of goods available. Bridging of this gap is a constant problem ; and equitable distribution of burdens between different classes calls for a rigorous control by Government ;

(iii) money must be treated merely as a means of mobilising the internal resources of the country in materials and man-power.

The Planners have made a definite effort to visualise the stages of development, which, they admit, will entirely depend upon the availability of natural resources, labour, capital goods and managerial ability.

The two guiding considerations borne in mind in drafting the stages of development are—

(i) Priority has to be given to certain kinds of development over others—specially to basic industries.

(ii) Planning without tears is an impossibility. However, the Plan should avoid too great a strain on the country's economy in the period of its execution. It is pointed out that the Indian Plan should avoid the three following errors of Russian plans—

- (a) Over emphasis on heavy industries,
- (b) Indifference to consumption goods, and
- (c) Enthusiasm to build up plants which took years to come into operation

The Progress Plan of the 15-Year Economic Plan is given below:—
(In crores of Rupees)

Basic Income 1931-32	First Plan.		Second Plan.		Third Plan.		Total for the 15 years.		
	Capital	Increase in Income	Capital	Increase in Income	Capital	Increase in Income	Capital	Increase in Income	
Industry	374	790	330	1530	636	2160	900	4480	1866
Agriculture	1166	200	242	400	484	640	774	1240	1500
Services	484	410	93	970	219	2900	654	4280	966
Not classi- fied	176	..	21	..	21	..	22	..	64
	2200	1400	686	2900	1360	5700	2350	10000	4396

The Planners have not calculated "Increase in Income" for each 5-Year Plan. This column has been worked out on the assumption that increase in national income throughout the period of the Plan will be in proportion to the new capital employed. This assumption is too good to be realised in practice. However, it gives an optimum in national income at various stages of the Plan.

The Progress Plan of national income at the various stages of the

Plan, on the assumption made in the preceding paragraphs, is estimated to be as follows:—

(In crores of Rupees)

Sector of Economy	On completion of the Plans			
	1931-32	1st Five Year	2nd Five Year	3rd Five Year
Industry	374	704	1,340	2,240
Agriculture	1,166	1,408	1,892	2,666
Service	484	577	796	1,450
Not Classified	176	197	218	240
	2,200	2,886	4,246	6,596

CHAPTER II

THE SOVIET FIRST FIVE-YEAR PLAN

Ours is not the first country to think of a planned economy. The U. S. S. R. was the pioneer in adopting a planned economy, followed later by Nazi Germany, Fascist Italy and Japan. During the present World War, planning in some form has been adopted, for war purposes, by practically all belligerent and occupied countries. The Soviets, the pioneers of Planned Economy, had to pay the price a pioneer usually has to pay; so have the other countries who have switched on gradually from an unplanned economy to a planned economy in the absence of any past experience to draw upon. The Second World War has not only revealed the tremendous potentialities of a planned economy, but has also enabled the evolution of a more subtle technique of fitting up a planned economy functionally without any structural revolution. It can safely be said that most of the teething troubles are being overcome, and that it is possible to evolve a planned economy which may not mean the same intense sacrifices and 'tears' as the Soviet or other plans involved. Every plan is built on certain fundamentals. It will be helpful if we examine the Soviet First Five-Year Plan in brief, draw our deductions, and then X-ray the 15-Year Economic Plan in the light of these deductions. The planners have been dealing in terms of a 15-year plan in three stages, but it will suffice for our purpose to learn our lessons and draw our conclusions if we examined the Soviet First Five-Year Plan.

The national economy of the Soviet Union had the background of (i) the dictatorship of the Proletariat with a very firmly established government, (ii) the nationalisation of the factories, the land, transport and the credit system; (iii) the socialist bond between town and countryside and (iv) the monopoly of foreign trade.

At the beginning of the First Five-Year Plan, the U. S. S. R. was an agrarian country with a backward and partly mediaeval technique.

The level of development of its industry was far from adequate for the purpose of reorganization of industry, transport and agriculture on the basis of modern technique.

The agrarian character of the country could be seen from a high proportion of agricultural income, which was 44.1% of the national income in the year 1927/28. The necessity to remove the technical and economic backwardness of the U. S. S. R. called for the fulfilment of an enormous programme of reconstruction in the First Five-Year Plan.

The characteristic feature of the economy at all stages of its development was the plan which was a directive and a set task, and not a mere forecast.

The execution of the Plan was in no way a smooth sailing. They had to face opposition not only from their political opponents, but also from the vested interests. The Right opportunists set their face against the Plan, and refused to admit that industrialisation was the decisive lever for the reconstruction of national economy and professed the theory that "things should be allowed to grow their own way automatically." The Trotskyists, on the other hand, advanced the theory that the reconstruction of national economy by U. S. S. R. by its own efforts was impossible. In addition to the struggle waged by the Right opportunists and the Trotskyists the Bourgeoisie waged a direct struggle against the Socialist Plan through the medium of wrecking organizations.

The First Five-Year Plan was born in the midst of a fierce class struggle around the question of the main roads and the means of socialist construction. Of the two variants of the plan—the initial plan and the optimal plan—submitted by the State Planning Commission, the Authorities adopted the optimal variant of the plan.

The First Five-Year Plan was the pioneering attempt on the part of the Soviet Union to develop the national economy and raise the cultural level of a vast country on the basis of a plan. The fundamental objective of the Plan was to consolidate the position of socialism by (i) the allround industrialisation of the country in respect of heavy industries, electrification, light and food industries, etc; (ii) the introduction of large scale, mechanised agriculture on the basis of collectivization and State farms; (iii) raising enormously the cultural level of the country.

II

The successes achieved in the industrialisation of the country, the great achievements in the organization of advanced collective farms and State farms, the enormous success achieved in the creation of a new labour discipline, and the fact that Soviet Industry achieved considerable successes in mastering the advanced technique of industrialist economy made it possible not only to reduce the period of fulfilment of the five-year plan to 4 years and 3 months, but made it necessary to supplement the plan in the matter of mass collectivisation of farming and further expansion in the reconstruction of national economy.

In the opinion of the State Planning Commission the fulfilment of the Plan within the planned period of five years presumed favourable conditions throughout the period. It was assumed that there would not be any serious failure of the harvest in the period; and that there would be a considerable expansion in the economic intercourse between the U. S. S. R. and the world economy.

Due to exceptionally unfavourable weather conditions the gross yield of grain was exceptionally poor in the year 1931. The year 1927-28 saw the annulment of the Trade Agreement and rupture of relations with England. Moreover, the whole period of the Plan witnessed a sharp drop of prices on the world market (the drop in prices was sharper for agricultural produce and industrial raw materials than for finished manufactured goods) leading to a reduction in world trade, shrinkage in credits and intensification of tariff wars. All these unfavourable features led to the underfulfilment of the export and import plan which had to be revised, restricting imports of raw materials and consumable goods. Added to these difficulties, it was found necessary to considerably increase the expenditure on national defence. In spite of all the unfavourable conditions under which the Plan was executed, it was possible not only to fulfill the plan within a shorter period, but this was overfulfilled in many sectors.

The construction programme was the pivot of the First Five-Year Plan. During the period of the plan the volume of capital invested in the socialised sector of national economy (embracing the State and Co-operative enterprises) amounted to 52.5 billion roubles.

The Five-Year Plan had no advantage of long term foreign loans. The saving of such a huge capital was made possible by drawing into productive labour the whole of the able bodied population of the country, by harnessing every sector of the national economy to its maximum capacity of production, by enforcing a powerful drive of internal saving and by abolishing the exploitation by parasitic elements.

Of the 52.5 billion roubles, 24.8 billion was invested in industrial construction, 21.3 of which was invested in the heavy industry. 50% of the total capital investments in industry were invested in the construction of new enterprises equipped with modern technique. These operations doubled the fixed capital of the socialist sector of the national economy on the completion of the First Five-Year Plan.

The gross output of industrial production census industries on the basis of 1926-27 prices increased from 15.7 billion roubles in 1928 to 34.3 billion roubles in 1932 which was 218.5% of the industrial output of 1928 and 334.5% of the industrial output of 1913. The output of the means of production in 1932 increased to 2.6 fold compared with 1928 and 4.2 fold compared with 1913.

The completion of the First Five-Year Plan thus transformed the U. S. S. R. into a land of heavy industry capable of completing the equipment and the reorganization of industry, transport and agriculture. Special care was given to the increase in the share of the output of the means of production and the development of the machine building industry. Compared with the production capacity of the year 1927-28 the output of means of production showed an increase of 158% whereas the machine building industry expanded 4.4 times the 1927-28 level. Moreover, the machine building industry attained the stage of technological efficiency and development to design and manufacture and type of machine and spare parts for any type of imported equipment. In 1931 the output of the machine building industry had expanded to 140% of that of England and 151.1% that of Germany.

A powerful Iron Industry which is the basis of the heavy industry, was also established during the period.

A special achievement of the plan was in electrification. The capa-

city of all electric power stations rose from 1.874 billion kilowatts in 1928 to 4.567 billion in 1932 and in degree of electrification of industry the Soviets had already surpassed England.

The advanced chemical industry, which constitutes one of the most important sectors of technical reconstruction of national economy, was in no way neglected. A new modern technically advanced chemical industry in Group A (not including the rubber industry) rose from 319.4 million roubles in 1927-28 to 1039.9 million roubles in 1932.

The introduction of modern technique and electrification in the national economy secured the decisive transition from manual labour and mediaeval technique to extensive mechanisation of the main processes of production in all branches of national economy.

The success of industrialisation and strengthening of the alliance between the working class and the peasantry created enormous possibilities for the economic, social and technical transformation of agriculture. The planners, in adopting the Plan, fully realised that it was impossible to construct a balanced national economy on two different systems *i. e.* large scale mechanised and technically revolutionised industry, and private, technically backward and small peasant agriculture.

The fulfilment of the Five-Year Plan proved in the very first year that mass collectivisation and extensive State farming, with thousands of machine and tractor stations equipped with modern technique, was not only possible but was necessary. From a small peasant country the U. S. S. R. was transformed on completion of the Five-Year Plan into a land of large scale agriculture which brought about the greatest revolution in the technical level of agriculture.

The stock breeding industry was also mobilised and rationalised. The U. S. S. R. became a stock-breeding country on the largest scale in the world on the fulfilment of the plan.

The advantages of the large scale mechanised agriculture yielded a collection of about 2½ times the marketable grains available in the past and resulted in a great increase in the productivity of labour and agriculture.

The plan was overfulfilled in respect of railways and transport by

the improved utilization of the freight rolling stock and by the carrying of extensive reconstruction work. The transport difficulties experienced were due, not so much to the failure of the transport system, as to the enormous demands made upon it by the truly tempestuous development of practically all branches of national economy. Special emphasis must be laid on the achievements in the sphere of transport machinery building. During the Five-Year Plan period the building of main line electric locomotives, diesel locomotives, refrigerator cars, oil cisterns, gondolas etc. was achieved. The achievement in water transport was also quite considerable, so also in respect of automobile transport and civil aviation. New roads admeasuring 93000 kilometers were built during the period of the plan.

The whole national economy was confronted with the task of attaining a substantial increase in the productivity of labour. This called for new discipline,—the discipline of labour, the discipline of comradely intercourse and the discipline of giving the best in a man to the cause of the national economy. These called for a new training to equip them to the level of modern technical production. It was found necessary to give training to millions of new workers and technicians to fit them as efficient operatives in the highly mechanised and industrialised national economy. The new character of production relationships, socialist competition, shop brigade work, cost accounting brigades, counter-plans etc. provided the new forms of the class attitude towards 'labour' which has become a matter of honour, glory, valour and heroism.

The enormous achievements in the 'new labour discipline' were due to the great victories which the working class achieved during the First Five-Year Plan period in raising the general and technical education of the workers. During the period, 2,84,000 new engineers and technicians of high and medium grade entered the national economy. Millions of workers attended the extensive net work of technical courses, evening universities and evening technical universities that were organized. The factory training schools trained 300,000 young skilled workers for industry and 4,50,000 for national economy as a whole.

The central objective of the planning was to attain a considerable improvement in the material and cultural level of the people.

With the completion of the Five-Year Plan, unemployment was completely abolished. The agricultural economy was completely revolutionised by rationalising farming on the basis of mass collectivization, relieving thereby the poor peasants and the lower middle peasants from kulak bondage. There was some increase in the growth of the light and food industries (the average annual increase of output of the light and food industries in the period 1929/32 worked at 17%). The output of consumers' goods in 1932 was 187.3% of 1928, and 273.5% of the output of the corresponding industries in 1913. Nevertheless, the increase of output in the light and food industries was not in accord with the tremendous development that had been attained in the other sectors of the national economy.

The neglect of light and food industries meant suffering for the people, but was in no way unsound. The acceleration in the growth of the heavy industry and agriculture guaranteed the creation in the First Five-Year Plan period of a base for home machine building and also for raw materials for these branches of industry.

The fulfilment of the Five-Year Plan saw a substantial growth in the national income as shown in the Table below :—

Year.	National Income R. Million.	Budget Revenue R. Million.
1927-28	25,342	6,836.1
1928-29	30,009	8,294.2
1929-30	33,963	12,986.5
1931	40,900	20,342
1932	45,500	30,574

The national income in the year 1932 showed an increase of 86.1% compared with that in the year 1927-28. An average of 17.2% in the national income per annum was a record in the history of the economic development of any modern country in the world. Simultaneously, there was also a change in the distributive structure of the national income among the people.

It may perhaps be pointed out that the standard of life of the

people in the Soviet Union was lower during the First Five-Year Plan compared to that in 1928.

It is true that a substantial volume of capital investment, especially in heavy industry, which took a relatively long time to result into an increased output of consumable goods, did impose an immense strain on the people. However, that was not all. The First Five-Year Plan period practically coincided with the period of the world-wide depression and slump, the characteristic feature of the depression being a much more precipitate fall in the prices of primary commodities than finished goods. The Plan provided for the financing of the imports of machinery against exports of agricultural produce, with the result that the terms of trade were turned in Russia's disfavour by almost 30% like all other primary producing countries. It is therefore not far from correct to say that the world economic conditions were as responsible, if not more, for a slight lowering the standard of living in the early period of the Plan, which was made good later on. However, the significant point is that hardly any primary producing country escaped a lowering in the standard of living in the said depression. Everyone suffered, but the U. S. S. R. suffered comparatively the least.

The contribution towards the building up of 'social security' for the Soviet people was enormous. Literacy was raised from less than 33 per cent of the population in 1913 to 53.9 per cent in 1928, and to 90 per cent in 1932. Unemployment had been completely eliminated. The average number of working hours per day were shortened from 9.9 hours in 1913 to 7.8 hours in 1928, and 7 hours in June 1932. The average wage was more than doubled in the course of the First Five-Year Plan. In addition to monetary wages, the Soviet workers are paid normal wages for holidays (statutory Summer holiday) and free facilities in the holiday resorts. Rents are graduated in accordance with income. Social Insurance comprising sickness benefits, pensions, medical treatment (including health treatment at Sanitoria) are non-contributory, the whole cost being borne by the various enterprises and the State. The Social Insurance fund had grown from 947 million Rouble in 1928 to about 4479 million Rouble in 1932.

It would be interesting to examine how the U. S. S. R. was able to

finance such a vast scheme of reconstruction and whether it created any mal-adjustment. The financial aspect of the Russian Plan is best described by Maurice Dobb: "But to ask the question (about finance) in this form is to put the cart before the horse. . . Since the production follows the market, production can usually be switched round only when financial operations have achieved the necessary purchasing power. . . Once the Plan has solved the problem of output and the transfer of productive resources, finance follows in the wake of production as an obedient camp-follower. . . The Soviet economic plan included a financial plan as a constituent part of it. The financial plan can be regarded simply as a production plan translated into terms of prices." Mr. Dobb then goes on to describe the credit plan and the operation by which prices are fixed. "In the first place, it estimates the amount of credit that industrial units will require to finance the purchase of raw materials necessary to fulfill their output programmes, and the amount of cash they will need to draw to finance the wages bill of their labour force. This is the credit plan; and the State banks handling the current accounts and the crediting of industry can exercise not only an 'ex post' cheque, but also a month-to-month control over any deviations from the output plan. In the second place, it fixes the prices (these are virtually accounting prices only) at which the output of an industry is valued and the industry is credited for the output it produces. These planned prices are fixed on the basis of an estimate of the cost in materials, wages, etc. involved in fulfilling the output programmes in an average of representative factory, with the addition of a percentage to cover depreciation of plant and machinery and a percentage for profit. If, in fact, any industrial unit can reduce the cost below the planned cost, it will show a profit higher than the 'planned profit.' Thirdly, an estimate is made of the retail prices that will be necessary to equate the planned output of consumable goods with the spendable funds of the population; and on this basis selling prices are fixed and finally retail prices at which goods finally pass into the hands of the consumer. The mechanism by which the ratio between retail price and planned price (cost plus normal profit) at the point of production is adjusted is the turnover tax". It should be noted that the turnover tax forms the single largest item of revenue in the Soviet

Budget which accounts for between $\frac{1}{4}$ and $\frac{2}{3}$ of the total revenue. For instance, the Budget of the U. S. S. R. for 1941 estimated a revenue from the Turnover Tax at Roubles 124,500 million of the total revenue of Roubles 216,840 million, which worked at 56.0% of the total Revenue.

Though finance played a very subservient role in Russia's planned economy, the management of finance was in no way an unimportant part of the plan. The high tempo of investment in heavy industries and the development of unfavourable conditions under which the plan was executed, created many mal-adjustments in the financial field. For four years the Russian workers lived through a period of 'deferred consumption', while they watched their capital resources grow. The mal-adjustment in the financial field was in no less a degree due to a disequilibrium between the planned wages and the cost of production and output.

Under the plan, estimates of output and wage payments were simultaneously drawn out and possessed a definite relationship. Owing to various factors, there was a continued tendency for costs to exceed and for output of final goods to fall-short of planned estimates. Even though the volume of output of final goods showed a short-fall, the wage payments were maintained according to Plan, creating thereby a disparity between the total purchasing power and the volume of goods available. Moreover, the system of 'controlled prices' which were based on theoretical money cost of production led to heavy industrial losses which were financed by treasury grants. These unexpected losses which were considerable in the early years of the First Five-Year Plan were made good by resorting to the printing press, in other words, to inflation. The currency circulation rose to R. 6800 million in 1933 compared with R. 3200 million, the maximum provided under the Plan for circulation in 1933. The note circulation expanded by 36 per cent in 1929, 61 per cent in 1930, 29 per cent in 1931, 23 per cent in 1932 and by less than 1 per cent in 1933. The underfulfilment of the Plan in its output sector, and the payment of wages far in excess of the quantum that could equate itself to the consumable goods and services at planned prices, unbalanced the whole economy and threw the prices structure out of gear. In consequence there was an acute goods shortage and superfluity of purchasing power, which showed itself in rationing queues and sky-

rocketing of prices on the diminutive 'free' market. Stalin in his address before the Congress of Industrial and Business Leaders aptly ascribed the situation "to the unbusinesslike way in which affairs have been conducted, the principles of economic accountancy have been entirely ignored in a whole range of our enterprises and economic organizations. Many enterprises and organisations have long ceased to keep accounts, make estimates or draw up statements of income and expenditure."

It would be realised that these mal-adjustments could have been avoided by a timely adoption of adequate measures. There were three ways of remedying the situation (1) by increasing output; (2) by revising wage-rates in accordance with results and (3) by recalling part of the wages by means of loans and voluntary subscriptions. The Soviet Government adopted the first course.

CHAPTER III.

PUBLIC REACTIONS TO THE 15-YEAR ECONOMIC PLAN.

In examining the reactions to the 15-Year Economic Plan, we have to bear in mind that it is a Plan for the Economic Development of India and its success rests not only on the integrity and the ability of the Planning and Executive Authorities; to a great extent the success depends on the whole hearted and positive response both in thought and in action of the Indian people to such a degree as to make a 15-Year Plan, dissected into three progressive plans, the only worthwhile objective of life. The new technique of propaganda plays a tremendous role in the shaping of the collective psyche of the people, and it is essential that public reaction to the Plan be carefully studied.

The first and the most important reaction to the Plan is that it has kindled the spark of imagination and focussed public attention on the subject. It is no *exaggeration* to say that the Planners have rendered a signal service in marshalling the public thought on the subject.

It has been said that the execution of the Plan is to follow the fulfilment of a set of conditions, and is therefore full of 'ifs' and 'thens'. The foremost hurdles are: (i) the political settlement, and the existence of a strong National Government with full freedom in economic matters, and (ii) India's economic unity. Admittedly, these are big 'ifs'. However, to any thinking man, the fulfilment of these conditions is essential to any progress of the country—economic, political or social.

If India is to be ruled from Whitehall for the primary benefit of the British economy, there is no scope for any plan; it will be disrupted both from within and without; and there will be *nothing* but poverty, misery, filth, disease and illiteracy in store for us.

The 'Economist' in this connection has pertinently pointed out that 'it is plainly not possible to carry through such a programme of reconstruction without the establishment of a Government with sufficient powers to plan and act for India.'

On the other hand, if a free India is to be "balkanised" into a jumble of weak states, the whole economy of the country will be dissected into disharmonious warring sectors, and there will be nothing but strife, internecine wars and destruction facing us. Admittedly, there is a dilemma on the question whether we should have a strong Central Government or a balkanisation of India. On the one hand, our economic reconstruction calls for a strong Central Government, based upon a recognition by the Provinces and States of the country's fundamental economic unity. On the other hand, it is argued that "politically, a weak Central Government, recognising the separate claims of provinces, states and communities is more likely". This is one of the most difficult hurdles in our national life. Political suspicion, deep-rooted prejudices, dissensions and division of the people into vertical and horizontal sections has completely undermined and demoralised the very foundation of our national economy. We are rotting in dire poverty and misery. The curse of illiteracy has clogged our expanding economy, and our ignorance in the fundamental matters relating to our economic, social and cultural life has led us into wrong alleys of political and social thinking from which we find it difficult to extricate ourselves. We must realise that we are inexperienced in the new technique of mobilising our forces for the reconstruction and rationalisation of our economy. The situation calls for a complete co-ordination and harmonisation of all the forces, animate and inanimate, and it is imperative that our leaders think in terms of real *One-ness*. The plans have to be built therefore on the foundation of *One-ness* of India in all matters relating to the welfare of the people.

The basic assumption in the creation and the execution of the Plan is that we should have a National Government with full freedom in economic matters. Undoubtedly, this is the most important condition for any progress in our national life, be it economic, social, political or cultural. However, we do not know exactly where we stand in the present political stalemate. The creation of a National Government will take some time and the transitional period may be anything between three to ten years, or, as some pessimists imagine, it may be even a generation before India gets freedom. In view of the bitterest sufferings which this country is facing, there is, however, no justification for delaying the economic development of this country on a planned basis.

The Government of India displays keenness in the economic reconstruction of India, and it is reported that the blue prints will be ready in 1944. The present Government, which professes to be a care-taker Government, holding office just to take care of the regime till an alternative Indian Government steps in, realises fully well that it does not enjoy the confidence of the people, and is hardly competent to formulate and execute a Plan suitable for the country. However, this does not absolve it from its responsibility to the people of this country, and the least expected of it is that it should immediately set up a machinery in the form of Public Boards (referred to in Chapter VI) with set tasks of compiling data, which should be acceptable in its broader basis to a popular Government, formulating the Plan of Economic Development of India so that the adoption and the execution of the Plan may be hastened by the National Government.

It is really disappointing that the Government is preparing half-hearted and piecemeal measures of post-war reconstruction for India instead of putting before the country a co-ordinated, comprehensive and complete plan of economic development. We have before us, for instance, a Rs. 450 crores scheme for road construction, a Rs. 120 crores scheme for education, a Rs. 80 crores scheme for civil aviation, a Rs. 319 crores scheme for buying rolling stock and equipment for our railways, etc. We have had enough of the muddle-through policy of the present Government, and we cannot but strongly deprecate the piece-meal and fragmentary reconstruction plans being formulated for execution. It is therefore imperative to mobilise public opinion to force the Government to institute Public Boards on the lines suggested in Chapter VI with the sole objective of formulating and executing the plans necessary for the economic, social and cultural development of India.

Happily, there is not one voice which has questioned the necessity of a plan. It is recognised by all—Indian and non-Indians, "Haves" and "Have-nots"—that in planning lies our economic and cultural salvation; that no longer need the country put up with illiteracy, poverty and disease; that our cry should be "Plan or Perish."

The intentions of the framers of the plan are doubted in certain quarters. Mr. Tata, one of the signatories of the Plan, has frankly

explained at a recent press conference that "the plan was no big business stunt, nor was it intended to profit one class at the expense of another." The Planners realise fully well that an Economic Plan of India must be drawn up and executed for the welfare of the Indian people as a whole with the central object of lifting them from the existing starvation standard to a reasonable living standard. The big business and industrialists can therefore hardly aspire to get a charter to exploit the country under the guise of a planned economy in return of their co-operation. In reality, the fact that an independent India, determined to forge ahead in its plans to eradicate poverty and suffering, shall not agree to a charter for exploitation by any vested interests needs no discussion nor arguments.

To some the Plan appears utopian in character. No doubt, in the light of our pre-war ideology and experience, it appears to be a scheme of gigantic dimensions. All that the Planners seek to achieve is a trebling of the national income. There is nothing fantastic or utopian in planning to increase within a period of 15 years the per capita income of this country from a low level of Rs. 65 to Rs. 130 as against the per capita income of Rs. 1,406 in the U. S. A. and Rs. 980 in the U. K. in the year 1931. The criticism that the Plan is utopian in character can only emanate from one who refuses to view the future in its true perspective, specially from the point of view of the great potential productive power a country has in the new technique of mobilising its resources for the welfare of the people.

It would be interesting to study the reactions of the Western world to the Russian First Five-Year Plan, so aptly described by Mr. Maurice Dobb: "When the figures of Piateletka, or the First Five-Year Plan, originally appeared and were given a sarcastic mention in the Press of the West, their dimensions seemed so stupendous that opinion generally treated them as a utopia born of madness or giant propagandist hoax. At least they seemed stupendous to a public persuaded to think of Russia as a land of devastation and chaos, ruled by barbarian usurpers who might know how to destroy but were powerless to construct."

The criticism levelled against the 15-Year Economic Plan by the British Press is as unhelpful as the reactions of the Western world to the

Russian First Five-Year Plan and appears to have been inspired wholly by considerations other than the welfare of the Indian masses whose interests they profess to advocate. This criticism clearly suggests the limit to which the Britishers can go in creating bias and splits when their interests are adversely affected. Even the "Economist", a responsible journal, with a long tradition for advocating a fair deal and fair play in economic matters, has transgressed the limits of reason in its criticism. We shall examine below the criticism of the Economist on the 15-Year Economic Plan.

Under the caption 'Aspiration in India' the "Economist" (March 11, 1944) criticised the 15-Year Plan on the following points :—

(i) "The Plan puts the cart before the horse."

(ii) "It is a plan for Big Industry and high protection."

(iii) "Indian agriculture, which has suffered during the war as much or more than Indian industry has gained, and upon whose functioning depends the very existence of the vast majority of her millions, has surely the first claim on post-war resources. The mechanisation of agriculture, the improvement of transport, and the development of public works will for some time require the lion's share of capital investment; the expansion of local industry can only be done *pari passu*."

(iv) "Pittsburghs and Boltons and Detroits and Magnitogorsks cannot be built overnight and in isolation."

(v) "The plan implies economic chauvinism that would throw away most of the benefits of foreign investment in Indian development, proposes to create a degree of autarky that would compel India to make its own way by its own resources, and restrict its income accordingly and will not allow advantages to be taken either of foreign capital or international division of labour."

Under the caption "Apology to Indian Planners," the "Economist" (March 25, 1944) apologised to Indian Planners admitting that the above criticism was based on inadequate cabled summaries, which gave wrong impressions of the Plan. It was further stated that "if the plan is to be criticised, as it must, it is for its omissions rather than for any of its specific statements."

Again Reuter's cabled summaries of an article in the "Economist", under the caption 'Political Implications of the Bombay Plan,' gave further criticism of the 15-Year Economic Plan on the following points (Times of India, May 17, 1944).

(i) "It is not a very impressive document. In view of the enhanced post-war price level, the plan's costs are almost certainly much underestimated with the result that a substantially larger amount of created money will be necessary, with a correspondingly greater probability of inflation."

(ii) "The plan's political implications are plain enough. It will call for a rigorous Government control of practically every aspect of economic life, temporary eclipse of individual liberty and freedom of enterprise. It postulates a central directing authority enjoying sufficient popular support and the requisite powers." It is asked whether this is possible or desired by Indians.

(iii) "The businessmen, for so long the powers behind the Congress throne, have chosen the moment well to turn the Congress party's attention from the old interpretation of Dominion Status to 5-year plans."

(iv) "The moment may have even come when English Socialists and Liberals who so long demanded the end of imperialism may request its continuance in some form to save the Indian people from exploitation."

(v) "The communists are non-plussed by the appearance of big business bearing their own banner of planning, and the Indian Democrats are turning to co-operation with the British in order to avoid the millionaires' exploitation of India."

The Economist's first reactions, which, it was later admitted, were based on inadequate cabled summaries (how surprisingly poor the British news service could be!) seem to have been based mainly on economic considerations. Its main objection was to the Indians thinking in terms of 'Big Industry', which may be accompanied by protection. It scoffed at the idea of a rapid industrialisation, and gave us our first lesson that Pittsburghs, Boltons, Birminghams and Magnitogorsks cannot be built overnight! The planners were accused of economic chauvinism, and the first gauntlet of 'divide and rule' was thrown by putting forth the claims

of Indian agriculture, transport and public works in the name of India's teeming millions.

Just five weeks after its apology to the Indian Planners, it came out with an equally unhelpful and unconstructive criticism against the Plan.

The "Economist" contends that the Plan's costs are under-estimated, and that in consequence thereof there will be a greater probability of inflation. Such a contention without being backed by any cogent reasons appears to have been thrown as a bug-bear to scare the Indian people from a planned economy. The Plan's costs may or may not be under-estimated; but it is not correct to say that there will be a greater probability of inflation under a planned economy. Whatever may be the quantum of internal finance, be it real money or created money, it is possible to divide it into three parts—savings, taxation and purchasing power—the last to be of a volume which could be equated to goods and services at reasonable prices under strict conditions of rationing and rigid price control. We fail to understand why the "Economist" cannot visualise that the excellent technique developed by Britain in the management of her war finance to meet the ever increasing needs of war without resorting to inflation can be adapted to the special conditions of this country.

After a careful study of the Plan, and examining the political conditions in this country, the "Economist" has found a red herring that 'business men in this country have chosen the moment well to turn the Congress party's attention from the old interpretation of Dominion Status to 5-year plans,' and, 'that the moment may have even come when English Socialists and Liberals may request for the continuance of imperialism in some form to save Indian people from exploitation.' What a spacious argument for the continuance of British exploitation of India! Such statements are an insult to all those who have been responsible for unofficial planning in this country, because the framing of our plans cannot contemplate side tracking of the real issue, and certainly not that of the country bargaining away its political independence in return for a planned economic development under a bureaucratic government. There can be no gainsaying the fact that planning under a bureaucratic government is bound to fail. But even if it were not so, we would not be prepared to

tolerate imperialism in any form even though that may be intended to save the Indian people from exploitation. It is surprising to find the 'Economist' emphasising the hostility of the communists and the Indian Democrats to the 15-Year Economic Plan as if these are the determining political groups in our national economy!

To all these manouverings under the guise of saving the Indian people from exploitation, our only reply should be—please do not worry. We know how to deal with our people. The exploitation of the masses has been possible on an extensive scale under the present form of government because it has been interested in maintaining law and order only, and has given scarce attention to the economic or cultural development of the people. We are quite conscious of our weaknesses, draw-backs and the pitfalls on our way to achieve the national objective and in our planning we will see that not only there is no exploitation but there is equality and equal opportunity for all.

To the British Press and the British people, we can only say that their unkind and unhelpful criticism of Indian aspirations is interpreted in this country as expressions of an anxiety to prevent the development of our national economy. There is already a deep-seated suspicion fast gaining ground that any suggestion made or advice given by Britain might be biased and coloured by her vested interests. This is a very deplorable state of affairs. India will need the help of the industrially advanced West in the development of her national economy. Provided Britain is prepared to respect Indian aspirations, throw off her dominating attitude and help us on the terms on which other countries are prepared to work, there is no reason why she should not play an important role in the building of our national economy. The unfriendly and tactless handling of these issues will only drive us into an unfriendly and hostile position. It will do her greater harm than to us.

Quite a number of persons have expressed the fear that the Plan might break asunder on the financial rock.

Examining the financial provisions of the Plan, it is estimated that the execution of the Plan will necessitate a capital of Rs. 10,000 crores, of which Rs. 2,600 crores will be "External Finance" and Rs. 7,400

crores will be "Internal Finance." It is hoped to raise the External Finance from the following sources:—

Hoarded Wealth	Rs. 300 crores
Sterling Securities	Rs. 1,000 "
Balance of Trade	Rs. 600 "
Foreign Borrowing	Rs. 700 "

Let us examine carefully which of these sources might fail us.

The hoarded wealth of this country is estimated at Rs. 1,000 crores. A National Government, determined to develop its economy on a plan can certainly manage to dishoard 30% of such wealth on a patriotic appeal. However, it needs no clarification that ways and means could be devised to force a compulsory dishoarding of a substantial portion of the hoarded wealth, if need be. The expectation of Rs. 300 crores is therefore in no way an exaggeration.

Next, there is the problem of Rs. 1,000 crores sterling assets of this country in the U. K. There is a deep-seated fear in many quarters that the Government of India will, somehow manage, of course under orders and inspiration of His Majesty's Government, to fritter away these balances. There is definitely a ground for this fear. In spite of the repeated demands of the commercial community and the public in this country, the Government of India have consistently omitted to define their policy in respect of our sterling balances, and the manner in which one funding operation has followed the other inspires no confidence but breeds fear and nervousness. Already inspired reports in this connection are trickling into India. It is suggested in Britain by certain sections that India's sterling credits represent imperial generosity. The question of Britain's War Debts was fully examined by the Economist (7th August 1943) and it was suggested that:—

(i) This problem of "abnormal balances" (that is what the Keynes and the White Plans name it) could be tackled by separate agreements with each country concerned.

(ii) There is some scope for its reduction by further transfer to Indian ownership of British capital invested in India. For the rest there will have to be a funding arrangement allowing the British debt to

India a debt largely incurred in the defence of India to be repaid over a number of years by the only feasible method—an excess of exports to India over imports from that country ;

(iii) After the war the country (U. K.) will have been deprived of the greater part of the invisible exports represented by income on overseas investments and by merchandising activities, but for which (other things being equal) the deficit would have averaged some £200 million more than it did. If, in those circumstances, Great Britain is called upon to build up annual surpluses to the amount of £50 millions or so, required to repay a war debt of £1,000 millions over a period of 20 years, the effort this country (U. K.) will have to put forth will be prodigious...and would require even stronger insistence than would otherwise be necessary on fair access to the markets of the world—especially of the new creditors—for British exports.

It need hardly be pointed out that the whole question of India's sterling balances is hanging fire. It calls for an unequivocal assertion from this country that these balances are an outcome of no imperial generosity but they represent the blood and flesh of the Indian masses. The people of this country have suffered as bitterly as the British people, if not more, and it reflects no credit on British intentions to think and talk in these terms. The whole currency and credit structure of this country rests upon the existence and liquidity of these balances. As about 88 per cent of India's currency is at present backed by these balances, we should give a clear warning to the United Kingdom, a warning from a nation which has suffered so bitterly in the cause of the other, that not only have these Sterling balances to be redeemed, but their liquidity shall not be compromised by any funding arrangement between the two Governments.

The irresponsible manner in which the present Government acts, and the scant attention it pays to the economic and financial interests of this country, especially when they clash with those of the United Kingdom, gives rise to a deep-rooted fear that we are facing the dangers of a collapse, are getting deeper in the mire of poverty, and are running the risk of increasing discontent and chaos. We can hardly afford to run these risks. It is imperative therefore that we make it clear in un-

equivocal terms to the present Government, which is unrepresentative, irresponsible and unresponsive, that it could be pardoned for its acts of omissions and commissions in good faith, but for any of its acts leading to abuse or misuse of the trust in its charge, there can be no forgetting or forgiving.

Examining the various alternative ways in which our Sterling balances may be redeemed, there can be no objection to the suggestion of the Economist that Britain's debt to India will be repaid by the only feasible method, viz. by excess of exports over imports. The crux of the whole issue however is, what kind of goods, capital or competitive—would be exported to this country to redeem this debt. Even at a time when thousands were dying of starvation in Bengal, the Brain Trust of the presently constituted Government of India was no more competent than to frame a list of consumable articles to be imported, in which Johnny Walker led all the rest.

On our part, we cannot but insist that every penny of our Sterling balances shall be spent exclusively on the import of capital and other essential goods which will help the growth of the national income, and we can only hope that the British nation will not belie our expectations.

It is clear, therefore, that the treatment of the question of the Sterling balances has great bearing on the planned economy; in fact, it is the principal plank in the Plan. It is highly desirable that a monetary pact in respect of our Sterling balances is made with Great Britain, clearly defining the period of their liquidation, the manner of their utilisation, the rights of this country to switch off the balances to alternative markets for capital goods, or, alternatively, to borrow in any other country's currency against these balances with the guarantee from the United Kingdom for amortisation of such debt at an agreed rate of exchange.

Difficulties are pointed out by some economists on the question of converting the whole of Rs. 1,000 crores Sterling balances into external finance. The main points raised are:—

- (i) a part of it will have to be maintained as a currency reserve;
- (ii) it is not easy to see how the rest can be detached from its

currency use to which it is at present linked, except by creating ad hoc rupee securities of a corresponding value ;

(iii) there may be some inroads into these reserves as a result of passive balance of trade some years after the War.

Even the Honourable Finance Member in his speech introducing the Budget Proposals for 1944-45 made the following observations on this issue :—

“ Again, to utilise the whole of these balances and at the same time the whole increment of foreign funds accruing from current exports, would leave India with a wholly fiduciary currency. A note issue with nothing behind it except the authority of the Government is exposed to all the winds that blow, and some of them might be very adverse indeed—a failure of the monsoon, or a world-depression or a renewed threat of war might easily lead to a flight from the currency or to a demand for foreign exchange which it would be very difficult to satisfy. Some external reserves seem to me to be absolutely indispensable, and, therefore, it is unrealistic to assume that foreign balances, actual or prospective, could in any circumstances be fully available for reconstruction finance.”

In raising these points of difficulties, the critics fail to realise that in a planned economy there will be a strict regulation in the matters of our currency management and foreign trade. For instance, the Honourable Finance Member refers to a “ note issue with nothing behind it except the authority of the Government”. This is a wrong presumption. In fact, the note issue will be backed by created fixed capital assets. Moreover, behind such a note issue, there will be a plan of rigid price control, rationing and compulsory saving, and a well-budgeted import and export trade which will ensure a balancing of the Balance of Payment Account and also of the entire production and distribution arrangements under the plan.

With reference to the criticism that India will be left with a wholly fiduciary issue, it may be asked whether it is sacrosanct to hold Sterling backing against our currency, and whether, even under a Plan, it would not be possible for us to back up our currency issue by rupee securities in place of balances in foreign currencies.

The planning of a national economy implies that the Plan will have its Export-Import Sector, which will not only budget for imports and exports from the point of view of its importance to the national economy, but will also ensure a balancing of the Balance of Payment Account. If the Balance of Payment Account can be struck, so that our imports will be paid for by our exports, there will be no necessity for holding foreign balances against our currency.

Mr. G. D. Birla, in his speech delivered at the last Annual Meeting of the Federation of Indian Chambers of Commerce and Industry made the following very pertinent remarks on the issue :—

“What is the backing of the note issue of the Bank of England? Before the war the total note issue in England amounted to 530 million sterling against which the gold backing amounted to about 264 million—roughly 50 per cent. And what is the picture now? The total note issue amounts to 1,075 million sterling against which gold held by the Bank of England, is, we are told, only 1 million, *i. e.* only 0.1 per cent. Would any one, therefore, say that the currency of England just now is not in a solvent position? And if the sterling has no solvency about it—and this is the conclusion which one would arrive at if one was to accept the logic of the Finance Member—then to keep sterling as a backing of rupee surely is a dangerous proposition.”

“I, however, do not believe that sterling’s position is as bad as that simply because there is not sufficient gold behind it. Nor do I think sterling backing of the rupee makes the position of the rupee in any way stronger. In our case, our note circulation just now amounts to about 870 crores against which gold reserve, if valued at the present price, amounts to about 92 crores or a backing of more than 10 per cent. Surely, in respect of its gold backing, rupee is in a much stronger position than sterling. And if people have not lost their faith in the solvency of sterling, there is nothing to fear about the faith in solvency of rupee.”

How to detach these balances from its currency use is another question. A substantial part of the currency and the purchasing power linked with the Sterling balances is in the form of savings or purchasing

power, mostly in the hands of a small section of our own community, that is, our industrialists and business community. These have got to be demobilised in the form of savings. It is against this demobilised purchasing power, or, in other words compulsory savings, that Sterling exchange will be released to the importers of British goods. In a normal case, therefore, the process will result in cancellation of currency on the Liabilities side and Sterling balances on the Assets side of the Currency Account of the Reserve Bank.

India may perhaps find herself in a position under which the above process of cross cancellation may not be possible. Such a contingency is highly improbable. However, if we were faced with a situation in which the Planning Authorities were handed over these Sterling balances, and if the industrialists and the commercial community, who possess the purchasing power against these balances, were to refuse to convert them into capital goods or savings, the situation could be controlled by a system of rigid price control, rationing and strict measures of exchange control, which would completely demobilise the purchasing power. Such an operation will not therefore change the quantum of currency in circulation. With a stringent control in our foreign exchange dealings and demobilisation of such purchasing power by strict measures of price control and extensive rationing, it will not make the least difference in the internal value of the rupee.

It is apprehended by some that we may be faced with a passive balance of payments for some years after the war. We hope we shall not be placed in such a position. However, even if we are exposed to the "adverse winds" referred to by the Honourable Finance Member, that is—a failure of the monsoon, or a world-depression or a renewed threat of war—we shall find ourselves better prepared to combat the blows of "adverse winds" if we are working on a Plan from now. In these difficult conditions, we will have to do our best, and follow the rule 'Cut your coat according to the size of your cloth.'

In normal circumstances, taking into account the huge 'disinvestment' that has taken place which will have to be replaced, it may be difficult to expect an annual balance of payment to the tune of Rs. 40 crores in our favour. However, under a planned economy, which will

call for a complete control of our foreign trade, the accrual of an annual surplus of Rs. 40 crores in our favour to meet our special needs of capital goods may not be difficult to attain.

It may be incidentally observed that the Planners will find it necessary to revise their suggestions in the matter of production and export of agricultural commodities. In proposing a low target of 130% as increase in our agricultural production, they suggest that "in respect of agricultural commodities India should as far as possible aim at feeding her own population adequately and should not aspire in the initial years of planning to export to foreign markets." However, it may be pointed out that in order to develop India's economy fully it will be necessary to intensify the agricultural production so as to enable us to export as much as we can after meeting our own needs in payment of capital equipment. It is in the initial stage of the Plan that an intensified and rationalised agriculture can come to our rescue in balancing our foreign trade, and it should be the part of the Plan to intensively develop agriculture and other light industries during the preparatory period of the Plan.

Our capacity to borrow will depend on the following factors :—

(i) Goodwill of other nations towards India, (ii) Stability in our economy, our capacity to honour our commitments, and our credit as a borrower who would stand by his commitments, (iii) Stable government, (iv) Willingness and capacity of others to lend.

The fulfilment of the first three conditions are fundamental to the Plan and have to be attained. As regards the fourth, viz., the willingness and the capacity to lend, we have to imagine the scope for borrowing in a world of 1950 and not in the world of 1931-39. The critics who question the feasibility or practicability of the borrowing programme should realise that the technique of production on the basis of an expansionist economy enables the creation of wealth on such a large scale that borrowing of Rs. 700 crores in the form of capital goods over a period of 15 years would not be colossal. In reality, it may probably constitute 2½% of the annual national income of the U. S. A. assuming that the existing level of productivity is then maintained.

A passing reference to the apprehension expressed in certain quarters that the borrowing abroad may lead to more foreign vested interests would not be out of place. It needs no assurance that the Planning Authorities would not be blind to such an important question.

It is contended that a substantial portion of the capital (about one third) is to be raised by inflation, and that more harm than good will result from such inflation.

Even the Honourable Finance Member who has now become superconscious of the evil effects of inflation observed—"This would mean that the public, which has had perforce to submit to control in war time when the fact of shortage was inescapable, should accept the continuance of controls prolonged over a far longer period after peace returns. I am far from suggesting that the results to be achieved would not justify this degree of sacrifice. But could so comprehensive and drastic a control be effectively administered in the conditions of this country, with the internal inflationary pressure rising rapidly with each succeeding year? It would surely not be wise to force the pace of post-war development at the cost of imposing such severe limits on the standard of living during the development period, at the cost of further accentuating the disparities of wealth which inflation inevitably entails, or at the risk of a financial and economic collapse before the objective itself could be reached."

The criticism that the raising of a substantial portion of the capital by inflation will result into more harm than good is a retort inspired by those who are criticised for having created a mess of the national economy of this country and an expression of fear and nervousness by those who have suffered the bitterest pangs of a galloping inflation of the most vicious kind. To all these critics, it need hardly be pointed out that even under an unplanned economy we are now having, inflation could have been avoided to a substantial extent. The Honourable Finance Member's following observations on this point are quite significant:—

Giving his own minimum conditions under which he felt he could deal effectively with inflation, the Finance Member said that "the measures which were actually adopted by this Government would have

been adequate provided they covered the whole field." By that he meant, firstly, if the jurisdiction of the Central Government had applied to Indian States as well as to British India, the picture would have been different; secondly, if the Income-tax jurisdiction of the Central Government had applied to agricultural as well as non-agricultural income; thirdly, if he had an Income-tax department three times its present size; and fourthly, if he had a Price Control staff fifty times the present size, then they would have a different picture.

The picture would certainly be quite different in a planned economy, which will necessitate the creation of money to finance the production of new wealth. Such a process does not necessarily lead to inflation. The authors have unfortunately coined the phrase "created money" which may have been responsible for this fear; in that sense all the 'fiduciary issue' is created money. Under a planned economy, which plans to harness every unit of human energy into creative action, to secure a thrifty and full utilization of material resources, and to adapt ourselves from the technique of the nineteenth century to the latest technological processes, the national income and the national wealth will be substantially increased. It will be against this wealth that the so called "created money" will be created and not against a blank which usually leads to inflation. Needless to say, there will be a time lag between the issue of additional currency, ('created money') and the availability of goods and services. It will be a part of the plan to prevent inflationary trends in this period. The plan will definitely provide what part of the national income shall be available for consumption and what part shall be withdrawn in the form of taxation, and savings. The equation is simple. The purchasing power available in the hands of the community has to be equated to the value of goods and services available for consumption at predetermined prices, the balance being the fund to be demobilised by taxation or saving. By releasing for consumption a quantum of purchasing power equated to the quantum of goods and services available for consumption, on a reasonable price determined in advance, accompanied by strict measures of rationing and price control, it is quite possible to keep prices within limits even though there is a gap between the volume of purchasing power in the hands of the people and the volume of goods available. It may be argued that these equa-

tions are all sound on paper, but they break down when applied to practical realities. It is submitted that this is not so. Every equation breaks down if approached from a wrong angle. The degree of success of the above equation will entirely depend upon how closely are the basic assumptions realised in practice, and we have an illustrious example in the financial management of the United Kingdom during the war on the basis of the above equation.

There is a small point, however, to which reference is necessary. If India is to borrow Rs. 700 crores from abroad, interest will be payable on this borrowing. Assuming, we were required to pay 3% on this borrowing, and further that the whole amount was borrowed on an average in the eighth year of the Plan, our interest charge on the borrowing would amount to Rs. 168 crores. This will mean a corresponding decrease in the favourable Balance of Payment of Rs. 600 crores estimated by the Planners. It is possible the Planners may have offset this charge against the interest income expected from our sterling balances. Such offsetting may not be justified in practice. This would naturally reduce the external finance estimated under the Plan. However, this should not upset the calculations, as a favourable balance of payment amounting to Rs. 40 crores can support a loan of Rs. 1,300 crores (which is the amount estimated by the Planners from the two sources) from the very inception of the Plan if it were possible to find a lender.

CHAPTER IV

A NEW APPROACH TO PLANNING

Lessons of Soviet Planning.

Before laying out the fundamentals of a workable plan for India, the following conclusions of the Soviet First Five-Year Plan may be found interesting. The background of the Soviet planning was:—(i) the firmly established dictatorship of the proletariat which acted as a strong Central Government; (ii) state or collective ownership of factories, land, transport and credit system for the benefit of the Soviet Union, permitting no exploitation. This acted as a tremendous motivating force for generating and building up an idealistic upsurge among the masses; (iii) the socialist bond between town and country-side and a simultaneous development of industry and agriculture created oneness throughout the Soviet Union; and (iv) the monopoly of foreign trade which permitted a more thorough directiveness in the export and import trade.

At the beginning of the First Five-Year Plan, the Soviet Union, like the present day India, was an agrarian country with a backward and medieval technique. She had practically no industry to boast of, exported primary products and imported finished goods, and had a large part of its population on a starvation level. The working and living conditions were most miserable. A major part of the population was illiterate. There appeared to be neither the scope for a new labour discipline so essential to an around economic development and technological progress, nor a back-ground for creating the necessary advanced technique an industrialist economy demands. The First Five-Year Plan was born, as has been already pointed out, in the midst of a fierce class struggle around the question of the main roads and the means of socialist reconstruction.

The fundamental objective of the Plan was to develop the national economy and to raise the economic, social and cultural level of the

country on the basis of a Plan. The fulfilment of the objective called for (i) an alround industrialisation of the country, (ii) mechanisation and rationalisation of agriculture, and (iii) transforming an illiterate, famished type of individual, *struggling hard to eke out a miserable living*, into a collectivist man, obedient and disciplined, trained up for an efficient job, motivated to do his best by honour and duty and assured of social and economic security and social equality.

In spite of the very unfavourable conditions under which the Plan was executed, the achievement of each sector of *the Plan was stupendous*. Such a great achievement was possible due to the following factors:—

(i) The bold planning of the Soviets, designed to attain the target within a stipulated period by revolutionising, when necessary, even the background. They clearly realised that tinkering with the difficult problem on the plea of vested interests or of an evolutionary philosophy, *would not solve the problem but would make it more complicated and difficult*. (ii) The whole-hearted support and action of the Soviet people by destroying all the vested interests and making every person a participant in the national welfare. (iii) The socialisation of the whole national economy released powerful positive forces, raised substantially the educational and cultural level of the masses and created a new genius among scientists, technologists, and management—in short, in *every walk of life*.

Our problem is almost identical to what the Soviet problem was before the Revolution except that we have a foreign government and large and powerful vested interests—Indian as well as foreign. The background being practically the same, Soviet experiences of planning will stand us in good stead in our economic reconstruction, even though the conditions of the two countries may differ in many respects.

The authors of the 15-Year Plan have rendered a signal service by focussing the attention of the public through the Plan, and creating the consciousness that in the new world to come, we are *not prepared to put up with the present miserable standard of living*. We are as anxious as the United Kingdom to think in terms of full employment of our population and assure them a reasonable livelihood. At present

when every country is thinking and formulating plans for postwar economic development, we must realise the urgency of developing our national economy and raising the economic, social and cultural level of our people on the basis of a plan.

Obstacles to Planning for India

We are facing great impediments in the development of our national economy. It must be borne in mind that Britain is planning feverishly on a vast scale for housing her people, rebuilding her cities, for uplifting agriculture, for reviving her export trade, for ensuring full employment and social security and for providing the luxuries of modern life to her people—in short, for the preservation of the 'traditional Britain'—her empire, navy and leadership in world affairs. In the formulation of its plans vis-a-vis India, the British nation is bound to take advantage of its ruling position, reserve for itself the role of a leading industrialised country and plan for us a deindustrialisation and a role of primary producers on the pleas of international division of labour, planned multilateralism, lack of capital and resources, exchange difficulties, prior claims for reconstruction, rehabilitation of the belligerent countries and so on. If this is the case, there is no doubt that the British planning will provide implements for a more thorough and systematic exploitation of India, which was not possible to the same degree under pre-war conditions of an unplanned and liberal economy.

In this connection, some of the observations of Lord Woolton, the Minister for Reconstruction, as reported in the "Hindu" (28-3-1944) are a significant pointer to the direction in which the British mind works: "Speaking some weeks ago, he said that to recover Britain's international economic position, which had deteriorated, it was necessary after the war to make statutory provisions for securing adequate British exports to India and the Colonies. He contemplated with equanimity the fact that such a policy will hinder Indian industrial development until such time when India can politically be free to devise and execute her own economic policies."

In criticising this attitude, the "Hindu" rightly observed that "when we scan the schemes of post-war reconstruction drawn up by the

Government of India we have the feeling that we are more planned against than planning. As they stand at present they are designed more to develop India as a market by opening up the country than to achieve a balanced economy by industrialisation. They will certainly fit in with the Churchill Plan for a New Britain." This is the grave danger we are facing as a nation. We are more planned against than planning, and must organise ourselves to save the country from the tragedy.

BASIC REQUIREMENTS OF THE PROPOSED PLAN

(1) A Strong and Stable Central Government

The authors of the 15-Year Plan have stipulated as the basic requirement of the Plan a national government with full freedom in economic matters and economic unity of India. A national government by itself will not be sufficient for a planned economy. A historical survey of planning will clearly show that so far effective planning has succeeded either within the framework of a totalitarian state or in a democratic state in war conditions. Planning and its execution by a weak and badly organised state has failed and is sure to fail. We have very important lessons to learn from the experience of France. The attempts at planning under Blum's Government failed mainly because the State was too weak to enforce its orders and regulations and to impose some of the controls essential for its success. A successful working of our plan will, therefore, require a strong and stable Central Government, truly national in its character, with full freedom in economic matters and which will enjoy such an authority and confidence of the Indian people as will evoke an enthusiastic and whole-hearted response.

We are not likely to emerge as a totalitarian state. However, if there are any impregnations of a totalitarian state at any time, we must ruthlessly annihilate them in their budding, because planning without democracy as a rule results in an organised exploitation. Neither are we likely to emerge as a strong central government composed of elements with a common ideology in all matters—political, economic or social. We are a down-trodden people who can take as a matter of routine an annihilation of thousands in Bengal due to starvation and famine. Any other country would have brought heaven and earth together to avert

such a calamity. The tragedy of the country is that there are so many Neros fiddling while Rome is burning. We have thousands of professional politicians who have not only unsatisfied ambitions—but are also reactionaries, selfish and treacherous to a degree even to bargain away their country for their interests and self-aggrandisement. Uprooting of these elements will take at least a generation. If, therefore, we are to face the facts, we must realise that we are likely to inherit a democracy with all its weaknesses. Such a government will surely not be by itself a proper authority for planning although it will be quite representative.

(2) Creation of an Economic Centre of Power.

With such a political background, the solution for our planning lies in creating an economic centre of power and divorcing it as far as possible from the political centre of power, with a suitable machinery to establish collaboration and the closest co-operation between the two. The economic centre of power should create a magna charta of individual freedom, individual security and peace. The new economic order, while eliminating exploitation and oppression of some by others, would guarantee full employment, equal opportunity for all without colour, caste or creed, and a minimum living standard to every individual. An economic order of this kind, with a social security programme as its principal plank, should set at rest all the arguments for division of the country regionally, socially or economically. In fact, the fulfilment of the programme and the advantages incidental to the rise in the economic and cultural level of the people will weld our so-called heterogeneous elements into a classless society, releasing such powerful positive forces as to unfold a new genius in every sector of our national life. Our planning should, therefore, take this factor into account and should provide for an institution or institutions which will work for the fulfilment of the plans in the closest co-operation with the Central Government and with a complete identification between the two in all the spheres of our national life.

The authors of the 15-Year Economic Plan have suggested that (1) under the Central Government there will be a National Planning Committee in which the various interests concerned will be represented

and to which the responsibility for drawing up plans will be delegated; (ii) along side the National Planning Committee will work a Supreme Economic Council under the authority of the Central Government for the execution of the plan. Evidently, the Planners appear to have realised the necessity of divorcing the economic centre of power from the political centre of power, but have not expressly said so. Nor have they yet evolved a solution to the whole problem.

(3) Amphibian form of ownership.

The planners have not dealt with the question of ownership of the means of production. They say—"It (the plan) contains no reference to such essential matters as the organisation, methods and technique required for carrying out a plan," which, it appears, does not cover the question of the ownership of the means of production.

Planning presumes a central control, under which there is no scope for the orthodox type of unlimited ownership which vests in the owner the right to use and abuse his property; neither is it sufficient to have the organisation of our economic activity through the medium of corporate ownership of the type we are now having—uncoordinated, uncontrolled, cut-throat in competition, and principally beneficial to capital and management. Under the proposed plan, we must therefore, create an amphibian form of ownership in every sector of our national economy, limiting the rights of ownership with a reasonable rent therefor, and administering such corporate property for the benefit of the community as a whole. Such an amphibian form of ownership only can lead to an equitable distribution of income between the various agencies of production in our national economy. It is therefore proposed that we must adopt the principle of an amphibian form of ownership in our national economy.

(4) Development of the various sectors of our national economy and welding them into one

Our national economy divides itself into various sectors, and the Plan will define the objectives for each of these sectors. For instance in the industrial sector of our Plan we shall call for an alround industrialisation of the country in respect of heavy industries, (machine building,

iron & steel industry, chemical industry etc) electrification, fuel, building materials, food, clothing, footwear and other light industries. In the Agricultural Sector of our Plan, we shall be required to revolutionise the very process of cultivation which will need a radical adjustment in the ownership of land and transfer of a substantial population from cultivation to other vocations of life. In the Public Utility Sector of the Plan, which will embrace the supply of essential services, such as water, electric light and power, gas, transport and communications, we shall have to secure a development which will complement the growth of our national economy in other sectors. In Trade, both internal and foreign, we shall be required to operate on the basis of a long-range plan that will permit the balancing on an average over a period of say 5 to 7 years of imports of capital and other goods necessary for the fulfilment of the Plan by the exports of goods from this country. In the sphere of Social Security, we shall be concerned with the problems of creating new codes of human conduct, a new form of discipline, a new technique, and shall be required to guarantee social and economic security and social equality.

The national economy of this country will thus divide itself into various sectors such as Industries, Agriculture, Public Utilities, Trade, Social Security etc. The Plan will provide not only a fuller development of each of these sectors but will also ensure that the development of each sector is balanced with that of the others, giving to the economic structure a balanced, symmetrical and natural growth, and that all the sectors of our national economy will weld themselves into one.

(5) Working under a Planned Economy

The working of a planned economy divides itself into four basic functions—planning, adoption, execution and supervision. The function of planning should be vested in the Planning Board; that of the adoption of plans in the Central Legislature, that of the execution of the plans in a Public Board for each sector of the national economy to be created for the specific object of executing the plans; and that of the supervision of the plans in the Institute of Public Accounts and Statistics—a special public body to be created with the object of checking up the plans and supervising the execution and the progress of the same. By separating

the functions on the above lines, we shall succeed to a great extent in preventing the concentration of economic power in the hands of a few.

(6) Planning Board

Efficient planning calls for the creation of a Planning Board to draw up general plans, with the details of the same to be drawn up by the Public Boards, such as the Industrial Public Board, the Agricultural Public Board, the Public Utility Board, Board of Trade, Social Security Board etc. The preparation of plans by these bodies on the above lines will ensure the most important condition—namely, that our planning shall be directed from 'above' and administered or worked from 'below', connecting one with the other. Such a Planning Board will function in accordance with the directions of the Central responsible national government, but will enjoy the power to oppose the Government in matters of the co-ordination of objectives and their translation into quantitative plans. In a democracy, the vesting of such an authority in the Planning Board requires its constitution to be drawn up on democratic lines with the representation on the Board on a somewhat following basis:—

One-third representatives to represent the Central Government ; one-half representatives of prescribed qualifications to be publicly elected, and one-sixth to be the representatives of the public bodies.

(7) Public Boards

The execution of the Plan for each sector of our national economy shall be entrusted to a Public Board which will work on commercial principles. The activities of these Boards will be wholly directed to the general welfare of the people. Their constitution will be so framed as to eliminate exploitation of the masses. These Boards will exercise complete control over all the activities in their respective sector, and will work on principles of complete co-ordination between various sectors of the national economy.

The main problems before the Public Boards will be as follows:—

- (1) formulation of plans to bring the existing enterprises under its central control and to reconstruct, rationalise and extend the existing enterprises during the preparatory period and in the period of the plan ;
- (2) formulation of plans for starting new enterprises in the fulfilment

of the planned programme; (3) securing capital, both external and internal; (4) prepare production plans for each sector of the national economy and each enterprise under the sector; (5) price fixation for the produce; (6) marketing of the produce; (7) maintenance of a Central Technological Research Bureau which will coordinate the research activities of all the units throughout the country and will communicate the results of such research to the poly-technics and technical sections of each industry for their application; (8) maintenance of poly-technics to impart training to the workers and technicians to fit them as efficient operatives in the highly mechanised and industrial economy. This training must be so designed as would increase the productivity of labour around.

(8) Institute of Public Accounts and Statistics

The planning on such an immense scale will necessitate checking up of the plans by an independent body of the type of an Institute of Public Accounts and Statistics. This Institute will exercise a strict control in the execution of the plans and will report to the Planning Board on the progress of each sector and each enterprise under the sector of the national economy. One of the most important objects of planning is to ensure the most economic utilisation of the country's resources and it will be the function of the Institute to collect and interpret cost accounts and statistics with a view to reduce costs and economise labour.

(9) The Executors of the Plan

Mr. Churchill recently said in one of his broadcasts to the British people:—"I am a man who has no unsatisfied ambitions except to beat the enemy and help you in any way I think right." We as a nation are fighting on several fronts both without and within—we have to win our independence, harmonise our mutual relations and weld ourselves into one-ness; we have to eradicate the bane of illiteracy and raise the economic and cultural level of the people by a well-planned education of our society, industrialisation and agrarian revolution. In order to fight all these battles, each one as difficult as the battle of Britain, we must have leaders who will come forward and say "I am a man who has no un-

satisfied ambitions, except to devote myself to the cause of my country." Owing to the manner in which some of our industrialists and our commercial community have bled the country white during the present war, the masses have lost all faith in the so-called industrialists and commercial magnates as competent to salvage the country from her economic ills. The leadership can only rest in men with clean hands, and thank God, we are left with a few in whose hands the country's interests would be safe. The immensity of the task in formulating and executing a plan calls for planners who must enjoy high personal authority, integrity, ability and prestige and who will act as "Karma-Yogins"—*i. e.* Yogins in action—working in the spirit "I see the vision of God everywhere in all things and in all happenings, I surrender the fruit of my action and my action itself to God." Our leaders must act as Karma Yogins in the fulfilment of the great Yoga of uplifting the economic and cultural level of our people without distinction as to colour, caste or creed.

(10) Research and Investigation in the Preparatory Period

For the efficient preparation of a plan, we shall require varied data as to our resources and social and economic conditions. We are miserably poor in our statistical records and have had very little of surveys assessing our undeveloped and latent resources. In order to enable us to formulate our plans on the basis of correct data, it will be necessary for us to set up immediately the requisite organization to collect all the statistics and carry out an intensive survey of our dormant resources.

(11) Countrywide Education

The successful execution of the plan calls for countrywide education, technical and cultural alike, of the masses. In view of the very high illiteracy among our population which has undermined the very basis of human conduct in this country, it is necessary to revolutionise the very system of education so as to rationalise the human conduct. Some of the important functions that would fall within the role of education in a planned economy are—changing and rationalising the desires and wants of the population, introducing new forms of stimuli and incentives, creating a new spirit of discipline and obedience, as also a common

ideology and a common spirit. Above all, it will be imperative to create a collectivist man moulded to fit into the changed social structure planned for him by reinforcing his contributory motives and by culturing him for co-operation.

(12) New incentives

The incentives of higher wages and higher profits, which may be sufficient under an unplanned economy, would not be so in a planned economy. The planned economy presumes the elimination of a free play of prices and wages. The incentives of higher wages and higher profits have, therefore, to be replaced by healthy competition, motivated by factors other than wages or profit, such as honour, reward and duty. For instance, Soviet Russia has introduced so-called socialist competition between factories and plants as single units in which one factory fights a competitive struggle with another as if in sport.

(13) Well defined objectives of Planning

It would not be sufficient to define the objective as the authors of the 15-Year Plan have done, viz., to increase the national income to such a level as to double the per capita income within a period of fifteen years. This may be a well-defined objective which could be so easily understood in business terms. In explaining the details they have admitted that so far they have dealt with the production part of the plan, leaving distribution to be considered at a later stage. In sectionalising the objectives of planning, the authors have dealt with the objectives to be attained in the sphere of production only, omitting the conditions under which production is to take place, such as wages, management, organization, ownership, participation in profits etc. This is a very significant omission, and the authors have thereby exposed themselves to a good deal of criticism—some of which has been even uncharitable. It need hardly be pointed out that even if the authors proposed to deal with the production part of their Plan of Economic Development they should have dealt with all the objectives clearly before outlining the details of the Plan. Needless to say that putting as the objective of the Plan as merely a doubling of the per capita income is not quite adequate.

The successful execution of the Plan will call for an immense sacrifice around and will require the transformation of man by a complete reorientation in his vision and his mode of life. This will require the development of a new collective psychology by inculcating in him a feeling of brotherhood, tolerance, freedom, co-operation and oneness with the Society. Surely, this can only be done by creating a powerful idealistic upsurge in our people so that they will respond intellectually and emotionally to demands made and suffering and sacrifices imposed on them. It is essential therefore to define the objectives clearly and positively.

It must be clearly stated that the objectives of planning should be (i) to develop the national economy and to raise the economic, social and cultural level of our people; (ii) to replace the uncontrolled private ownership by an amphibian form of ownership; (iii) to guarantee social and economic security by ensuring full employment, fair wages, equal opportunities and security to every individual in the national economy; (iv) to guarantee social equality by creating for every one in our national economy an equal social status irrespective of colour, caste or creed; (v) to provide an equitable distribution of wealth. With these as objectives, the Planning Board will set up targets in the light of the conditions in which the Plan will be executed.

CHAPTER V

INDUSTRY

The main objectives of the Industrial Sector under the Plan should be:—

- (i) Removal of our technical and economic backwardness;
- (ii) Transformation of India from a backward agrarian country into an important industrial country;
- (iii) Creation of a heavy-industry base, equipped with upto-date machinery, skilled workers, and a net-work of auxiliary enterprises; and
- (iv) Technical reconstruction of Indian agriculture.

The fulfilment of the above objectives will necessitate the widest construction and development of new enterprises and the penetration of new technique into all branches of national economy, primarily into the heavy industry. The construction programme will therefore form the pivot of the First 5-Year Plan, and the main policy to be pursued will be electrification, mechanisation, upbuilding of a domestic metal base and chemicalisation.

It is difficult for any private agency to draw up estimates of the First 5-Year Plan; it is essentially the function of the Planning Board and other executive bodies. All that a private agency can do is to formulate general principles concerning the Plan.

It is hardly necessary to observe that the dimensions of the figures of our First 5-Year Plan will show the very immensity of the task. In the fulfilment of this task, we shall not only be required to mobilise and develop the enormous productive forces of the country; we shall also be required to transform the very balance of our national economy by increasing the importance of industry and ensuring for it a leading role in our national economy. Above all, we shall be required to call into being colossal resources that lie dormant both in man power and material, and mobilise them into channels of industrialisation and construction

programmes of the country. In this process of transformation, our Plan should ensure the welding of all the sectors of our national economy into one.

An important point to be considered in the matter of our construction programme under the First 5-Year Plan will be that it should be in conformity with our production capacity. If we want therefore to base our planning on a broader basis, even broader than what the 15-Year Plan has contemplated, it will be most essential to reconstruct, rationalise and extend the existing enterprises both during the preparatory period and also during the earlier years of the First 5-Year Plan. This will serve a double purpose. Firstly, it will enable the restoration and the reconstruction of our existing enterprises on a basis which will fit them into the national economy we desire to shape and mould. Secondly, the large capital that will have to be invested in the basic industries during the First 5-Year Plan will take time to assimilate and yield dividend commensurate with such large investments. A substantial contribution to the increase in our national income from the existing enterprises, reconstructed, rationalised and extended, will thereby keep our rapidly growing economy as balanced as it could be, and will insulate the inflationary trends an expansionist economy is likely to release.

The main objective of the First 5-Year Plan would be to put an end to the economic and technical dependence of India on other countries. Most of the basic industries, such as machine tool industry, automobile and tractor industry, equipment for mining and metallurgy, electric industry, chemical industry, etc., practically do not exist, or are in an embryonic state. If we want to transform India from a country importing machinery and equipment into a country that manufactures machinery and equipment, we shall have to plan for a rapid construction of our heavy industry which will supply the country's needs in modern equipment and new technique. As the development of our national economy will primarily depend upon the building up of such key industries, we should not be deterred by the immensity of the task or by the intensity of our sacrifices.

The immensity of the task and the gigantic scale on which we shall be required to mobilise our forces and the sacrifices the nation as a whole will

be called upon to make, will make it imperative to rationalise and mould our economic system into a new form. Such a revitalised and rationalised national economy will have to be based on certain fundamental principles. For example, it shall avoid the class struggle; it will recognise private property but shall not allow unlimited competition of private enterprise; it shall eradicate the evils of the present system that perpetrates social injustice between the various categories of our people; it shall bring about co-operation in place of competition, and shall integrate and weld all the elements of our national economy. All these should create for the nation one objective, viz., the supreme national welfare.

This reorientation of our national economic system will require a change in the structure and organisation of its administration and an equitable distribution of our national dividend between the three important elements—Capital, Management and Labour. These objectives could best be achieved by the creation of Public Boards for each sector of our national economy under the direction and authority of the National Planning Board. The Industrial Public Board (referred to as the I. P. B. hereafter) will be the public board for the industrial sector of our national economy.

The constitution of the I. P. B. should be more or less on the lines of that of the large corporate boards such as the Central Electricity Board in the U. K., the British Broadcasting Corporation, or the London Passenger Transport Board with suitable alterations. Tentatively, the constitution may be drawn up on the lines of that of the Reserve Bank of India, with a specific provision for a complete democratisation both in its direction and management. The Board, of say 15, may be constituted of a Governor, 2 Deputy Governors and 12 Directors. Of the 12 Directors, 4 shall be elected by the shareholders of the I. P. B., 4 shall be the representatives of the Planning Board and 4 shall be the nominees of the Central Government. The Governor and Deputy Governors shall be elected by the Board of the I. P. B. with the approval of the Planning Board and the Central Government. All the full-time executives should have no interest in any business, directly or indirectly, and in drawing up the constitution care should be taken to stamp out corruption, inefficiency and red-tapism.

The I. P. B. is not intended to be merely a public governing board.

It should be a board to supervise and control its business on commercial lines formulated by the Planning Board under the 5-Year Plan in the fulfilment of its industrial sector. The evolution of the remodelled economic system the Plan demands will necessitate an adjustment in our approach to the financing of the enterprises under the I. P. B. The I. P. B. should not only substantially participate in the capital structure of each enterprise, but should also guarantee a minimum dividend of 3% on the public capital to stimulate savings and its flow into investments. The initial capital of the I. P. B. should therefore be large, and may be tentatively fixed at Rs. 250 crores, with powers to borrow further amounts as and when necessary in the form of debentures. With the whole industrial sector of the national economy under the direction and control of the I. P. B. and with a complete regimentation of our foreign trade, the I. P. B. is bound to show profits on its operations. However, to inspire confidence in the public, it will be necessary for the Central Government to guarantee a minimum dividend of 3% to the I. P. B. share-holders with a prescribed maximum.

The profits of the I. P. B. will be in the form of dividends earned on its investment in the new enterprises. It is proposed that the excess profits of the I. P. B., after payment of 3% guaranteed dividend to the I. P. B. share-holders, should be divided equally between Reconstruction Reserve, Dividend Equalisation Reserve and shareholders, with the proviso that the 'additional dividend' to shareholders shall not exceed 3%. As the Dividend Equalisation Reserve is intended to be utilised to cover the guaranteed dividend only; 'additional dividend' in any year can be paid out of the year's surplus profits only. The Reconstruction Reserve, which participates in the excess profits of the I. P. B. and in the excess profits of individual enterprises, is intended to be utilised for the purpose of rationalisation and reconstruction of any section of the industry. The object of the planned economy is to put and maintain each section of the industry on the most efficient and technologically advanced basis; it may be found necessary to scrap any existing equipment when it becomes out-of-date owing to latest technical advances. Although this may mean a capital loss to the individual enterprise, it may on the whole be more profitable from the point of view of our national economy. The rationalisation and reconstruction of any section of our industry under a planned

economy should therefore be the liability of the nation, and naturally the cost of scrapping, viz.—block value of the equipment to be scrapped less depreciation on it, should be borne from a public fund of the type of the Reconstruction Fund. To illustrate the importance of this problem, let us assume that technical advance makes it possible for the manufacture of textile fabrics without going through the various processes of spinning etc., at a much reduced cost in terms of labour and raw materials, and that a careful enquiry suggests that it will be profitable from the point of view of the national economy to scrap the whole of our existing textile industry and replace it by the revolutionised one.

If the industry were to be scrapped, it would result in immense losses to the proprietors, and the private enterprise would never agree to scrap the industry even though the reconstruction were to tremendously profit our national economy as a whole. It has been truly said that “despite* the general opinion that profit seeking private enterprise leads to progress whereas corporate planning leads to stagnation, it is fairly well-known that industrial improvements are frequently blocked by private firms in order that they may continue to make profits out of capital equipment which new discovery has rendered obsolete.” This is the worst drawback of our present economic system. We can ill afford to have a system of unlimited ownership or management that will conflict with the rationalisation of our industry from time to time. The reorientation of our economic system should therefore eliminate all the evils of private capitalism.

The Board of the I. P. B. shall be vested with the central control in all matters of industry—viz., construction, organisation and management. The industrial sector of our national economy shall be divided into various sections—such as Power Generation, Machine Building Industry, Electrical Equipment Industry, Fuel Industry, Metallurgy Industry, Chemical Industry, Building Material Industry, Food Industry, and various light industries. For the management of each Section, the I. P. B. will delegate powers and functions to a Sectional Department, which shall be placed under the direction of a committee constituted of one Director of the I. P. B. as Chairman, two executives of the Department, who should be

* Fenn, L. A. “The Project of a Planned World.”

technical experts, and three representatives of the industry concerned. The Committee's functions would embrace all matters relevant to the section in the fulfilment of the Plan.

The first and the most difficult task before the I. P. B. will be to bring the existing enterprises under its central control and to take up during the preparatory period its rationalisation, reconstruction and extension so that these will contribute substantially to the fulfilment of the First 5-Year Plan. The vested interests and the heterogeneous elements in our industrial organisation will be the two big obstacles which will have to be faced. Our present system of the distribution of national dividend is preponderantly in favour of capital and an adjustment aimed at establishing an equity in distribution is bound to create opposition. However, it must be realised even by the vested interests that under a planned economy they cannot enjoy the unlimited ownership known in Roman Law as "the right to use and abuse one's property," neither can they go on as they like in the midst of the whole country working on a Plan. They have got, therefore, to come within the framework of the plan, which would give them immunity from financial crisis and depression they periodically used to face under an unplanned economy. It should not be forgotten that during such crisis, it is the nation that generally sustains the industry through such measures as tariff, protection, bounties etc. If the nation wills that all such risks faced by individual enterprises and sections of industry should be eliminated or insulated by an integrated plan, there is no ground for the vested interests to object or resent to the plan. They must appreciate that there is no intention of confiscating their property, or ousting them from the national economy of the country.

The planning of new industries will be the central responsibility of the F. P. B. Every unit of enterprise under the plan will be built on the basis of the most advanced technological processes, with special reference to the location of such industries, raw materials, markets for selling and defence requirements. It is intended to keep a place for private enterprise under the planned economy, although effective control for the management of each enterprise will be vested in the I. P. B. under its constitution. It is the part of the scheme that the I. P. B. participates in the capital structure of every enterprise.

-

The questions of ownership and management, both of the existing and new enterprises, require a careful consideration.

The Plan should specifically provide that no enterprise shall be owned privately; in other words, every enterprise shall be vested in a corporate ownership. With the objective of creating a corporate ownership, it is suggested that the capital structure of each new enterprise shall be constituted as follows:—

25% ordinary capital shall be contributed by the I. P. B., 15% capital shall be contributed by the Management, if he so desires, and the balance shall be held by the public. On the public capital the I. P. B. shall guarantee 3% interest.

The management, by whatever name we call it, shall be selected by the I. P. B. on consideration of merit only. Like a managership of a public corporation, the management should have only one job, that of running one or more units of the same section. It must be clearly realised that there is no scope for management cartels under a planned economy, permitting a management to have interests or enterprises in various sections of the national economy. The management remuneration shall be fixed bearing in view the size of the enterprise, the management's duties and responsibilities. In addition to the fixed remuneration, the management will be entitled to special efficiency bonuses by participating in excess profits of the individual enterprise. A standard of efficiency shall be laid down by the I. P. B., which must be attained by each management, and the continuance of the management in office will entirely depend upon its efficiency and honesty. The I. P. B. will be vested with the right to liquidate an inefficient or dishonest management.

The sectional plan for Industry will be prepared by the I. P. B. in consultation and collaboration with other Boards, thus co-ordinating the Industrial Plan with the plans of other sectors. In preparing various sectional plans care will be taken (i) to secure an all-round well-balanced development of the national economy; and (ii) to give proper weightage to various sections of each sector which are vital to hasten the process of industrialisation and rationalisation. Capital allocations between the various sectors and sections of the sectors will thus be an important matter.

The capital needs of the Plan will have to be divided into two parts (i) External Finance, and (ii) Internal Finance.

In view of the limited external finance resources we are having, compared with the tremendous external finance need of the country for the fulfilment of the Plan, it will be the policy of the Planning Board not to permit imports during the period of the Plan of articles which can be made at home, or for which substitutes can be found.

In view of our industrial backwardness, it will be necessary for us to import most of the equipment for our basic industry. This means that even though we have an unlimited scope for the development of internal finance, there is a limit to which we can combine it with the external finance. The scope for constructing basic industries will therefore have an upper limit, dependent upon our external resources.

Our internal finance is dormant in our man power and materials. It is being wasted as a dormant energy. We have an effective working population of about 16 crores. We have got to harness the whole of our working population into action under the Plan, and generate as much wealth by their energy as possible. The rate of per capita production will entirely depend upon the tools we put in the hands of our working population and what we make them produce. Assuming we can make it possible under the Plan to produce an approximately geometrically increasing per capita income of Re. 1 in the first year of the Plan, Rs. 1/4 in the second year of the Plan, Rs. 1/9 in the third year of the Plan, Rs. 2/- in the fourth year of the Plan, and Rs. 2/8 in the fifth year of the Plan, our national income on the assumption of 250 working days in a year will increase from Rs. 4,000 crores in the first year of the Plan to Rs. 10,000 crores in the fifth year of the Plan.

In view of the very moderate objective of the 15-Year Plan, to increase the national income from Rs. 2,200 crores to Rs. 6,600 crores over a period of 15 years, the estimate of a national income of Rs. 4,000 crores in the first year of the Plan to geometrically increase to Rs. 10,000 crores in the fifth year of the Plan may appear utopian in character. However, that is not so. Under the Beveridge plan, the minimum wages to be paid to each worker is fixed at 52/- shillings per week, which amounts to

Rs. 5-12-0 per day on the basis of six days per week. If a British worker can produce a national income of an amount far in excess of his wage, justifying a wage of Rs. 5-12-0 per day, there is no reason why an Indian worker cannot produce a daily per capita income increasing in geometrical progression from Re. 1/- per day in the first year of the Plan to Rs. 2/8 per day in the fifth year of the Plan. This is not impossible. No doubt, it is difficult, and calls for a bold and imaginative plan.

To transform such a tremendous dormant wasting energy into active useful creative wealth, it will be necessary to have as much external finance as possible so that the maximum possible quantum of the first 5 years could be supplemented with the imported equipment in the construction of basic industries will be the producers of the means of production. With the maximum scope of external finance so estimated, its availability will be largely governed by our external finance resources.

On the assumption that it is possible for us to generate the internal finance to our maximum capacity as pointed out above, our financial position may tentatively be formulated on the following lines :—

(In crores of Rupees)

Year of the Plan	National Income	Consumable goods & services	Exportable goods & services	Capital	
				Internal	Total
1st Year	4,000	3,000	200	800	1,000
2nd Year	5,000	3,500	250	1,250	1,500
3rd Year	6,250	4,000	300	1,950	2,250
4th Year	8,000	4,500	350	3,150	3,500
5th Year	10,000	5,000	400	4,600	5,000
Total	33,250	20,000	1,500	11,750	13,250
Average	6,650	4,000	300	2,350	2,650

The total capital investment will amount to Rs. 13,250 crores of which Rs. 10,850 crores will be internal finance and Rs. 2,400 crores external finance. In estimating the external finance, it is assumed that we have on an average a net favourable balance of payment of Rs. 300 crores per annum, excluding the cost of capital goods. This may appear to be on

the high side. But we have to tighten our belts to be able to pay for our capital equipment, and this should be within our means. In addition to Rs. 1,500 crores of the external finance we propose to create out of our export trade, we can further have an external finance of about Rs. 2,000 crores, made up of 1,000 crores of our sterling balances and Rs. 1,000 crores borrowing. The ratio of external finance to internal finance will be 1 to 3.79.

The generation of our dormant wasting energy into an active force does not conflict with our philosophy to have a planning that will inflict the least possible hardship on our people. We must be clear as to what is meant by this hardship. There is no hardship in a man storing away his creative energy instead of wasting it. The plan harnesses the energy of every individual into action towards the process of the production of wealth. He shares in the wealth produced—a percentage of which is in the form of consumable goods and a percentage is in the form of savings as represented in the means of production of wealth. Our present national income is, say, Rs. 2,200 crores, of which roughly Rs. 2,000 crores is in consumable goods, and the balance is in the form of savings invested in the means of production or hoarded wealth. If instead, we produce an average national income of Rs. 6,650 crores during the period of the Plan, of which Rs. 4,000 crores will be in consumable goods and services, our quantum of consumable goods and services will not be reduced; in fact it is doubled. Of course, the percentage of consumable goods and services to the total national income will be considerably reduced from about 91 per cent now to about 60 per cent under the Plan. It will thus be evident that an average Indian under the Plan will not be worse off; he will be better off. His suffering will only be psychological; that even though he will have money, he cannot spend it all, and as he likes. It has got to be compulsorily saved. In our planning therefore we need not be shy or panicky about the suffering of our people. If we create an organisation and administration that will harness the creative energy of every one into action for a minimum stipulated hours, we can create a capital investment of not Rs. 10,000 crores over a period of 15 years, but of about Rs. 13,250 crores over a period of five years. A Plan conceived on such a broad and bold basis will create the necessary psychological background, and will inspire the masses into action, so essential for the success of any plan.

X: 75.2. N5+

The I. P. B. will fix the production programmes for each unit and the cost of production. The accounting price at which the produce will be sold by each unit will also be fixed by the I. P. B. on the basis of cost plus a turnover profit of say 10%. The selling price and the output expectations having been fixed, the standard profit of the unit will be fixed in advance after allowing for 3% dividend to shareholders which will be treated as production cost. In view of varying standards of efficiency the actual profits of the units will vary. One half of the excess profits, viz., actual profits less the standard profits, shall be distributed among the personnel, viz., management, technicians and labour on the basis of a formula to be determined by the I. P. B. and one half shall be transferred to the Technological Research Fund.

Of the standard profits, an amount equal to 9% of the total capital shall be divided equally between the personnel, capital and reserves and the balance shall be transferred to the Reconstruction Reserve of the I. P. B. The principle behind these allocations is that after giving to the personnel and capital their basic rents, the profit should be divided equally between the personnel, capital and reserves. Moreover, since the I. P. B. guarantees 3% dividend to the shareholders of each unit, (it indirectly guarantees the minimum wage also) all the profits in excess of 9% should go to the I. P. B. If the unit has the management of one who invests 16% capital and who prefers to have a special management allowance for his capital (in this case his capital will not carry the 3% guarantee of the I. P. B.), of the standard profits an amount equal to 10.05% of the total capital shall be divided as follows:— first 3% divided on the management shares, equivalent to .45%, the balance of 9.6% to be divided in proportion of 3 to the personnel, 3 to the shareholders, 3 to reserves, and .6 to the management. Profits in excess of 10.05% of the capital shall be transferred to the Reconstruction Reserve of the I. P. B. The reserve of the unit can be used for extension of the unit and shall be taken into account as capital for participation in profits.

Industry is one of the sectors of the national economy. The Planning Board will have to formulate its plan for Industry, and important decisions will have to be made in the following matters:—

- (i) The capital investment in the sector;

- (ii) the contribution of this sector to the national income; and
- (iii) the form in which the contribution will be made by each section of Industry.

The I. B. P. will draw up plans for each section, and the section in its turn will draw up plans for each unit operating under it. The production plans will stipulate the quantity, quality and the items each unit will produce and the costs at which they shall be produced. The I. P. B. will constantly watch and control the progress and the costs of each unit.

All the raw materials required by each unit will be supplied by the I. P. B. at fixed prices.

Accounting prices will be fixed by the I. P. B. taking into account costs of raw materials, finishing costs, depreciation and a fixed percentage of manufacturing price as a margin of profit. Articles will be divided into two classes—those to be marketed for retail consumption and those to be marketed for the means of production. The selling price of the former will carry loadings for wholesaler's margin of profits, retailer's margin of profits and turnover tax, the last of which will go to the revenues of the Central Government and will be fixed by the Planning Board in consultation with the Central Government. Articles to be marketed for means of production will have no further loadings.

The sale of the produce by the retailers will be at fixed retail prices. The retailers' price will be so balanced as to equate the purchasing power of the community on the one side and goods and services available for consumption on the other. There will be a time lag between the issue of new money and the availability of goods and services. Of the new money a substantial portion will have to be saved. It will therefore be necessary under the Plan to enforce strict measures of rationing and price control and to impose a turnover tax on a sliding scale, *i. e.* highest on luxuries, lower on items with greater degree of necessity, with practically no turnover tax on primary necessities of life. The main object of the system of the turnover tax is to allow the advantage of the difference between the retailers' actual price and retailers' theoretical price to the people.

The success of the Plan entirely depends upon the efficiency and productivity of labour and other personnel. It will be necessary to fix

basic wages for the various sections of the personnel in consonance with the minimum living wage the Planning Board may fix from time to time. In addition to the minimum living wage, every worker will be entitled to a bonus for his individual increased productivity, thus participating in the profits of his unit.

It will be the duty of the management of each unit to look after the economic, social and cultural welfare of his unit.

It will be essential to give an intensive course of technical training to each person connected with the unit so as to make him efficient and more productive. This will necessitate not only an effective and intensive training, but also a wholesale reorientation in the outlook of the worker. It will be necessary to start a movement like Stakhanovite movement in the Soviet Union, which helped increase in productivity of labour substantially.

The I. P. B. will be faced with the difficult problem of working out and putting into operation a plan to eradicate illiteracy, to reorient the thought, mode of living and the philosophy of the workman, as also to give him technical training. In other words, it will require a reconditioning of the entire education system. There is also the more difficult problem of creating a central machinery for research, and inspiring the spirit of research. The I. P. B. will establish a Research Bureau to look after the twin jobs of research and moulding our workman into new labour discipline.

A permanent machinery for research in all sectors of our national activity is vital to our progress. The Industrial Research Bureau will organise Research Stations all over the country for various sections of the industry, assisted by well established industrial laboratories in the Universities and poly-technics.

Much of the modern technique of production would be absolutely new to our workmen, and constant practical instruction and training will have to be given to them. Bottlenecks may be created by workers in the initial period by slowing down production. Shock Brigades of highly trained workers and technicians will have to be formed under the Industrial Research Bureau. The functions of the Shock Brigade will be—(i) to cooperate with the Industrial Research Bureau in research for rationalisation

and technical progress in the methods of production and to adapt them into simple working formulae for the workmen, (ii) to go from factory to factory and give practical training in all the complex machine operations to the workmen both at the time of starting new units and later on when the processes are revolutionised, and (iii) to go to a factory unit which fails to maintain the standard of productivity to investigate the causes of slow down, and to correct the position.

The immense operations the Plan would involve will require a very strict control in the matter of programmes, budgets, accounts and statistics. Costs will have to be thoroughly analysed and the progress will have to be checked from time to time. It will be an important function of this body to carefully examine the working of each unit with a view to ensure most economic utilisation of the country's resources used in production and to report how the costs could be further reduced. It will be necessary to adopt a standard basis of accounts, cost accounts and statistics for all the units of a section. It will therefore be necessary to create Cost Accounting Brigades, whose functions will be :—

- (i) To audit the accounts of each unit ;
 - (ii) to check up the progress of each unit periodically and report how far the unit and the section are fulfilling the Plan ;
 - (iii) to compare the working of each unit from the point of view of output, cost etc., and to find out the reasons why all the units cannot attain the standard reached by the best units ;
 - (iv) to find out ways and means of reducing costs ; and
 - (v) to audit the efficiency of the personnel.
-

CHAPTER VI

AGRICULTURE

About 55 per cent of our national income in the year 1931-32 was from agriculture and about 69 percent of our population got its living from agriculture either as a cultivator or as a labourer. The productivity of the soil in India is thus the foundation of the wealth of the nation.

We have an increasing population, it increased from 28 crores in 1901 to 30.3 crores in 1911, to 30.5 crores in 1921, to 33.8 crores in 1931 and 38.8 crores in 1941. In the absence of any industrial expansion this increasing population could not be absorbed in vocations other than agriculture. Moreover, whatever little industrialisation we could achieve has been on an unplanned basis, and in many instances it embraced the manufacture of articles which were already being produced by rural artisans or by our rural population in spare time through cottage industries. This threw the country's economy into a melting pot. The introduction of internationalisation in place of isolation and a balanced village economy led to an ever increasing concentration of population in rural areas, eking their living from agriculture. No wonder the percentage of the total population making their living from agriculture has continuously increased from 61 per cent in 1891, to 66 per cent in 1901, to 71 per cent in 1911 and to 73 per cent in 1941. Moreover, of approximately 103 millions following cultivation, it is estimated that about 30% are good cultivators, while about 70% are illiterate, have poor physique, live in indigence and have very little capital, if any, to finance their occupation. The life of an average cultivator in this country is a ceaseless struggle to eke out a living from an uneconomic holding. The lot of the agricultural labourer is still harder. The landless labourers working on land have increased from 18 million in 1891 to 35 million by 1931, earning nothing but a starvation wage. Our land resources have increased from 187 million acres in 1891 to 210 million acres in 1939-40. Taking 1891 as the basic year, the index of population has moved upto 138; whereas the index of cultivated area has gone up to 114 only.

In addition to the widening gulf between the index of population and the index of cultivated area the average fertility of land has continued to deteriorate in the modern era of science which enables to grow two blades in place of one that could be grown before. The causes for such a continued deterioration are :—

(i) The increasing pressure of the population on land has resulted in more and more inferior lands brought under the plough ; (ii) the law of inheritance has led to a continuously growing sub-division and fragmentation of land ; (iii) 65% of the land in India is owned by non-cultivating holders whose only interest is to extract the maximum rent from the tenant ; (iv) India is one of the oldest agricultural countries with intensive farming as a means of livelihood for a major part of the population. With farming in the hands of illiterate, emaciated farmers, who have neither the means nor the intelligence and the understanding, the chemical properties lost as a result of decades of repeated harvests have not been restored. This has led to the stabilisation of the soil ; (v) deforestation, soil erosion, water logging and excessive drainage have all led to considerable deterioration in the productivity of land ; (vi) nearly 76% of the cultivated area being unirrigated, the crops entirely depend upon rains which frequently fail. Moreover, in most of these lands only one crop is possible ; (vii) lack of capital, crushing burden of debt, lack of organisation and management have all led our cultivation into a deficit economy.

The problems we have to solve to achieve the rehabilitation of our agricultural economy are the following :—

(i) We have to utilise as large a part of the 'Cultivable Waste' (110 million acres) as possible by modern methods of irrigation, drainage, terracing, prevention of erosion, dry farming and such other methods as could be found suitable on research.

(ii) Our yield in respect of all the crops is much below the world average and has to be substantially increased. The main defect of our agriculture is that we have failed to adjust our cultivation to the modern methods of organisation, management and scientific technique. It was stated by Mr. Mac Dougall in his note to the Central Banking Enquiry Committee that "if India's output per acre in terms of wheat were raised

to that of France, the wealth of the country would be increased by £ 669 million a year (Rs. 892 crores), in terms of English production it would be raised by £ 1,000 million (Rs. 1,333.3 crores), and in terms of Danish wheat production the increased wealth of India would be £ 1,500 million per year (Rs. 2,000 crores).

(iii) The basic weakness of our agricultural economy manifests itself in an increasing percentage of population living on agriculture. The standard of productivity per cultivator can be best judged by comparing the number of persons a cultivator on an average maintains by his labour. It is estimated that the 10 crores working population on land in this country supports 25 crores besides themselves. Thus an Indian agricultural worker supports on an average $3\frac{1}{2}$ persons. This is a miserably poor record compared with an average of 9 to 10 persons per agricultural worker in Great Britain, and about 14 persons per agricultural worker in the U. S. A. The most important adjustment necessary under the Plan will be to retain for cultivation only that part of the population which is essential. The rest will have to be taken away and provided with employment in other vocations of life. Assuming that a cultivator is expected to maintain on an average eight persons including himself under a planned agriculture, we shall be required to employ 5 crores persons of our employed population in agriculture.

(iv) The principle of absolute private ownership of land has been the root cause of the backwardness of our agriculture. 65% of the land has passed into the hands of non-cultivating holders, who play no part in the management or improvement of land and whose only interest is to exact as large a rent from the tenant as possible by passing on land to the highest bidder. The uncertainty of tenancy and the risk of paying a higher rent incidental to improvement in land are great deterrants to the cultivator improving the lands he ploughs. The principle of absolute private ownership coupled with an equal inheritance has affected our agricultural economy adversely in the hands of owner cultivators. The position from the point of view of sub-division and fragmentation is so hopeless that a cultivator who has, say, 4 acres under plough has got it into four or five pieces, usually situated in counterwise directions and probably separated by a distance of two to three miles. This has made

the agriculture for an average cultivator absolutely uneconomic. Surely, with this stage of sub-division and fragmentation, no rationalisation or rehabilitation of our agriculture is possible. It will continue to remain in the depressed and deteriorated condition as it is now.

In the circumstances, it is imperative that the principle of corporate ownership of land be immediately introduced in place of absolute ownership. Under the principle of absolute ownership, if a family owns say 10 acres in 5 pieces, on partition of the estate between four sons, the whole estate will be divided into several pieces, may be ten, or even in some extreme cases twenty. Instead, if the family has a corporate ownership, enjoying under that ownership the right of rent, on partition the rent only, and not the land, will be subdivided between the various members of the family. It is therefore imperative to create a machinery to transfer the ownership of all land in a corporate body on the basis of a reasonable rent to be payable annually to the owner of the land for each unit. The corporate body in its turn will rent these lands to private cultivators at fixed rents, which may be in cash or kind, or both. The creation of a corporate ownership will eliminate all the evils we are facing and which are fast accumulating.

Under the corporate ownership of land, the position will be as under :—

(i) The non-cultivating landlord gets a perpetual annuity warrant from the corporate body, and has no other right to deal with the land.
(ii) The present problem of fragmentation would be automatically solved by reallocating the whole land into contiguous standard units which will be rented to the cultivators only. These units will be non-transferable and non-divisible. (iii) There will be no further sub-division. Every owner will be given by the corporate body a perpetual annuity warrant representing annual rent for the land so transferred. On a sub-division, the successors of the owner will participate in the perpetual annuity warrant and not in the land. Let us assume that the estate of an owner admeasuring 10 acres of land, and fetching an annual rent of Rs. 75 per annum, is to be partitioned between his three sons. Even if the owner himself used to cultivate that land, there will be no division of land. The partition will be in respect of the perpetuity which will be divided into that of Rs. 25 to each of the three sons. On the death of the owner, the whole of

the 10 acres will again revert to the corporate body, which will re-rent the same to one of the sons. The other sons will be given land in a standard unit, if available or will be shifted to other vocations. (iv) The low and decreasing productivity of land is the basic cause of ravaging poverty of this country. It is already pointed out that if the productivity of land is considerably improved—there is scope for doing so—our national income could be substantially increased. Moreover, the income available to each cultivator from an intensive farming has got to be substantially supplemented by income from other allied subsidiary vocations to be introduced on the basis of a plan—such as, dairying, poultry farming, vegetable and fruit growing, and other cottage industries.

The main factors which have retarded the successful development and rehabilitation of our agriculture are—lack of capital, lack of organisation and management, lack of the application of science and lack of a bold programme of development of our agriculture. On the top of this, we have been facing the problem of chronic indebtedness of the peasantry, decay and fast decline of rural cottage industries. Thus the problem of the reconstruction of our agriculture is most difficult and intricate. It cannot be solved by mere tinkering or patch work. The accumulated sins and deficiencies created by acts of *commissions* and omissions over centuries, specially during the last two centuries, have to be cleared. This can only be done by a revolution in the whole system of our land ownership and cultivation. In this connection the 'Economist' (31st October 1943) observes:—

“The only real cure is an economic revolution, in country and town, as wide-ranging and drastic as the modernisation of Russian Agriculture by co-operative means and with State capital. But, even if the British in the last period of their expiring lease in India, can do little more than scratch the surface, they can at least begin the process of reconstruction and they must all the more give every proof that they are doing all that is possible, both for now and for the future. In both this country and the United States even the austere principles of war economy give the bare necessities of civilian life at least as high a priority as munitions themselves. In India the belt has been tightened when there was less than no slack to take in.”

It is already suggested above that the intricate and difficult problems of our agricultural economy make it imperative for the creation of a corporate body, which only can tackle successfully the whole problem of rehabilitation. It is suggested that this corporate body be called the Agricultural Public Board (hereafter referred to as the A. P. B.) The A. P. B. is not intended to be merely a public governing body. It would organise agriculture on commercial lines formulated by the Planning Board.

The functions of the A. P. B. will be the following :—

(i) It will take over the ownership of all the land, cultivable and non-cultivable, thus creating a corporate ownership of land in place of absolute private ownership. It will then fix rent per acre for the existing owners. The liability for this rent will be taken over by the A. P. B. in the form of a perpetual annuity. This annuity will be a transferable asset. The A. P. B. will then re-allot the cultivable land into contiguous parcels of 10 acre-units, or such other size as is determined to be the minimum holding for efficient, intensive cultivation.

While realloting the land, a complete survey will be made by the Board for improving the land in all ways possible. It will be responsible for effecting all the necessary improvements.

(ii) The A. P. B. will lease out the re-parcelled land on the basis of rents in kind and cash, a part fixed and a part as a share. The selection of the new cultivator will be made from among the existing cultivators. Those who are efficient or who had some land they used to plough will be given preference. Each cultivator family will consist of a man, wife (or mother) and his other dependents. No boundaries separating these units will be created as they would involve a waste of land and would create barriers for mechanised farming.

(iii) 50 such 10-acre farm units will make a co-operative farm unit. Each co-operative farm unit will be put under the management of a Farm Leader. As far as possible the farm leader will belong to the group of people who will be working the unit. He will be specially trained for scientific cultivation, management of his unit, and for leadership of his batch. He will be entrusted with the management of the co-operative farm, and will be responsible to work the co-operative farm unit on the

basis of the Plan. He will also be responsible for economic, social and cultural welfare of the members of his unit.

(iv) In the cultivation of Co-operative Farm Units, all the possible operations will be mechanised, thus permitting large scale scientific farming. The mechanical service will be available from the Machine and Tractor Stations. The planning of crops, manuring, seeds, etc. will be the matters on which decision will be made by the Agricultural Public Board and the Co-operative Farm Unit will be responsible to carry out these instructions as a unit.

(v) The economy of the cultivator class will have to be balanced by adding to cultivation as a part of the Plan dairying, poultry farming, cattle breeding and fruit and vegetable growing. The mechanisation of agriculture will free the cultivator from most of the strenuous operations. Under a mechanised and scientific system of farming, the farmer will find sufficient time and energy to attend to these supplementary jobs. The co-operative farm unit, or several such combined units, will be equipped with all the necessary processing and marketing facilities for all the products of the farm unit. For this purpose, a central marketing machinery will have to be created by the A. P. B. in order to eliminate parasites, such as intermediaries or middle men.

(vi) Every 20 co-operative farms will constitute a village unit for which a Statutory Panchayat will be created. The Panchayat will be assured of income from the co-operative farms and the A. P. B. and will act as a pivot in the economic, social and cultural uplift of the community working in the village unit. In co-operation with and under the guidance of the executive authorities of the A. P. B. the village unit will enlist the co-operation and support of the people of its area in maintaining irrigation, roads and public buildings, besides improving the land.

(vii) There will be an A. P. B. Experimental Farm of 100 acres for each 10 village units, with a Shock Brigade attached to each such Experimental Farm to give all the technical guidance necessary to the Co-operative Farm. The A. P. B. Experimental Farm will provide research facilities in all the activities of the Co-operative Farm such as cultivation, dairying, poultry farming, etc. An A. P. B. Machine and

Tractor Station will also be attached to the unit. The area embracing 10 A. P. B. Experimental Farms will form a Taluq Unit. There will be 10 taluq units in a District Unit. A District Unit, constituting ten million acres will form a regional section working directly under the A. P. B.

Assuming the cultivable acreage at 210 million acres, we will have 21 District Units, 210 Taluq Units, 2,100 A. P. B. Experimental Farms, 2,100 Machine and Tractor stations, 21,000 Village Units, 4,20,000 Co-operative Farms, and 21 million cultivators. It will be necessary to train 4,20,000 Farm Leaders for Co-operative Farms, personnel for 2,100 A. P. B. Experimental Farm and Machine and Tractor Stations and necessary personnel for Taluq and District Units. The training of such an army of farm leaders, personnel for shock brigades, technicians for Machine Units of the Tractor Station and managers and research workers for the A. P. B. Research Farms is difficult, but not impossible. If millions of people could be trained into the technique of mechanised warfare within a period of 3 years, the training of an army of two to three million men to fit into our organisation of agriculture should not be impossible.

(viii) We have 110 million acres of area classified as cultivable waste other than fallow. These could be organised into large scale mechanised community farms under the direct management of the A. P. B.

(ix) Agricultural debt was estimated at 1,200 crores in 1940. This must have been substantially reduced during the last three years. So far, the security behind these debts has been the land of the cultivator. The debt should as far as possible be conciliated. Of the balance, as large a part of it as possible should be funded on a $3\frac{1}{2}\%$ basis by transfer of the perpetual annuity to the creditor. The unfunded debt would be a personal liability of the cultivator. To illustrate, let us assume that a cultivator who has a debt of Rs. 2,000 has a perpetual annuity in respect of his own land amounting to Rs. 56 per annum. A perpetual annuity of Rs. 56 on a $3\frac{1}{2}\%$ basis will fund a debt of Rs. 1,600. His debt will therefore be settled by a transfer of the perpetual annuity of Rs. 56 to the creditor, and the balance of Rs. 400 will remain as his personal debt.

(x) The reallocation of land into 10 acre parcels will release a large population from cultivation. It is already estimated that of our working

population, 5 crores, including the working members of their families, should be sufficient to cultivate all our land, and attend to the supplementary vocations attached to cultivation. On the basis of a mechanised and scientific agriculture, they will be able to produce much more than is being done by our existing 10 crore cultivators. In readjusting our agriculture on the above basis we will be faced with the main problem of employing 5 crore cultivators who will be displaced. Since the industrialisation of the country will take some time, they will have to be employed in other vocations during the transitional period. Improvement of land should be the first item on the Plan. Terracing, hedging, corrections of water logging, irrigation, forest planting, forestry, etc. will each require an army of workers. Cottage industries, as far as possible power driven, will also have to be planned and installed. The A. P. B. will therefore prepare in the initial period of the Plan a complete survey of improvements to be effected on land and of cottage industries to be installed so that the displaced surplus population could be absorbed in these vocations without any time lag.

With the ownership of land vested in the A. P. B., with a contiguous 10-acre farm unit to be given to a family, supplementing the income of each cultivator by dairying, poultry farming, fruit and vegetable growing etc., with a co-operative farm leader in charge of 50 such farm units in the matters of organisation and management of the farms and responsible for social, cultural and economic welfare of the members of his co-operative farm unit, with 20 such co-operative farm units constituting a village unit, with a statutory Panchayat as a pivot for the economic, social and cultural uplift of the community, with an A. P. B. Experimental Farm, Machine and Tractor Station and a Shock Brigade for each group of 10 village units for guidance, research, mechanical operations etc. of all the co-operative farm units, with taluq and district groupings for administrative purposes and for guidance in research and fulfilment of the Plan, it is necessary to consider the working of the A. P. B. which will be responsible for the fulfilment of the part of the Plan relating to agriculture.

The constitution of the A. P. B. should be more or less on the lines of the Industrial Public Board. Like the I. P. B. the A. P. B. should be constituted of a Governor, 2 Deputy Governors and 12 Directors. Of the

12 Directors, 4 shall be elected by the Shareholders of the A. P. B., 4 shall be the representatives of the Planning Board, and 4 shall be the nominees of the Central Government. No full time executive shall have any interest, directly or indirectly, in any activity connected with the agricultural sector of the Plan. Moreover, in drawing up the constitution of the A. P. B. care shall be taken to stamp out corruption, inefficiency and red tapism.

The initial capital of the A. P. B. may be tentatively fixed at Rs. 250 crores, with powers to borrow more capital as and when necessary in the form of Debentures. The Central Government will guarantee a minimum dividend of 3% to the A. P. B. shareholders. The profits of the A. P. B. will be out of the rents receivable from the cultivators and a share in the excess income earned by the cultivators. The dividend payable to the A. P. B. shareholders shall not exceed 6% in any one year.

The Board shall be vested with the central control in all matters of agriculture. The Agricultural Sector of our national economy shall be divided into various sections—such as, Cultivation, Marketing, Irrigation, Land Improvement and Research, Mechanisation, Cottage Industries, Finance, etc. For the management of each section, the A. P. B. will delegate powers and functions to a sectional department, which shall be placed under the direction of a Committee constituted of one Director of the A. P. B. as Chairman, two executives of the Department, who should be technical experts, and six regional representatives of the agricultural interests concerned.

The Committee's functions will embrace all matters relating to the respective section in the fulfilment of the Plan. As the reconstruction of agriculture depends entirely on its around balanced development, it will be imperative to have a complete co-ordination between the various sections. For instance, the Cultivation Section will be responsible for crop planning, for the supply of seeds, manures, artificial fertilisers, tools and implements, and for maintaining the accounts and statistics relating to each farm under a co-operative farm unit.

The A. P. B. will principally play the role of capital, management and organisation; the technical personnel will play the role of scientists and technicians; whereas, the cultivator will play the role of labour. All

the capital required for the improvement of land will be invested by the A. P. B. ; all the working capital necessary for the cultivation of land and for other supplementary vocations will be lent by the Board to each co-operative farm. A fixed monthly allowance, equivalent to the minimum living wage, and which will be within the earning capacity of each cultivator, will be allowed as a loan to each cultivator family. The loan made by the Board to each co-operative farm unit will be made good from the produce of the Farm.

The rent for land leased to each co-operative farm unit will be partly in cash and partly in kind. A portion will be fixed, and a portion as a share of the produce of the Farm. In fixing this rent, the A. P. B. will take into account charges in respect of capital, labour and technique invested in the improvement of the land and the rent payable by the A. P. B. to the original land-holder.

Both for the cultivator (that is, for the working members of the cultivator's family) and other operatives, such as tractor drivers, combine operators, mechanics, lorry drivers etc. rigid control of each member's output may be instituted by introducing a system of work-day units. A work-day unit in the U. S. S. R is "the equivalent of the average amount of work that can be performed by a collective farmer in one working day, as fixed by the standard quota set for each type of work". These quotas are fixed for each collective farm in accordance with the condition of machinery, the draft animals, the soil, the difficulty of the work, the degree of the skill required, and so on. For the performance of the specified day's quota of work the collective farmer is credited with one work-day unit.

The A. P. B. will fix the basic production quota for each unit. This will be the average standard fixed for the budgetting of the year. Care will be taken to fix the minimum production quota sufficient to give a minimum living wage to the cultivator and the minimum charges of the technicians and the A. P. B. Credit will be given to the cultivator, technicians and the A. P. B. for any excess earnings, which will be divided in certain proportions between the Co-operative Farm, the Research and Tractor Station and the A. P. B. Both the excess and the standard earnings of the Co-operative Farm, Research, Machine and Tractor Station

will be divided among the members of each brigade in proportion to their work-day units.

The Shock Brigades attached to the A. P. B. Research Farm will be assigned with the special job of pushing in line those co-operative farms which fail to fulfil their standard quotas, and helping them to apply new scientific discoveries.

The planning of crops will be an important function of the Cultivation Section of the A. P. B. The crop planning will take into account the directives of the Planning Board from time to time. The Planning will descend from top to bottom *i. e.*, the plan relating to the agricultural sector for the country as a whole will be sectionalised into Regional plans, the A. P. B. Research Unit Farms plans, Village Unit plans, and Co-operative Farm unit plans, each in a descending order. The main administrative and the executive unit will be the A. P. B. Research Farm Unit, which will be provided with a complete time-table of the operations, number of crops to be taken during the year, acreage to be put under various crops, seedling, manures and fertilisers to be used, changes to be made in the processes of cultivation from time to time in consonance with the agronomical research. The A. P. B. Research Farm Unit will act through the Village Panchayat and the Farm Leader.

Every cultivator will have a dairy, poultry and vegetable and fruit garden for his family. The produce will be available for his own use. The Co-operative Farm Unit will have its own Dairy, Poultry Farm, Vegetable and Fruit Garden, the produce of all of which will be processed and marketed.

Seeds, manures, artificial fertilisers, and the necessary tools and implements will be supplied by the A. P. B. to each co-operative farm unit, and the cost of these supplies will be debited to the account of that co-operative farm unit.

No part of the produce of any co-operative farm unit will be disposed of privately. The produce of each co-operative farm unit will be brought to the processing centre, and will be processed and marketed through the Central Marketing Board.

Accounting prices of the produce will be fixed by the A. P. B. taking into account the rent payable, cost of seeds, manures, artificial fertilisers, minimum wage to the cultivator and other operatives, processing costs, depreciation costs, and a fixed percentage of the cost price as a margin of profits. The selling price for articles to be marketed for retail consumption will carry loadings for wholesaler's and retailer's margin of profits and turnover tax to be fixed by the Planning Board in consultation with the Central Government. The sale of the produce by the retailers will be at fixed retail prices. Articles to be marketed as means of production will carry no retailers' loadings nor any loadings for turnover tax.

The success of the Plan entirely depends upon the efficiency and productivity of the cultivator and other personnel. The co-operative farm leader, whose function it will be to execute the plan drawn up for his co-operative farm unit, will have a complex job to fulfil. He will not only be a trained leader of men, but will also be an agronomical expert and an efficient manager. Since much of the rationalised technique of cultivation will be new, our cultivators will have to be given constant practical instruction and training into new processes. In this difficult task, the farm leader will get the assistance of the Shock Brigade and the A. P. B. Research Farm. Besides being concerned with the business of managing his farm, it will be his responsibility to secure co-operation from his unit for the Village Panchayat, which will be entrusted with the work of eradicating illiteracy, giving technical training and of reorienting thought, mode of living and the philosophy of each cultivator.

Irrigation forms a part of the land improvement problem. Since we have precarious rainfall available during certain months of the year only, extensive areas are dry waste land. The great importance of irrigation for the regeneration and rehabilitation of our agricultural economy demands a separate section. The primary need of our cultivator is an ample supply of moisture in the soil supplemented by irrigation water to permit him to cultivate the soil throughout the year on scientific lines without any undue exhaustion of the fertility of the soil. An extensive scientific research is therefore necessary in the direction of moisture control. Vernalization, that is, subjecting the seeds to indoor culturing before planting, is likely to go a long way in the direction of helping the

early growth of the plant, thus demanding lesser moisture.

Along with such scientific research, it will be the objective of the Irrigation Section to have countrywide irrigation. With the supply of electricity and adequate water, with manures and artificial fertilisers, with scientific rotation of crops, the cultivator will not have a petty three months' job he is now having in most parts of India, but will have a twelve months' job, and the yield per acre will be substantially increased.

One of the central objectives of the Plan will be to improve the land and its productivity. This function will be vested in the Land Improvement and Research Bureau to be formed under the A. P. B. as one of its sections. Under the direction of this Bureau, and assisted by well established laboratories in the Universities, the Regional Bureaus, Taluq Bureaus and Unit Bureaus will conduct scientific research in agronomy. It has been rightly said: "We can expect no favours from Nature; our job is to take them." We must invent scientific processes that will fit into our conditions and enable us to secure a much higher yield. The results of Soviet research in agronomy illustrate fully the part science can play in the advancement of agriculture, and its extensive ramifications. It will not be out of place to refer to some of these results.*

(i) The majority of state farms have been organised on land where Tsarist Russia, with its backward agriculture, could grow nothing. This could be done only by the application of science to agriculture.

(ii) The late I. V. Michurin, a member of the Academy of Sciences, proves that under suitable conditions young hybrid seedlings can be trained to develop any desired characteristics. He took hardy wild plants from Siberia, Canada and various mountain regions and crossed them with delicate southern plants. The cross breeds so obtained inherited all the hardihood of the wild flora-resistance to frost and drought and immunity to disease. On the other hand, they resembled their delicate parents of the south in tastiness, brightness of colour, largeness of fruit and other desirable characteristics.

(iii) Trofim Lysenko, member of the Academy of Sciences, evolved a new process in scientific farming-vernalisation, that is, subjecting the

* "The U. S. S. R. Speaks for Itself."

the seeds to indoor temperature before planting. The experience of tens of thousands of farms has shown that as a result of vernalization the seeds sprout two or three days earlier, while the yield increases by an average of 90 to 180 lbs. per acre.

(iv) N. Tsitsin worked on cross breeding cultivated plants with extraneous wild grasses. He made many successful experiments in crossing wheat with couch grass, and has discovered the varieties of this very common weed that crosses with wheat. He has succeeded in evolving a new variety of plant (non-existent in nature), perennial wheat. This "perennial wheat" has the unusual power of growing after reaping. It has been demonstrated that these hybrids yield seven or eight harvests from a single sowing. Tsitsin's theory that every agricultural plant can be matched with a wild one has become a principle guiding many research workers.

(v) Soviet agricultural science has been highly successful in naturalising crops in new localities. The Kuban is now growing rice while the North Caucasus and the Ukraine are growing cotton. In the Republic of Yakutia, with its perpetually frozen soil and brief dry summer, the Kolkhoz farms, by employing advanced agro-technical methods and cultivating the soil with tractors, are getting good harvests regularly. For instance, the Orjonikidze Kolkhoz, a district where the annual mean temperature is 9°C, grows 22 tons of cabbage to the acre.

(vi) Great progress has been achieved in the field of agro-chemistry. Pryanitnikov discovered the principle of using ammonia salts as fertiliser. Experiments are carried on with the 'dieting method' that is, dosing crops with fertilizer at various stages during the vegetation period. Very successful results are achieved by 'dieting method' in industrial crops. Among the great achievements of Soviet agricultural science are the introduction of bacterial fertilizer—nitrogen for various bean cultures and azotogen for cereals, industrial crops and vegetables. Experiments have shown that these bacterial fertilizers increase harvests by as much as 20 and 30 per cent.

(vii) Cattle breeding is a section of agriculture. No less progress has been made by Soviet scientists in the field of livestock breeding. The

All-Union Institute of Animal Breeding has developed a method and technique of inseminating animals artificially, so as to make the maximum use of valuable male. In 1938, 1,536 cows were inseminated from one bull and produced 1,490 calves; 15,016 sheep were inseminated from one ram and produced 15,662 lambs. In 1938 fifty million farm animals had been inseminated artificially in the Soviet Union.

In the Soviet Union, in every branch of agriculture worked thousands of collective farm experimenters, shoulder to shoulder, with scientists in search of new methods, new discoveries, boldly and rationally transforming nature. They grimly realised that "we can expect no favours from Nature, our job is to take them", and thousands of people have put their heart and soul in their great duel with Nature in a true spirit of innovation, enthusiasm, pertinacity, and research. Verily, has science been harnessed to the service of agriculture.

In the Cottage and Allied Industries are classed stock and poultry, fruit and vegetable culture, forest produce, dairy products, fish culture, hand-loom industry, seri-culture, and other suitable small scale industries. The Cottage Industries Section of the A. P. B. will prepare a complete plan for building up cottage and rural industries, and will operate practically on the same lines and principles as the other sections.

The scope for development of our agriculture by the A. P. B. will entirely depend upon the capital resources available. As has been pointed out before, there is a tremendous scope for the development of internal finance in this country, and that given the proper tools and organisation, the creation of internal finance or internal capital of even Rs. 10,000 crores during the period of the First Five-Year Plan is not a utopian dream; it is a practicable proposal. Limitation is however set to this prospective capacity of internal finance by the limited external finance resources we are likely to have, and which will have to be blended in a certain proportion with the internal finance to create the instruments of production of wealth. The ratio of external finance to internal finance in the mechanisation and rationalisation of our agriculture will be much smaller, compared with the same for industry. Provided we have basic industries—machine industry to build tractors, harvesters and other mechanical equipment, and heavy chemical industry to supply artificial fertilisers—the

external finance necessary for the reconstruction of our agriculture will not be very large. A great deal of controversy has centred around the problem of financing the Plan by 'created money'. It must be realised that a large part of the population has at present no work for a major part of the year, that the Plan will result in tremendous labour saving devices, and that all this available labour could naturally be employed for the creation of hydro-electric works, thermal stations, country-wide irrigation by digging canals and tube-wells, setting cultivable and waste land for proper cultivation, building roads, and similarly producing national wealth in other directions. As finance is automatically issued against created wealth, there is nothing wrong in the creation of such finance. The Plan must be so devised as will control the inflationary trends of an expansionist economy.

CHAPTER VII

TRANSPORT AND COMMUNICATIONS

The importance of adequate transport and communications requires no emphasis. A net-work of well organised, cheap, efficient and ample communications is vital to the economic and cultural development of a country. Verily, therefore, the development of transport and communications constitutes an index of the economic and cultural level of the people.

The planned economic development of our country, both in the industrial and agricultural sectors will require a building up of a net-work of efficient, adequate and balanced transport system in all its branches. The planning will have to take into account the tempo of the growth of our national economy during the period of the Plan, and the increasing transport facilities it will call for. Our Plan for this sector should therefore enable our transport system to fulfil its increased traffic tasks.

BRANCHES OF TRANSPORT SYSTEM

The branches of our transport system are: (1) Railways; (2) Road transport; (3) Inland water transport; (4) Ocean transport; and (5) Aerial transport.

Railways

Though India is a country of vast distances with an area of about $1\frac{1}{2}$ million sq. miles, her present railway mileage is only about 41,000 miles. We have several provinces in which one-third of the area with a population density of 100 persons and over is not served by railways. The following table gives details of railway facilities in some of the leading countries:—

Country.	Total Railway Mileage (1934)	Mileage per 10000 population.
United States	258,465	21.0
Canada	47,000	45.4
Germany	36,426	5.5
Great Britain	20,409	4.5
Russia	51,800	3.1
France	33,282	8.0
India	41,000	1.0

The above table discloses the deplorable state of railway development in this country.

Road Transport

We have 74,000 miles of metalled roads and 2,26,000 miles of unmetalled roads. 30% of the metalled roads run parallel to railways, while 48% of the railways have metalled roads parallel to them and within ten miles. The mileage works out at a little over 7 miles per 100 sq. miles. We are thus very poorly provided from the point of view of roads. Moreover, our road-system is not planned to complement the railway transport; it constitutes a factor of wasteful competition.

Our poor achievement in the development of road transport is aptly described by the Technical Sub-Committee of the Post-war Reconstruction Committee appointed by the Government of India: "There has been no road planning in India and the evolution of road administration has been on the assumption that roads are suitable for devolution. Roads are a provincial subject and responsibility for the bulk of the roads upon which rural welfare depends has been thrown to local bodies with bad results. 'Provincial' metalled roads have been developed as the skeleton of a system convenient to the administration and the more influential classes, while rural roads have been generally neglected. There has been no expansion or improvement commensurate with the growth of the population and the movement of commercial crops. That more and better roads are a necessity that will make for social, political and economic progress cannot be disputed." It is hardly necessary to point out that from the view point of national interest good road transport is badly needed in India. Emphasising its importance the Royal Commission on Agriculture rightly observed: "Transportation is an integral part of marketing and modern commercial development tends everywhere to enhance the value and importance of good communications."

Inland Water-Ways

As compared with railway and road transport, water transport is cheaper. In the absence of a policy of co-ordination between the various forms of transport in India and developing them on a basis which would provide the country with an elaborate system of efficient and cheap system

of transport, the importance of complementing our existing inadequate transport facilities by well-planned inland water-ways has never been seriously considered. The Industrial Commission and the Acworth Committee deplored the existing state of affairs, and recommended the adoption of a policy designed to encourage the use of inland water-ways for transport purposes and to keep the annihilating competition of railways within reasonable limits. These reports were submitted years ago but nothing tangible has materialised from these valuable recommendations.

Ocean-Shipping

It is patent that we occupy a poor position in world shipping trade. Over the extensive coast-line we have very few ports and our mercantile marine constituted only 131,748 tons compared with 17,891,000 tons of Great Britain in the year 1940. What a great role an inland water transport and ocean shipping as co-ordinated with other branches of transport can play would be evident from the water transport systems of other leading non-maritime and maritime countries. Germany, Holland and the U. S. S. R. are the leading countries having an extensive series of navigation canals, inter-communicating the whole river system of these countries, thereby providing a cheap and ancillary means of transport.

We stand, indeed, a very poor comparison with these countries. Our backwardness in oceanic and coastal shipping is due not to the lack of enterprise on our part, nor is it due to the want of natural qualities required by a sea-faring nation—we have had both a ship-building industry and an excellent sea-faring tradition. It is due to the competition of strongly entrenched foreign shipping interests—most of which are subsidised by their respective governments—and also due to the apathy of our Government. It is painfully true that this country, which occupied a leading position in world shipping two centuries ago, has now been thrown in the background.

Aerial Transport

The war has brought into prominence the great part aerial transport will play in future. The rapid carriage of mail, passengers and special freights between important sections of a country and to foreign nations are some of the special needs which will have to be met by aerial transport.

Besides, a large and efficiently organised system of air transport constitutes an important adjunct to national defence. It is imperative therefore that aerial transport should not only occupy a prominent place in our transport system, but it should also constitute a powerful arm of our national economy. In view of her geographical position, India is destined to play a strategic part in post-war aviation, and our planning must create the necessary conditions to place this country in the front rank in the world aerial transport.

Transport Needs and Reorganisation

Transport will form one of the major problems in the economic reconstruction of India. There is no branch of our national economy whose development will not be affected by its progress or backwardness.

The problem of competition between the various branches of transport in India is a vexed one. The question of rail and road transport has even been the subject of an inquiry both by the Mitchell-Kirkness and Wedgwood Committees, who have suggested measures for the elimination of road competition. Our basic weakness is that inspite of the meagre transport facilities that we have, the various branches are not at all co-ordinated, nor do we have any national policy for an around development of the various means of transport, complementing one another and co-ordinating them with the central object of ensuring efficient and economical transport service. Our planning should therefore eliminate all competition between the various branches of transport and develop every branch of our transport system to its maximum capacity in the interests of the national economy, keeping in view the strategic and defence requirements. In order to achieve these objects it would be necessary to create a central transport authority, *i. e.* a Transport Public Board on the lines of the I. P. B. and the A. P. B. to deal with the whole problem of our transport and communications.

In the reconstruction of railways, not only will it be necessary to substantially augment the existing railway mileage, but also to carry out a technical reconstruction of our existing railway system to secure the maximum service by greatly increasing our normal freight density. The technical reconstruction of railways will necessitate a substantial increase

in the power of the locomotives, enlargement in the freight cars and increase in their carrying capacity, strengthening and reconstruction of the road-bed to enable them to stand the strain of greater freight density, *redesigning of wagons and the provision of automatic brakes and automatic coupling*. The country-wide electrification will also permit the electrification of railways, providing thereby a quicker service and fuel economy.

The road planning will require to be directed to an efficient system of public and feeder roads which will penetrate into the *remotest* villages connecting them with the main transport system. A net-work of roads will play a gradually increasing part in marketing between the village and the town markets, and in establishing a closer bond between the national life of the town and the village in all its aspects.

Water transport, inland as well as coastal, should be developed for the carriage of all suitable goods and services in the hinterlands around the canals and the coast-line. In this magnificent land of rivers, water transport has so far been neglected. There is no doubt that in a planned centralised transport, our inland water transport as well as the coastal transport will substantially relieve pressure on our land transport resources and will be economical in the long run. The planning of our coastal and oceanic shipping will require the building up of a substantial mercantile tonnage, the elimination of all foreign competition and the construction of a chain of harbours both on the coast line and navigable rivers, well-equipped with loading and unloading facilities.

Besides the provision of transport facilities in its various branches, it will be necessary to secure an enormous development of every form of *communication service* such as post, telegraph, telephone, radio, newspapers etc., to facilitate quick exchange of communications and to promote the development of the national economy and the cultural enlightenment of our people.

Transport Public Board

It is suggested that like the I. P. B. and the A. P. B. a Transport Public Board should be established to fulfil the plans in the transport and communications sector of our national economy. The transport system of the country shall be divided into two parts (i) national units, such as

Railways, Aerial Transport, Posts and Telegraphs, Telephone, etc., which are more or less nationalised and so can best be worked as nationalised units, and (2) other modes of transport—such as shipping, road transport etc. which can best be organised as units under corporate ownership working under the central control of the T. P. B. on the same principles as the units working under the Industrial Public Board.

The T. P. B. will conduct its business on commercial lines as formulated by the Planning Board under the Five-year Plan towards the fulfilment of its transport and communications sector. The central responsibility for the building up, rationalisation and management of all the sections of transport and communications will be vested in the T. P. B. It will, therefore, be necessary for the T. P. B. to take over the existing Railways, Posts and Telegraphs, etc. under its central control, and further, it shall undertake a liability to the Central Government at 3% rate of interest for the value of the assets so transferred. The T. P. B. will raise the necessary capital for the fulfilment of its various development plans both in the form of ordinary capital and debentures. As already pointed out, the T. P. B. will own some forms of transport and communications directly, whereas some forms of transport will be in corporate ownership working under direct control and supervision of the T. P. B. The units vested in corporate ownership will be run on the same lines as the I. P. B. units in the matters of capital, a guarantee of 3% interest on public capital, a fixed dividend on private capital not exceeding 6%, etc. It need hardly be pointed out that the Transport Board as suggested herein, working on the policy laid down by the Planning Board, will be the most suitable agency to secure an efficient, economical and well co-ordinated service in every branch of transport and at a reasonable rate. The main functions of the T. P. B. will be:—(i) rationalisation of the existing agencies of transport and communications; (ii) extending and building up of new fleets of various kinds of transport and communications; (iii) co-ordination of its demands with the I. P. B. to build up the necessary base for the construction of all the equipment required, such as railway workshops, wagons, carriages, shipbuilding yards, air-craft factories and manufacture of all the equipment required by the T. P. B., (iv) organisation of a central research bureau for research and its applications in the various spheres of its activity.

CHAPTER VIII

TRADE AND COMMERCIAL POLICY

One of the most important problems to be considered by the plan is the commercial policy which India should adopt during the period of planning. The monetary and trade problems of the post-war world are at present engaging the best attention of the leading Allied Governments. The *international monetary plans* are mainly conceived as an instrument to develop post-war international trade on the pattern of an expansionist economy, and the world economic opinion at present seems to favour a liberalisation of trade after the war. In view of the planned economy envisaged for India in the preceding chapters, we shall have to consider how far she could fall in line with the world trend, and what adjustments would be necessary to the international trade and monetary plans so as to harmonise them with India's internal economic policies.

It is fully realised that it will not be to India's welfare to play a discordant chord in the world scheme of things. Under a universal multilateral trade policy with an expansionist bias envisaged in the post-war world economy, India would not evolve policies which would obstruct a free flow of international goods or imply an economic isolation on her part. It must, however, be stated at the outset that free international trade is conducive to individual national interests only when all the nations stand on the same level of economic development. Countries like India, having backward economies and faced with problems of industrial and economic development, cannot therefore fall in line with other industrially advanced countries without suitable adjustments to the scheme of trade, although such adjustments should in no way be perverse to the basic objective of a universal multilateral system of trade designed to bring greater prosperity and happiness to the world at large. In the circumstances, a free India will participate in an international arrangement only if it does not conflict with India's national economy, both as it now stands and as it is likely to evolve as a result of an alround industrialisation with the objective of increasing her per capita income.

Under a planned programme of economic development, which will call for immense capital construction programmes, India's trading operations will definitely have an expansionist effect on the international trade. How it will react in other aspects is important, though not so easy to foretell. The three conditions that should be considered by India vis-a-vis the international policies are as follows:—(i) The accounts of India taken together with the other nations would have to be substantially balanced, or capable of being brought into balance without undue difficulty. (ii) That India will help removing any disequilibrium that may arise by operating within its borders a planned trade directed to the expansion of the world trade. (iii) That India will adjust her economy to avoid internal depression. The planned programme of trade India may adopt should therefore satisfy the above conditions.

In recent years, especially in the thirties, direct governmental regulation of foreign trade fell broadly into three categories: firstly, exchange control and all the various kinds of clearing or payment agreements as applied to commercial transactions; secondly, the system of tariffs, quotas, monopolies, prohibition, etc.; and, lastly, the government monopoly of trade by executive authority which includes both the power of regulation and the actual purchase and sale of commodities. The first two were mainly the offsprings of the economic Depression and were adopted by most capitalist countries. The last one was actuated largely by the needs of a planned economy, the important examples being those of the U. S. S. R. and Germany. German foreign trade was controlled and directed by the State almost as completely as Russian trade, although there was no proclamation of a general state monopoly and the actual control of trade was largely in private hands. By a system of exchange control and a virtual trade monopoly, Germany directed her foreign trade, as the world has now painfully realised, towards a policy of autarky or economic nationalism and commercial aggression.

None of these measures may fit in with India's national economy. However, if we are going to work on a plan, we cannot afford to have unplanned, unregulated and undirected trade. We must have a planned trade, under which we shall prepare a schedule of our requirements, giving them a priority according to their importance in the building up of our

national economy as quickly as possible. From many points of view planned trade would constitute a more flexible instrument for the regulation of foreign trade than quota or licensing systems. The planning of trade presupposes a relatively advanced stage of efficient control as it would imply the import of first things first, and many items on the schedule may not be imported for want of exchange.

Planning will necessarily impose suffering and sacrifice. However, there is no other course but to have a planned and well-budgetted foreign trade as a means of national economic planning. The technique of such a planned trade involves a central planning of both export and import trade, scheduling under the plan the items we can export and the items we have to import. These items will be listed in order of their importance. A *pro forma* account of the receipts under the exports sector shall be prepared and the items on the imports schedule within our means ascertained. Such a planned trade therefore implies a strict central control of our import trade, both quantitative as well as qualitative. It will clearly stipulate that items vital to the building up of the national economy will have the first place on our import list. It must be realised that India's foreign trade policy in the first few years of planned economy will have to provide for substantial imports of capital goods. In view of our need for capital goods, as large a quantity of essential consumers' goods as possible, which cannot be manufactured in India, may have to be imported to maintain a certain minimum standard of national wants. This will necessitate a foregoing of some of our wants and most of our luxuries in order to conserve our foreign exchange resources. To illustrate the principle on which the schedule of our import sector shall be worked out, it may be stated as an instance that a farmer's request for a tractor will have the first place against an idle millionaire asking for a Rolls-Royce—the latter may be given a jeep, if permissible and within our means; otherwise, he may be asked to go without it.

Thus, when India is placed on the footing of a planned economy, she will have to adopt a policy of purposive direction of her foreign trade which would foster her economic and industrial development and increase her national income. A planned trade on the above basis will obviate the necessity of protective tariff. This will perfectly suit our expansionist

economy which is likely to be accompanied by inflationary trends, as it will enable the Government to maintain the stability of prices.

Any system of trade control would pre-suppose the imposition of the necessary controls such as price control and rationing. In order to achieve this objective, a system of planned production and distribution will become essential. A planned system of distribution will enable the supply of consumers' goods at the minimum expense and would thereby eliminate all uneconomic competition as well as reduce transport costs by adopting a system of regional distribution of consumers' goods.

It must be admitted that under such a planned system of production and consumption, the consumer will have a limited choice. On an average he will have a larger purchasing power than what he used to have before. Against this he will have to spend his money largely on products standardised on a national basis. However, he should have no justification for any grievance. Such a sacrifice is imperative to secure an increase in his income.

A planned system of production and distribution of consumers' goods will have an important advantage which should not be lost sight of. The rising national income and a consequent rise in the purchasing power of the people would impinge upon a limited supply of consumers' goods available. The absence of any effective controls would result into soaring prices and black markets, *thereby generating artificial scarcity of goods*. The industrial drive under a planned economy will require funds for financing the same. With the rationing of a bulk of essential consumption goods on the one hand, and the rising national income on the other, there would be left considerable extra purchasing power with the people. This purchasing power can be made to flow back to the national economy in the form of capital by a well-planned and intelligent savings campaign.

The policy of planned trade and its concomitant of planned production and distribution of consumers' goods set out above should not be taken to mean that India would like to debar all foreign trade and follow a closed-door policy, or that ultimately India would drive to economic nationalism. We fully realise that a closed-door policy or autarky is not in India's interests. In fact, we shall have a wide open door policy

for the goods we need, and a closed-door policy for the goods which we cannot afford to buy. We have therefore got to fit into the system of free international trade envisaged by the leading Allied Governments at present India's post-war trade policy, so completely planned and controlled as to give the greatest possible impetus to the development of India's national economy, and raise her national income sufficiently to ensure full employment and a reasonable standard of living to her people. The "Economist" (19-2-44) rightly observes: "It (international trade) is an instrumentality, not an end in itself. To increase the wealth of the community, to abolish individual destitution, to put an end to disastrous economic fluctuations—all these are objectives worthwhile in themselves." In their evidence before Sir William Beveridge, the Fabians proposed in clear terms that "it should be recognised that a country has every right to raise its money income sufficiently to maintain full employment, and to vary its exchanges and import policy in conformity with that fundamental purpose."

If such a principle is enunciated for application to the trade policy of an industrially powerful country like the United Kingdom, it should be applicable with a greater force to a backward country like India. There is no doubt that not only will a planned trade policy suggested above not infringe the guiding principles considered so essential to a successful international trade policy but will contribute to its greater success.

CHAPTER IX SOCIAL SECURITY

The main object of a planned economy should be to frame a plan which would help to develop all the resources of the country—human as well as material—so harnessed as to obtain the optimum creation of her national wealth. The planners will have to tackle not only the problem of production but the more difficult problem of an equitable distribution of wealth between the various sections of our people. The plan must aim to create an economic and social order which should guarantee economic and social security to the people. It must fix an irreducible national minimum for every person. The plan must promise a New India, and offer the prospects of a happier and a better living standard to every citizen.

It cannot be denied that the task of extricating a poor country like India from the abyss of starvation, illiteracy, inertia and unemployment is a difficult one. In spite of the magnitude and the difficulty of the task, the problem will not prove insoluble, provided we have the necessary will and determination to attack it. The solution of the problem will require not only a right leadership in our political, economic and social life, but also an enthusiastic upsurge in the people. The average person must be imbued with a new consciousness that he has a share in the production of the national wealth. The new economic order should be so designed as to ensure a better living standard for him in return of his maximum effort in the attainment of the national minimum so guaranteed. In order to create a favourable psychological background and positive action which would ensure the success of the plan, it would be necessary to define in unequivocal terms what the plan means to the layman. It will be the first task of the country's leadership to eradicate such negative elements in our national life as sectional conflicts, apathy, inaction, ingrained idleness, exploitation, etc.

In order to achieve this objective, the National Government must frame a Charter of Social Security, which would define social, economic as well as political security. With such a Charter, there is no reason why

there should be any conflict in our national life, be it political, social or economic. However, in the transitional period of the building up of our national economy, we shall be required to put in strenuous work and sacrifice. It is feared that this would be a psychological moment for vested interests to wreck the plan by inciting disloyalty, strife and sabotage. It is not suggested that there should be no freedom of speech or action; these will be the basic conditions of our national life. However, it is definitely suggested that those professional parasites whose business it is to create factions for their own personal or sectional gains at the expense of the national economy are no better than saboteurs in a war and they shall have to be dealt with as such.

The framing of the provisions of the Charter of Social Security might present a tough problem, and will require some hard thinking on the part of the best of our brains. In the framing of these provisions, the most important points to be borne in mind are—(i) India must be treated as an entity; (ii) we should eradicate economic exploitation, social as well as political domination by guaranteeing equality and freedom to every person in the national life; (iii) the basic provisions must enable all the sections of our people, with special characteristics and genius of their own, to weld themselves into a powerful nation in the same manner as the innumerable tunes harmonise themselves into a melody.

The following clauses are tentatively suggested for incorporation in the Charter :—

(i) Every person, irrespective of caste, creed or colour, shall enjoy an equal social status and shall have equal opportunities for earning his living. He shall have essential liberties in matters of freedom of worship and freedom of speech.

(ii) A national minimum standard of living shall be assured by the State to each person.

(iii) A national minimum health service shall be provided for the people.

(iv) Every child, regardless of caste, creed or colour shall have equal opportunities of education, suitable for the development of his or her peculiar capacities and start in life.

(v) Every adult person shall be given a minimum education with the object of helping him to become a more efficient member of the society and to develop culturally.

(vi) Idleness in the form of under-employment or unemployment shall be destroyed.

1. EQUAL SOCIAL STATUS, EQUAL OPPORTUNITIES FOR EARNING A LIVELIHOOD, ETC.

India is a nation constituted of different religious groups, castes and creeds. Religion, caste and creed are personal matters which should in no way conflict with the development of our national life. Our planning should, therefore, foster a spirit of tolerance, brotherhood, service, patriotism and unity.

With these adjustments in our national life, it is fundamental that every one, irrespective of caste, creed, colour or race, is assured an equal social status, an equal opportunity to earn his livelihood and to progress in life, and an absolute freedom of worship and speech. How to break the barriers of social inequality, class domination, economic exploitation and sectional domination are difficult problems. These cannot be solved by a mere declaration of social equality. The solution lies in the eradication of inferiority complex of our masses by providing them with a better economic standard and by imbuing in them a spirit of self-respect and patriotism.

2. A NATIONAL MINIMUM STANDARD OF LIVING

The national minimum to be assured by the State to every person should take into account his needs as to food and clothing, congenial and clean shelter, and provision against involuntary interruptions of earnings.

The national minimum does not mean a minimum wage when a man is working. It is the minimum the Planning Authorities should provide for every person in the matters of vital necessities of life in drawing up the schedule of needs of the whole nation.

Talking of a national minimum as regards subsistence, social security, etc. in a poor, backward and undeveloped country like India may appear to be an idle phantastic dream. However, it is not so. With our tremendous dormant resources in man power and raw materials we

can fulfil any reasonable schedule of needs we draw up. It is a difficult task, but not an unsurmountable one. We have to set ourselves to the task with determination and make it plain to our government, to our political and other leaders in industry and business that we are not prepared to put up with any order which does not secure to every person a national minimum.

A national minimum, in other words, full development of our people, cannot be assured by the State without a comprehensive planning. Its main theme should be full employment of our population, a complete rationalisation of every sector of our national economy so as to enable every person to produce the maximum possible goods and services, and an equitable distribution of such wealth. Equitable distribution of wealth is not the same as equal distribution. The former, while abolishing extreme inequality in wealth and possessions, would imply distribution of the national dividend on the basis of a person's contribution to the national economy.

The principle of a national minimum means that every person shall be entitled to the minimum guaranteed before the excess is distributed. Truly, the principle of a national minimum in proportion to a person's contribution to the national economy is a challenge to our ability and genius inasmuch as we must make up the subsistence level of our fellow citizens, before earning anything beyond a subsistence level for ourselves.

A few of the necessities of life may be examined to illustrate the principles on which the schedule of our national needs will be drawn up.

Food :—A provision for proper food and nourishment is essential. It must be the first item on our schedule. Our nutrition experts will probably tell us that we require on an average 2,800 calories per day, and also give us alternative tables of a balanced diet, keeping in view what is easier to produce on our soil. The Planning Board will calculate that on the basis of an estimated 2,800 calories per day per person, our 400 millions will require 408,800 milliard calories per annum, scheduled under various items such as cereals, pulses, sugar, vegetables, milk, fats and oils, fruits, meat, fish, eggs etc. They will have to get on with the job of organising the production of the various items on the schedule and their proper distribution to the consumers. The more difficult part of the job will be to educate

the consumer to standardise his food and balance his menu so as to get the best. The task may appear formidable and complex, but if the problem is tackled systematically and with determination, the solution will unfold itself and is bound to lead to many improvements in the matter of our diet, its production and its distribution.

Clothing:—The plan will have to consider the different varieties of clothing our people shall require in the various parts of the country. It will be necessary to divide our clothing needs into woollen goods, silk and cotton textiles. From a utilitarian point of view it will help the fulfilment of our plan if our dress is standardised, and the material to be used for the same is graded into about two dozen standard varieties.

Estimates will require to be made of our clothing requirements in various parts of the country. On an estimated minimum requirement of 30 yards per person, we shall require 12,000 million yards of cloth, plus woollens and silks. The Planning Board in considering this question will enter in the schedule the different varieties of our clothing requirements admeasuring 12,000 million yards. While considering the question of organising this production, they will realise that the present productive capacity of the country is only 5726 million yards, including 1617 million yards produced by our handloom industry. They will thus be faced with the problem of organising an increased production of 6274 million yards. The solution of this problem will have to be approached on the following lines:—

(i) Rationalisation of the existing productive capacity to increase production as far as possible.

(ii) Drawing up of a programme of construction of the textile industry so as to reach the objective of 12,000 million yards within a stipulated period.

(iii) Ensuring as large a production as possible on the basis of cottage industries, specially during the transitional period.

(iv) Estimates of the minimum needs from year to year, and imports necessary to cover the shortage.

(v) Regulation of the distribution of clothing through rationing and price control.

The imports required to be made will be determined by the Planning Board and licenses for the imports of scheduled qualities in specified quantities only shall be issued. The goods to be imported will be on behalf of the Planning Board, and the rationing and price control regulations will equally apply to these goods.

Housing:—One of the most essential physical needs is shelter. Our position in the matter of housing is very poor. A majority of our population is dwelling in a living hell—in urban and rural areas alike. The average house in the rural areas or the average living space in the urban areas is too small. Most of the houses are inadequately provided as regards ventilation, lighting, water supply, etc. In rural areas, many people are forced to keep their cattle in emergencies in the same house in which they live in the absence of cattle-sheds. Assuming that on an average a family consists of 5 persons, and that 30% of our population is urban and 70% rural, we shall require living accommodation for 80 million families—24 million flatlets or villas in towns and cities, and 56 million houses in rural areas. If the living accommodation in urban areas were to consist of a kitchen 8' × 8', 2 living rooms each 14' × 12', one bath room and lavatory 10' × 5', and a verandah 5' × 12', the total living space necessary would be about 12,240 million sq. ft.

In ascertaining the housing needs in rural areas, we must take into account the fact that the economy of a village family can be stabilised only by adding to the normal vocation of the family dairying, poultry farming, cattle breeding, fruit and vegetable growing etc. Our plan must lighten all the laborious operations of the mother, such as the supply of water at her very door in place of her fetching it all the way from the village well, mechanising the operation of milling, washing clothes, dairy processing, etc. so as to make her free to attend to subsidiary vocations. For instance, dairying with two buffaloes and two cows will enable her to save at least 30 lbs. of milk after meeting her family's requirements; two dozen poultry will yield her about one dozen eggs per day; a small parcel of land attached to the house may enable her to grow vegetables and fruits with the help of the Co-operative Farm Unit (referred to in Chapter VI). Moreover, to

each co-operative farm unit constituted of 50 families a cottage industry centre may be attached so that the members of the co-operative farm unit will work in the cottage industry centre during their spare time. It follows from the above discussion that the housing needs of a village family will be quite different from those of an urban family. A model village house should consist of a kitchen 10' × 10', two living rooms each 16' × 16', one processing room 12' × 16' one bath room and lavatory 10' × 5', one cattle shed 16' × 16' (equivalent to 128 sq. ft. built up space), sufficient vacant land for growing vegetables and fruits, and a cottage industry centre of 20' × 12' for each co-operative farm unit of 50 families. We shall have thus to provide with about 982 sq. ft. living space for an average village family, and 2,10 sq. ft. for a cottage industry centre. Our total living space requirements for the rural areas will thus be 55,261 million sq. ft.

3. NATIONAL MINIMUM HEALTH SERVICE

The general standard of health of our people is very poor. Decades of mal-nutrition and the absence of public health services have substantially undermined our stamina and longevity. The public health problem will divide itself into various sections :—

(i) Prophylactic and epidemiological establishments dealing with hygiene, sanitation, water supply and anti-epidemic measures and campaigns.

(ii) Medical establishments which will include dispensaries, hospitals, clinics, maternity homes, sanatoria, health resorts, etc.

(iii) Medical schools, laboratories and scientific research institutes.

(iv) Pharmaceutical and other medical supplies industries.

The immense importance of the problem will require a prompt and co-ordinated programme of public health organised and financed by the State. To illustrate the vital importance of a central direction in all the matters public health work the following experience of the Soviet Union is worth noting :—

“ The entire medical staff of the country—the physicians, nurses, phrmacists, scientists and professors is in the employ of the State. The State provides the physician and the scientist with working conditions most suitable to their activities, placing at their disposal all the latest

achievements of medical science and technique. The State assists the the physician to increase his knowledge and skill by sending him at given intervals to special medical institutes and scientific research establishments so that he can keep in touch with the latest developments in medical science."

"The fact that all public health work is centrally directed makes possible the proper utilisation of all the facilities of the country, the wide-spread application of the latest achievements in medical science, and unified methods of work. The medical establishments and organisations of the Soviet Union are not isolated, insular institutions, but are closely inter-connected and work according to a common plan of preventive and curative measures."

In view of the large size of India's population and the poor health of the nation, we shall be required to have a more comprehensive and a more extensive public health programme than what the other countries have.

Assuming that we have prophylactic and epidemiological village unit centres for each unit, consisting of a population of 5,000, a controlling centre for a population of 50,000, and a research and administrative centre for 5,00,000, with a Presidency Board under the central control unit of an All-India Board, we shall be required to create 80,000 village unit centres, about 20 Presidency Boards and an All-India Board. Thus our prophylactic and epidemiological organisation will require a trained personnel of about 2,50,000, competent to look after sanitation, anti-epidemic measures and hygienic requirements of our people.

Suppose we were to have a doctor to attend to an average of 2000 persons and a nurse to attend to 800 persons, we shall require about 2,00,000 doctors, 5,00,000 nurses, about 80,000 dispensary centres and about 8,000 well-equipped hospitals with necessary accessories and mechanised hospital transport units connecting each dispensary with a hospital.

Our health services will thus require a well-trained personnel of at least 700,000, working under a central organisation and well-equipped with research facilities. To train up such an army of specialists, it will be necessary to establish a number of medical schools, laboratories and scientific research centres all over the country.

4 . EDUCATION

The 1941 census revealed that of our population aged 5 and over, 85.4% is illiterate. Regular school buildings are practically unknown in villages. Our school teacher is living on a miserable pittance, unconscious of his duty to the nation. We have thousands of villages having no schools and the few lucky ones in these villages who have some facilities of education are required to trudge to school two or three miles away in the scorching heat of an Indian summer or in the pouring rain. Illiteracy and ignorance are the two deadly enemies we have to destroy. It is therefore imperative for us to wage a nation-wide war against illiteracy and ignorance and stamp these out within a decade. The problem of education divides itself into various sectors : (1) Education of the young ; (2) education of the adult ; (3) the medium of instruction ; and (4) teachers and their social and economic status.

Education of the young

We must have well planned, compulsory and free education for every boy and girl between the age 5-15. The medium of instruction should be the mother tongue of the child, although the courses and the texts should be standard for the whole country, and a common lingua franca (Hindustani) should be taught to every boy and girl. The educational system should provide for them the following : (1) Development of their physique and inculcating in them a spirit of discipline, loyalty and obedience ; (2) reading, writing and arithmetic ; (3) theoretical and practical training in various alternative vocations so that at the age of 15 an average boy or girl will become an adept in his or her job ; (4) cultural moulding of the mind to make our new generation patriotic and imbued with a spirit of brotherhood, co-operation and comradeship.

In addition to the basic schools for compulsory education, we should have schools for higher specialised education to train our promising young people on a four-year course. Besides, we should have colleges, polytechnics and research institutions for training up personnel for technical, administrative and executive positions. The planning of education should provide for basic education to the 100% of our population, higher specialised school education to 25% of our population between the age of 16-19

and college and research education to 10% of our population between the age of 20-23. The medium of instruction in specialised schools as well as in college and research institutions should be Hindustani only. Assuming we had an annual rate of 10 million births, we shall be required to provide educational facilities for about 7.75 crores of children between the ages of 5-15, about 75 lakhs of children between the ages 16-19, and about 30 lakhs youths between the ages 20-23.

On the basis of one teacher on an average for 30 children in our basic schools, 25 boys and girls in our specialised schools, and 15 boys and girls in our colleges and research institutions, we shall require about 26 lakh teachers for group one, 2.4 lakh teachers for group two, and about 2 lakh teachers in group three. We do not have any statistics to determine how many teachers we now have. However, since most of the teachers we have are good enough only to teach the three R's, having practically no training for imparting vocational education or for moulding the basis of conduct and character, we shall have to start from a scratch to build up an army of teachers. Assuming that a teacher were to require a year's intensive training and that each centre could manage to train 100 teachers, the training of about 3 million teachers over a period of 5 years will require 6,000 centres for their training. If an average school were to consist of 600 students, we shall require 1,30,000 schools and the necessary educational facilities and equipment in these schools for group (1). On the basis of about 200 students in a specialised school and 400 students on an average in a college, we shall require about 37,500 higher specialised schools provided with the necessary facilities and equipment, and about 7,000 colleges well-equipped with laboratories, research facilities, libraries, etc.

Education of the Adult

One of our most difficult tasks is to stamp out illiteracy and ignorance of our adult population, both male and female. The problem is not only to teach them the three R's; we have to mould them into technicians, skilled workers, scientists, research workers, administrators, etc. In short, we have to revolutionise their mode and philosophy of living. It is a gigantic problem, full of difficulties and, would therefore, call for a bold and imaginative plan and a great determination in the execution of

the same. However, the immensity of the problem should not deter us. We must realise that illiteracy and ignorance are our Enemy No. 1, and to destroy these we must mobilise the whole of our educated population. If, in a total war, millions of working people could be called upon to perform the extra national services, such as fire-fighting, street wardens and other auxiliary duties, there is no reason why we cannot mobilise in peace time, with no strain and stresses of war-time conditions, all our young men who can be spared, and train them up for educating our illiterate population. Assuming that of our working population of 160 millions, 85% were to be educated, we shall be required to provide for the education of 136 million adults. On the basis of 30 persons to a class, we shall require about 4.5 million trained teachers to educate our adult population. The organisation of an army of 4.5 million young men to educate our adult population is admittedly difficult, though not impossible. If the warring nations can raise armies of tens of millions, we can certainly train up 5 million young men to perform such a national service.

Medium of Instruction

The medium of instruction in primary schools should be the mother tongue of each child. However, each child should be taught to speak and write Hindustani, not as a second language, but as a principal language. The medium of instruction in higher specialised schools and colleges should be Hindustani. Higher education should concentrate on subjects like engineering, science, agronomy, research, economics, administration, organisation, etc.

Teachers

The basis of our national conduct and national character has to be revolutionised. Truly, the foundation of our national economy can only be laid by our teachers. It is therefore imperative that the best of our people are attracted to the profession of teaching. The prospects offered to a teacher in this country at present are poor indeed, with the result that better people have no incentive, nor attraction to take up the profession of a teacher. In order to attract people of calibre and of suitable qualifications, it is essential that this profession should be put on an equal social status to that of any important section of the society, and should offer them better prospects.

CHAPTER X

CONCLUSION

Need of a Complete Plan

The 15-Year Economic Plan is not a complete plan as it is understood in the language of planned economy. It merely sets up targets in the various spheres of our national economy, and calculates the capital requirements in the fulfilment of these targets. No mention is made of the more important aspects of planning, such as the problem of production, the ownership of the means of production, the machinery of the central authority to devise and execute the plan, the problem of an equitable distribution of the wealth produced, etc.

Opportunities for Indian Industrialisation Lost

With the fall of France in May 1940 the centre of warfare shifted to the Mediterranean, and India attained a strategic position. With the entry of Japan in the war in December 1941, and the fall of Philippines, the Netherland East Indies, Malaya and Burma, the position of the Allies became grave. In this grave situation, India with her great industrial potential and huge unemployed human resources was best fitted to become the arsenal for the armies in the Far East and the Middle East. There is no doubt that if India's resources were fully exploited by the erection of a powerful industrial base in this country, not only would it have saved large shipping space and man-power for the Allies but would have considerably hastened the defeat of the Hitler and Tojo regimes. *But all these opportunities were lost.* They were lost not because the fulfilment of the task involved insurmountable difficulties—in fact, the Allies have faced and overcome greater difficulties than those involved in this job. They were lost because the British Government have been anxious all throughout the present hostilities to discourage as far as possible the industrialisation of the Empire countries, especially that of India, even at the risk of prolonging the war and delaying the victory of the Allies. It is no exaggeration to say that if the Government of India had emulated

the excellent technique adopted by the Governments of the U. K., the U. S. A., Canada, Australia, etc. in the mobilisation of the human and the industrial resources of this country and had given all the guidance and necessary help to the individuals or the institutions who were anxious to build up factories and workshops for the manufacture of aeroplanes, motor cars, tanks, ships, munitions and other equipment required for the war, India's contribution would have been far more stupendous than the one she has to her credit.

The British policy of actively discouraging industrialisation was applied not only to India but also to Canada, Australia and practically all the countries of the British Empire in the earlier stages of the war. The following remarks of a leading American journal* clearly shows the attitude of Britain regarding the development of industries in the British Dominions.

"It was England's War. It belonged at that time to the political-industrial group that is best represented by Mr. Chamberlain and his umbrella. When their peace at any price could not be bought, their war became a war at the cheapest price, and they fought it believing that Germany could be worn down via the British Navy and Maginot Line—in other words, through economic attrition. This, they admitted, might take considerable time, but time could also be good for business; England had unemployed men and capital that would have to be put to work, but this would have to be done carefully. Price structures would have to be maintained to protect capital and capacities would require control so that as little dislocation as possible would occur after the war had been won."

"So England had no intention of permitting Canada to build an industrial machine for the war effort, because that machine would be a threat to its industry when peace came. The United Kingdom has always been the industrial unit in the British Commonwealth of Nations, taking the raw materials of New Zealand, South Africa, Australia, Canada and the colonies at free-market prices, fabricating them in a protected market, and selling them back to the Dominions, the colonies, and the sterling world at a pleasant profit. With the fleet policing the sea lanes, with a subsidized British merchant marine crowding the trade routes, and with

* "Fortune" (November, 1940)—Canada at War.

many of the world's currencies tied to sterling, it was the cushiest business in the world. The United Kingdom's markets had already been invaded by American-owned branch plants in Canada—not very seriously, it is true, but enough so that *England's tight little industrial autocracy in war-time preferred to buy, and did buy, in the U. S. rather than have Canadian plants extended* (Italics ours). Toronto industrialists went to London but got only a few educational orders for shells, military clothing, and powder. *They were pointedly told that the production of planes, tanks, and guns was well provided for in England. Canada's part in the war, they said, was to train airmen, a long-term programme that in a number of years would supply the Empire with tens of thousands of pilots a year and England would make the planes and supply the engines*” (Italics ours).

This was the attitude of Britain before the fall of France. However, after the fall of France, the British Empire faced grave dangers and the British Government could not prevent the rapid development of basic and other industries in Canada, Australia and other Dominions, mainly because they were self-governing units. India was the only important unit in the Empire which was prevented from developing her industrial might. This was due to the apathy of the Government of India whose hands and feet were practically tied up from London. It would be interesting to study in brief the industrial development of Canada and other Dominions during the war and contrast it with the poor record of this country.

Industrial Development in some Empire Countries during the War

(I) CANADA

Of all the Empire countries Canada has achieved perhaps the greatest progress in the development of her industries during the present war. The war has in fact resulted in a transformation of Canadian industry, an accelerated advance towards a more complete manufacturing economy and a more complete assortment of products. In the year ended September 1, 1943, Canada's war production amounted to \$ 3,094,000,000 not including food, metals, timber and other materials produced for war purposes, a large part for shipment to the United States. On September 9, 1943, the fourth anniversary of Canada's declaration of war on Germany, the Canadian Minister of Munitions and Supply revealed that by the end of 1943 Canada

would have produced more than 600,000 military trucks, more than 35,000 armoured fighting vehicles (including tanks, scout cars, universal carriers), more than 1,000,000 tons of explosives and war chemicals, 60,000,000 rounds of heavy ammunition, and more than 3,000,000,000 rounds of small arms and ammunition. Also by the end of 1943 Canada would have launched about 750 ships delivered more than 10,000 aircrafts and produced almost \$. 300,000,000 of instruments and communications equipment.

"Canada's achievements in production during the past four years have been remarkable, as remarkable as any country's. To pick out one example: in 1939 Canada had no munitions output; by September 9, 1943, Canada had reached its munitions production peak a weekly rate of somewhat more than \$. 55,000,000. It had been stated that during the past four years Canada has experienced an industrial transformation which in normal times could not have taken place in less than twenty-five years."

The following brief analysis * of Canada's war production during the past four years reveals several significant phases of development:—

(1) "Existing facilities have been converted to the production of war products and presumably will be reconverted to their peacetime production.

(2) "New facilities have been established under the impetus of wartime necessity for the production of war products which are not dissimilar to peacetime products; these facilities probably would have been established only very slowly and perhaps not so completely under normal conditions.

(3) "New and expanded facilities for the production of components and 'bits and pieces' have been established, and we can expect that every effort will be made by the Canadian Government and Canadian manufacturers to continue these facilities in production."

"In the field of non-military products there was a period during the past four years when the American machine tool industry held fantastic

* K. S. Harris—Canada's Industrial Transformation.
(Howard Business Review, Vol. XXII, No. 2)

orders and record-breaking backlogs. If the Canadian munitions programme was to succeed in the face of this situation, it was necessary to develop in Canada a domestic machine tool industry, a new industry. This development was carried through, under government sponsorship, financing and control. Similarly war-time necessity led to the development of new and expanded production of gauges, cutting tools, hand tools, instruments, electric motors and many, many more non-military type products, required either by the armed forces, by munition plants, or by the essential civilian economy. In the case of electric motors, for instance, it was a matter of increasing the number of types and sizes of products manufactured in Canada before the war. In the case of machine tools it was a matter of manufacturing products which before the war had been 100% imported.

"In other cases, it was a matter of producing components which before the war either had not been produced in quantities sufficient to fill Canadian requirements."

The following revised figures* upto the end of the second quarter of 1943 covering two of the principal activities, namely, purchasing and the provision of enlarged plant facilities, carried out by, or under the aegis of the Department of Munitions and Supply and its two predecessor bodies, the War Supply Board and the Defence Purchasing Board, show the tremendous contribution Canada has made towards the victory of the Allies:—

TOTAL CONTRACTS AWARDED

Contracts placed including plant extensions:—	
Canadian Account	\$ 4,303,277,882
Contracts placed by civil Aviation—Division for airport construction under the Air Training Plan	\$ 47,918,896
Contracts made and commitments made on U. K. account for 'stores'—and under the Plan Extension Programme, together with the output of these plants	\$ 3,506,372,089
Contract placed—other account	\$ 906,138,072
Total	<u>\$ 8,817,706,939</u>

* The Industrial Front—Department of Munitions and Supply (Canada).

This figure excludes letters of intention and unvalued acceptances of tender, which would substantially increase the total.

The above review of Canada's industrial development reveals the tremendous progress achieved by her during the war. There is no doubt that after the war she will occupy an outstanding place among the leading industrial countries. Her possible role in the future has been very well summed up by the Ottawa correspondent of the "Economist".†

"Canada will emerge from the war one of the great industrial nations. She will be able to produce 50% more iron and steel, five times as much aluminium, quantities of magnesium, tungsten, mercury and chromium. Her hydro-electric power capacity will be 20% higher. She will have great shipyards, aeroplane factories, explosive and chemical plants, a synthetic rubber plant, armament factories, machine tool industries, instrument laboratories, which were not here before the war. About \$, 1 billion has been spent in four years in addition to plant equipment. There is a new industrial army of skilled men and women workers. A new tradition and a rich experience have been acquired.

"Some of the production will cease even before hostilities do, as being neither necessary nor economic in a peaceful world of international competition; but when all allowances for strictly war production have been made, these years have changed the face of Canadian industry in a permanent way. Canada after the war will manufacture within its borders a larger percentage of its manufactured needs than it did. Also, its exports of finished products will rise in relation to its exports of raw materials."

In the sphere of post-war planning also Canada has made a good deal of progress. A variety of plans for post-war reconstruction has been devised. The industries now doing war work are preparing programmes for rapid reconversions to civilian production and adjustment to changed conditions. Post-war Economic Commissions have also been formed in various Provinces and are serving as clearing houses for local projects.

(II) SOUTH AFRICA

In South Africa* an organisation known as the Industrial Develop-

† The Economist, December 25, 1943.

* League of Nations—World Economic Survey, 1939-41.

ment Corporation was formed in May 1940 with a capital of £ 5 million under Government auspices with the specific object of facilitating the establishment of new industries and the expansion of existing ones, and also if necessary, to finance infant industries. As a consequence, there has been an expansion in production and capacity not only of iron and steel but also of a number of industries supplying current consumable goods, notably, the textiles.

(III) AUSTRALIA

It has not been possible to get a complete picture of the industrial development of Australia. However, the following account* in the words of an Australian of what she has done under titanic difficulties in the first two years of the war clearly shows the direction and the tempo of the Australian economy.

"At the outbreak she had nine government munition factories. In two years she had built 11 more. These were producing. She was building another 16.

"She had built and was operating about 100 munition annexes. Many private firms had switched to war work.

"She had established new industries to produce textiles, cables, tools, alloys, chemicals, parachutes, motor and aero parts and bodies, guns of various kinds, ammunitions, explosives, small arms, precision instruments, optical instruments, armoured fighting vehicles, cruiser tanks, wireless sets, planes.

"The quantity produced in 1940-41 was £ 33,000,000 worth—18 times the quantity produced in 1938-39. Production was scheduled to reach £ 76,000,000 in 1941-42.

"Government munition factories employed 12,000 in August, 1939, 58,000 in July, 1941, would employ nearly 200,000 by June, 1942.

"The Supply Department had authorised expenditure to produce £ 2,351,000 worth of war equipment in 1938-39, £ 54,355,000 worth in 1940-41. That was apart from munitions. Expenditure would rise to

*Brian Penton—*Advance Australia—Where?* (London, 1944).

£ 100,000,000 in 1941-42. One thousand factories were producing woollen, cotton and leather goods and boots for the services.

"Upto September, 1941, Australian factories had produced £ 10,000,000 worth of planes, mostly primary trainers. Production in 1941-42 would be double that, and would include Bristol Beaufort Bombers, and an increasing number of the all purpose Wirraway. Altogether Australia had produced 1,000 small planes by September of 1941.

"Shipyards had turned out an undisclosed number of small naval vessels. A plan to build sixty 10,000 ton freighters, complete with engines had been launched.

"Australia was exporting war material, including machines, tools, munitions, training aircraft, giant floating cranes, locomotives, and rolling stock, mainly to countries east of Suez. These exports were worth £ 12,000,000 in the second year of the war, and were scheduled to reach £ 55,000,000 in the third.

"She had almost completed an order for £ 20,000,000 worth of boots, clothing, knitted goods, yarn and engineering supplies for the Eastern Group Supply Council.

"Capital expenditure on defence works had risen from £ 1,400,000 in the first year of the War to £ 16,800,000 in 1940-41. It was scheduled to touch £ 25,000,000 next year."

However, in order to achieve this industrial progress, the Government of Australia had to overcome insurmountable difficulties. These unfavourable circumstances are best described by the writer :—

"But there were difficulties, titanic difficulties. Modern war means mass production. When war broke out Australia knew nothing about it. Industry was scattered across a large continent. Most factories employed less than twenty hands. Less than 5 per cent employed more than 100 hands. So we had to divide war production between units hundred of miles apart. To produce the complex Bristol Beaufort bomber we had to use three railway workshops, one in New South Wales, one in Victoria, and one in South Australia and 150 sub-contractors all over Australia. Parts were brought together and assembled. Imagine that intricate division of

labour for almost every one of the major items on our war programme, most of which we were interpreting from blue prints for the first time; 25 pounder guns, bren guns, anti-aircraft guns, predicators, tanks, anti-tank guns, sub-machine guns. Imagine the problems of transport on top of the problems of co-ordinated production."

"Before the war, in 1939, the British Government promised to give Australia all the jigs and tools and fixtures numbering 33,000, which we needed to build a Beaufort. The Bristol Aero-plane Company undertook to ship before the end of December, 1939, ten sets of fabricated parts and raw materials and equipment needed for the first twenty planes. Because these promises were not fulfilled, we had to manufacture 26,000 of the 33,000 jigs and so forth. Even at the beginning of the third year of the war, fabricated parts and raw materials had not arrived. Some which came through were short of important details.

"And in America we had to fight the rest of the world in the mad scramble for raw materials. Our principal competitor was Great Britain; the British Purchasing Commission had a priority over all war equipment produced in the United States. Among other things we wanted aluminium. Britain could not spare any, so we had to make it for ourselves. In England, we purchased a plant, got to the docks, lost it; Britain needed all the aluminium rolling machinery for herself. In America we found another plant; Britain took that, too. Towards the end of the second year the Americans dug up a plant for us. We had got most of that across the Pacific by the end of the second year. Meanwhile there was trouble over the engine. Originally, the plan was to have Bristol Taurus engines. Britain was to give us 250. When war broke out Britain cut this down to 100."

There is no doubt that Australia has gone a long way in the transformation of her industry, and is bound to occupy after the war an important position as an industrialised country despite her tiny little population. The following report given by the "Commerce" (9th August 1943) is indicative of the future of Australian economy:—

"The Australian Tariff Board, in implementing a charter for post-war reconstruction of Australian manufacturing industries, is reported to

be now inquiring into the possibilities of manufacturing in Australia typewriters, sewing machines, floor and wall tiles, carpets, tractor and tractor parts, and electric motors. In regard to all these investigations the Tariff Board insists on two important points, namely, that plans must be made for the speedy and effective switching back of the industry from the wartime to the peacetime level and that manufacturing industries should unquestionably prove to be the nation's great employment providers."

Industrial Progress in India

Against the tremendous progress achieved by these Empire countries in the midst of titanic difficulties, the achievement of India is indeed very poor. Canada had scheduled by December 1943 to launch 750 ships, deliver 10,000 aircraft, build 600,000 military trucks, and 35,000 armoured fighting vehicles. Against this, India had launched only a very negligible number of small ships, has not to her credit even a single aircraft, military truck or armoured fighting vehicle completely built in this country. We find ourselves in this woeful situation thanks to the apathetic attitude of the Government. The negative policy adopted by Whitehall has paralysed what limited action the Indian Members on the Viceroy's Executive Council are capable of. They are fighting shy of their inferiority complex, and have no guts to get on with the job of fighting the vested interests and overcoming difficulties. The lack of any forward policy on their part has perhaps created an impression in the public mind that the Indian Members on the Executive Council are only too anxious to hold on to their cushiest jobs even though their inaction may retard the economic development of this country perhaps by well over a generation. Practically all the key positions are held by Britishers who, having only one-sided loyalty, can do little for this country even though they may be able men and experts in their jobs. No wonder, every time we have asked for machinery, equipment, or technique, we are told ad nauseam, "there is no shipping space", "we cannot afford foreign exchange", "the project is not likely to help the war effort", "we have no technical skill available", "the project will divert the technical labour now being employed on war work", and so on.

Government Policy of Negation

The fate of the Grady Mission's report clearly exposed Government's

unhelpful attitude towards India's aspirations in the field of economic and industrial development.

The menacing advance of the Japanese and the fall of Burma which materially enhanced the importance of the industrial potentialities of India, caused the U. S. Government to send a special Technical Mission to India early in 1942, under Dr. Henry Grady to investigate the possibilities of transforming India into a real arsenal for the Eastern Theatres of War. The report of this Mission has not been published, nor was it found possible by the Government to take into confidence the leading industrialists and businessmen of the country. Only a sketch and a small summary appeared in papers.

It was unofficially stated that the Mission's general impression was that India's industrial centres were still working on a peace time basis and that there was much scope for expansion. In the opinion of the Mission, it was possible to increase India's production by about 200-250% with proper planning, rationalisation and equipment from America.

The recommendations of the Mission were summarised by the "Capital" (21st May 1942) as follows:—

"Assessing the possibility of increasing output the Mission recognises at the outset that most of India's engineering workshops are... *jobbing shops*, by which they mean establishments existing in order to maintain other plants in repair. To remedy this it is necessary to provide new equipment from one shop to another and rearrange equipment within existing shops. Another recommendation is the institution of high-powered control, independent of Government established agencies, on the American model... Specifically it advises further investigations into the possibilities of producing power alcohol; measures to extend the availability of electric power and to rationalise its use; the expansion of the steel industry; the rationalisation of plants producing munitions; concentration in respect of aircraft and ships upon repairs rather than new construction, greater production of aluminium; the conservation of tin and rubber; and acceleration of the production of refined sulphur."

Reviewing the recommendations of the Mission Mr. A. J. Grajdencev in "Pacific Affairs" (June 1943) says:—

"In November there appeared rumours that the report of the Mission was shelved. The viceroy, referring to the same, said: 'the far-reaching scheme of industrial expansion recommended by the Mission, would if accepted in full, have involved the earliest supply to India by the United States of large quantities of materials and equipment and of large number of technical personnel. The United States had found it impossible to implement this programme in full in present conditions.' Thus from 'far-reaching schemes' of general industrial expansion the Government of India turned to the piecemeal expansion of plants mostly needed in particular fields, and some of the blame for the inability to adopt the Mission's proposals was put on the American Government. However, some Indian press opinions reacted differently. The 'Commerce' in its issue of 28th November 1942 says: 'But the fact remains that powerful interests are operating abroad for the purpose of throttling further industrialisation of this country, so that in the post-war world there would not be any dangerous competition in the West from the East. . . The Indian business community has long been demanding the publication of all recommendations of the Grady Mission's Report, a request which has not been conceded by the authorities on military or strategic reasons. But the Indian demand is based on some suspicion that the Government of India does not possess initiative but also finds its hands tied up from London. . . (shelving this report is bound to create further misapprehensions.)'"

The shelving of the Grady Mission's report did really create suspicion in the public mind about the Government of India's intentions regarding the development of Indian industries. As has been rightly pointed out by Mr. Mitchell,¹ the British policy "continued to be dominated by the desire to retain a controlling position in the Indian Market and over Indian production and trade and was therefore opposed to any rapid extensive growth of Indian controlled heavy industries." The negative policy so far pursued by the Government of India leads to the inevitable conclusion that if India were not allowed to build up her industries in the favourable conditions during the present war, what could be expected of the British Government in the post-war period when every country, especially the United Kingdom, will be anxious not only to retain her pre-war exports, but to substantially increase the same?

¹ Mitchell, K. L.—India: An American View. (London 1943).

This unhelpful and negative policy of the Government has been bitterly criticised by prominent businessmen and industrialists from press and platform. Sir M. Visvesvaraya for instance, observed that "the truth is that for many generations past, industries, particularly key industries, have been on the black list of the Government. In recent months restrictions have been placed on Company promotions, on the starting of new industries, dismantling of factories, and removal of machinery from factories, without the written permission of the Central Government. Whatever the reason, industrialists are tied hand and foot and business and manufactures are effectively retarded."

The case of the Automobile Industry

To substantiate this significant observation of Sir M. Visvesvaraya it would be interesting to examine briefly the Government's attitude towards the attempts on the part of some Indian industrialists to establish an Automobile Industry in this country. This was one of the key industries Indians were anxious to establish. It is a typical case bringing out clearly the negative policy and delay tactics the Government usually adopts in the establishment of any key industry, be it Automobile, Power Alcohol, Fertilisers, Machine Tools etc.

After an extensive investigation into the prospects of automobile industry in India and consultation with two of the world's leading automobile corporations, the promoters of the scheme first approached the Government of India in 1936 for initial support and help for starting a factory. The total capital outlay required for the factory to be started near Bombay was estimated at Rs. 2½ crores and the value of the products manufactured was estimated at Rs. 3.15 crores. The promoters wanted an assurance from the Government on the following points:—

(1) "A clear statement that Government welcome the effort to start the industry."

(2) "A promise that if the industry is started on a satisfactory basis, the promoters may count upon the full support of the Government within the limits of their present policies and rules."

(3) "A general assurance that protection given will be reasonably adequate and also that the Government will be prepared to go to the

rescue of the industry, if it is at any time threatened by unreasonable foreign competition."

In support of the request for these assurances, it was pointed out that "an import duty of 33 $\frac{1}{3}$ % is levied on motor vehicles in Great Britain and more than twice that percentage in France and Germany;" also "that in no country to-day, even in advanced Europe, can this industry thrive or maintain itself without Government protection and support."

Taking their stand on an old Government Resolution on the Report of the Fiscal Commission of 1921-22, Government sent a routine reply that no industry could receive support without a previous enquiry by a Tariff Board, and no enquiry by the Tariff Board could take place unless factory was started, and having got into difficulties needed help.

In the year 1939, the promoters secured from the Bombay Government a guarantee of 3 or 3 $\frac{1}{2}$ % interest on the estimated share capital of a crore and a half of rupees on the conditions that the promoters secured from the Government of India the following two guarantees: (a) the present revenue duty of 37 $\frac{1}{2}$ % on motor vehicles and parts will not be lowered for a term of ten years; and (b) a rebate will be granted on the duty paid on any imported special parts used in the manufacture of automobiles. The promoters applied to the Government of India for the above two concessions. The Government, however, refused to give the guarantees requested for.

The Government of Bombay agreed to waive the above conditions. However, in the meanwhile the popular Government resigned. The new Government of Bombay, under the personal rule of the Governor, were willing to ratify the guarantee of their predecessors provided the Government of India agreed that the industry would help war effort. But the Government of India declared in an official communique issued by the Commerce Department on 16th December 1940 that the industry would not be of assistance to war effort.

Having failed in British India, the promoters opened negotiations with the Government of Mysore, who at first expressed themselves willing to render liberal assistance if the promoters undertook to establish the industry within that State. But the Government of India interfered and

discouraged its establishment on the ground that the starting of the factory would impede war effort.

The Government of India declined that they interfered with the discretion of the Mysore Government. However, Sir M. Visvesvaraya wrote to His Excellency the Vicoroy—"I have seen the letters addressed to the Dewan which purported to discourage the establishment of this industry. Government will be able to verify this statement by calling for copies of the letters written to the Dewan on behalf of the Government of India."

After the Russian entry into the War the promoters revised their plans and approached the Government of India with a proposal that during the war they would confine themselves to manufacturing Army vehicles, according to specifications that may be given to them, provided the scheme was to be treated as a war effort. The Government of India replied that the Military Authorities were opposed to the introduction of a new type of vehicle as they expected difficulties in storing and carrying spare parts of different makes. The offer was ignored by Government, who in the meantime began to place orders with foreign firms for all their military requirements. The Secretary of State for India made a statement in the House of Commons to the effect that the extension of the war has decreased the resources available for the establishment of an automobile industry in India. He further added that "the matter has been most carefully considered, the conclusion being that any attempt to set up this industry now would divert both labour and machinery which were more urgently needed for the war."

The Government of India's attitude at various stages of negotiations for the establishment of the Automobile Industry may now briefly be examined:—

(i) In the year 1936, when the promoters asked for Government's full support and adequate protection, they took shelter behind an old Government Resolution on the Report of the Fiscal Commission of 1921-22 according to which no industry could receive support without a previous enquiry by a Tariff Board, and no enquiry by the Tariff Board could take place unless a factory was actually started, and, after having got into difficulties needed help.

Fancy the Government of India in 1936 turning down the establishment of a basic industry on the strength of a resolution passed in 1921-22 ! In his letter dated the 25th July 1942, the Private Secretary to H. E. the Viceroy wrote to Sir M. Visveswaraya that "the Government of India were prepared, as I have already stated, to reconsider the question of maintaining the present level of duty." This was the first time the Government of India expressed their decision to reconsider the question of maintaining the present level of duty. It is surprising that even then they could not make a decision. Since writing this two Automobile Companies have been registered, one by Mr. Walchand Hirachand and the other by Mr. G. D. Birla. The Government of India may be asked as to what is their decision on the question of maintaining the present level of duty.

(ii) In the year 1937, the promoters asked for a ruling from the Government of India that the industry would help war effort. The Government of India declared in an official communique issued by the Commerce Department that the industry would not be of assistance to war effort—such a ruling was given at a time when India had to import motor trucks and valued at crores of rupees ! The stock arguments advanced were : lack of shipping space, difficulty of priority certificates, difficulty of securing dollar exchange, diversion of skilled labour required for military works etc.

(iii) To the proposal made in the year 1941 to manufacture army vehicles, according to specifications, the Government of India replied that the Military Authorities were opposed to the introduction of a new type of vehicles as they expected difficulties in storing and carrying spare parts of different makes. Since then, under the 'Lease and Lend' the Indian Army has received and is using several thousand units of Dodge Trucks (Chrysler Corporation's product) which the promoters had undertaken to manufacture. We wonder whether the Authorities have managed to overcome the difficulties which came in their way of promoting a national industry. It would be interesting to note the reaction of a British Lord to such excuses.

"Acquainted Lord Wedgewood also other contents your two cables received here ninth and eleventh January. Wedgewood indignant at nature

objection to additional type vehicle enquiries. What do Military Authorities concerned suppose the Japs did with the thousand cars they found in Penang, or we, or the Germans with the cars and tanks captured Libya? Use them for Museums?"

Such has been the story of the abortive attempts to establish the Automobile Industry, a key industry which would have substantially contributed to this country's war effort if it had been allowed to be started in 1939 or 1941. It will be evident that as regards key industries the Government of India have so far adopted neither a policy of protection nor that of laissez-faire—they have adopted a policy of negation.

Would it be too much to say that the British policy in relation to the development of key industries in India has been mainly actuated by a selfish motive to retain India as an important market for the British goods in the post-war period? The following remarks of the 'Economist' (22nd April 1944) discussing the post-war prospects of the automobile industry are quite significant: "The British Motor Industry will have the opportunity after the war of becoming one of the greatest suppliers of private cars, enjoying a period of expansion and prosperity such as it has never enjoyed before...the United States and Canada are the only two major countries, besides Great Britain, that are likely to resume production fairly quickly and on a large scale...The British Motor Industry will therefore enjoy not merely a large home market, but it will also have the opportunity of participating in the world market to an extent never achieved before and of developing an export trade substantially bigger than in 1938, when the total value of private cars and chassis shipped abroad was only £ 7½ million."

National Planning and Post-War Reconstruction

A Reconstruction Committee was formed at the Centre in June 1941 to be presided over by the Commerce Member, with the Economic Adviser to the Government of India and the representatives of the Finance Department, the Commerce Department, the Defence Department, the Department of Education, Health and Land, the Labour Department, the Department of Supply and the Railway Board as its members.

At the first meeting of the Reconstruction Committee the following four Committees were set up to deal with different aspects of post-war

reconstruction. All the four Committees were to consist of officials and non-officials, and representatives of trade, industry and labour.

- (i) Committee on Labour and Demobilisation, with the Defence Secretary as Chairman.
- (ii) Committee on Disposals and Contracts, with the Supply Secretary as Chairman.
- (iii) Committee on Public Works and Government Purchases, with the Labour Secretary as Chairman.
- (iv) Committee on Trade, International Trade Policy and Agricultural Development, with the Commerce Secretary as Chairman.

It was also decided to appoint a Consultative Committee of Economists to be presided over by the Economic Adviser.

The Reconstruction Committee was to receive as a steering Committee the reports of the other Committees and was responsible for giving guidance, where necessary, to the various committees concerned. The recommendations of the Committees were to be placed before the Governor-General-in-Council for such action as was considered necessary.

The scope of work defined for the above Committees was as follows :—

The Labour and Demobilisation Committee was to concern itself with the problem of how with a sudden disbandment of the large mass of technical and other personnel now engaged in war production and without the risk of grave unemployment, labour could be delinked from one industry and linked to another. It was thought necessary (i) to inaugurate at once a proper statistical service relating to the increasing volume of employment in the industries primarily affected by war demands, for example, ordnance and clothing factories, engineering, textiles, etc.; to consider how far labour employed in a given direction can be reemployed in other directions without retraining; also what, if any, arrangements for retraining can be instituted; what the direction of retraining should be, and whether there should be any scheme of relief; (iii) to keep in close contact with the army authorities so that their plans of demobilisation should not accentuate the problem of employment on the cessation of hostilities; (iv) to examine the machinery available for directing those in search of jobs.

The Disposals and Contracts Committee was to deal with the gradual readjustment of industries to peace production and disposal of stocks.

The Public Works and Government Purchases Committee was to consider the expansion of government public works programme in order to absorb labour thrown out of war industries.

The Committee on Internal and International Trade Policy and Agricultural Development was to follow the trend and development of international trade policies almost from week to week even during the war and consider how far India was necessarily linked up in these policies and how far a policy of isolation was either justified or desirable.

The Consultative Committee of Economists was expected to come to conclusions and advise Government on the best methods by which they could promote trade, manufacture, and industries in general and help in attaining a better living standard for the people of the country.

The reaction to the setting up of the Reconstruction Committee and the various sub-committees to review the possibilities that will have to be visualised when peace is restored was critical. The consensus of opinion was that if India were to face the post-war world situation with any prospect of survival, we must be prepared to plan the entire resources of the country in men and material, in short, we must plan for an optimum in the development of our national economy. If this opportunity was therefore to be fully exploited with a view to evolve a bold scheme of planning designed to raise the economic, physical and cultural level of the people, the adjustments necessary in the transition from war economy to a planned peace economy would not be so difficult. In the prospective of the gigantic problem of the post-war planning, these adjustments which may appear difficult by themselves would not be so, if their solutions could be made to converge in our general scheme of planning.

It was generally felt at the time that the Government was on a wrong track. If the problem the country faced was not merely that of rehabilitation and readjustment of our national economy from war conditions to peace conditions, but that of a nation-wide planning for the construction of our national economy, the personnel of the Reconstruction Committee as also of the various Policy Committees should have included the best brains of the country who only could tackle such a gigantic

problem and create the necessary background by evoking the enthusiasm and a correct response from the people.

The Times of India gave expression to the general sentiment when it remarked: "Will government squeeze the last ounce of progress out of this opportunity? It is far from certain. Their record in preparing for war is not impressive, nor their speed in fighting it so far as that can be judged. A greater obligation rests upon a government working through an old and partly boycotted Assembly. After nearly two years of war the Government of India have appointed a Reconstruction Committee to prepare for peace. The exclusiveness which has marked Government's handling of the war is to continue in peace. The Reconstruction Committee consists entirely of Government members. The usual sop is thrown to the tax payer—he may be appointed to a sub-committee or called in as an adviser — and the usual reason is given that large committees do not work — for his exclusion from the main policy-making committees. The public have a right to ask why in this crucially important matter of post-war reconstruction as in so many others, Government refuse to invite the public's full co-operation. Even the mixed sub-committees are to be presided over by officials, who, in some cases, do not seem the men best fitted, by experience, for the job."

Nothing was heard of the activities or achievements of these Committees for well over a year. In April 1943, it was found necessary to overhaul the whole machinery and a Reconstruction Committee of the Executive Council with His Excellency the Viceroy as President was set up, with the object to exercise initiative to co-ordinate and eventually to give the necessary sanctions to the plans which were prepared. Without this Committee as a driving force *it was felt that reconstruction planning might well be put aside in favour of other work and might consist merely in departmental files and not reach any very definite conclusions.* A permanent Secretariat with which is associated the Economic Adviser to the Government of India was also appointed.

It was complained from time to time that the Government of India was taking up the problem of reconstruction leisurely and that till the middle of the year 1943 even the Policy Committees were not set up. It was also felt that when the country was demanding immediate and

vigorous measures for reconstruction planning, the Government of India was progressing at a snail's speed and explained away their failure to report any spectacular developments by reminding the public that "so vast and complex are the problems of reconstruction that each department of Government of India as also the Provinces, the States & Industries must do their own thinking and planning."

The first meeting of the General Policy Committee on Post-War Reconstruction took place in January 1944, about 30 months after the setting up of the Reconstruction Committee. It was explained by Sir J. P. Srivastava, Deputy President of the Reconstruction Committee of the Council, that during the intervening period valuable work was done in the direction of preparation of data. He also added that the centre was to deal only with the formulation of the policy and not with actual planning which was the responsibility of the Provinces and the States. In his opening address to the General Policy Committee he made the following observations:—

(i) In order to accelerate planning, it was decided to appoint experts, to be called Development Officers to work full time on the different Reconstruction subjects. They would be given access to all the data that have already been prepared and would be given a definite policy directive as a basis for their work. Their scope of work would be to tour Provinces and States and assist the officers appointed by the latter in the development of Provincial plans which could be co-ordinated into an All-India plan.

(ii) The scope of work of the various committees was to be limited "to express an opinion on questions which appropriately belong to each committee." The scope of work of the General Policy Committee was limited "to avoid friction and confusion." The General Policy Committee should not take upon itself the responsibility of sitting in judgement on the work of any other Policy Committees but it should nevertheless be possible and appropriate for the General Policy Committee to advise Government on matters which concern more than one Policy Committee. You will thus be in a position to advise government on big matters of policy and also on matters which do not fall within the purview of one or other of the various Policy Committees."

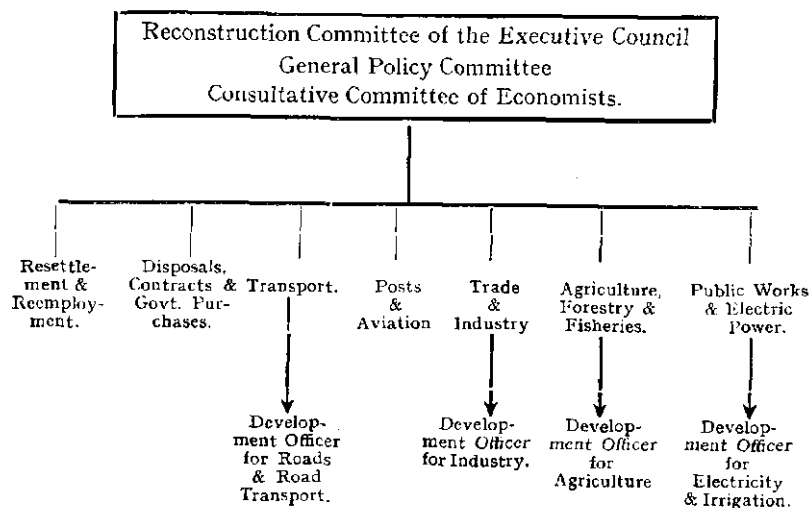
(iii) The objective of Reconstruction was for the first time stated

' the improvement of living conditions of the mass of the population.' It was further stated that ' the war has provided India with a rare opportunity for reconstruction. Plenty of highly trained labour will be released from military work or war industry. The country's natural resources are enormous, and with abundance of capital and labour at our disposal, we should be able to undertake large industrial and agricultural projects. *The leadership of Asia will be ours for the taking provided we make out plans well in advance for the day of victory which is undoubtedly drawing near.*'

(iv) The large questions of policy to be considered by the Reconstruction Committee were stated to be :

(a) The role of the State in the future economic development of the country; (b) State control in its various forms; (c) State ownership of Industries; (d) Tariff and Fiscal policies; (e) Social Legislation etc.; (f) The order of priority between consumption goods and capital goods; (g) The problem in regard to the continued existence and development of small industrial units.

The graphical delineation of the Reconstruction Machinery of the Government of India as constituted at present may be shown as below :—



who will prepare complete plans. In leaving the details of planning to be worked out by the Provinces, the Government of India would be creating conflicting claims of the various Provinces, which would have ultimately to be compromised, and the solution arrived at by a compromise may not be so much in the interests of the national economy as that evolved by a central body.

The case for central control of planning was very ably put by Sir C. P. Ramaswamy Aiyar at the General Policy Committee Meeting. He went so far as to suggest that the Central Government must have no qualms about enforcing its decisions on Provinces or States even against their will if the decisions were in the interests of India as a whole.

It will thus be seen that under the present procedure, the obligation in regard to planning is cast on the Provinces and States. It is their duty to carry out a thorough survey of the needs of the people in their respective areas, of the resources available for development and to draw up, in the first instance, plans for their areas. Such plans would comprise schemes ranging from roads for individual villages to a province or state-wide scheme of electrification.

The formulation of an All-India plan for economic development and social improvement will thus partly depend on the earnestness with which these sectional plans are pushed through, but much more on the extent to which popular co-operation and sanction are secured. Nothing perhaps is more disheartening in the Indian situation today than the fact that great issues of policy are being decided by a bureaucracy utterly divorced from the people and the real representatives of the people have no part or lot in the shaping of policies which vitally affect them. It is extremely doubtful whether any planning can be successful if it does not from the very start mobilise the enthusiasm of the people.

Department of Planning & Development

In May 1944 it was announced that the Governor General had decided that planning for post-war period had reached a stage at which it required the attention of a member of his Executive Council who is free from ordinary departmental responsibility. Sir Ardésheer Dalal was appointed as the member in charge of the Department of Planning and Development. The scope of the new Department was discussed by Sir A.

Dalal in which he stated (i) it was possible to enter only preliminary stage of planning; (ii) it was necessary to have close co-operation between his department and the other departments and with the Provinces; (iii) the help of the non-officials was essential; (iv) the Bombay Plan being not a complete plan, a blue-print of their proposals was to be prepared; and (v) that the preparation may take some years. Sir A. Dalal added that the urgent problems now arising and which cannot wait on politics are (1) the resettling of 2 million men, (2) the avoidance of economic slump, (3) schemes of public works, and (4) a scheme of priority for the import of machinery and capital goods.

The creation of a separate portfolio for planning and reconstruction and the appointment of a member in charge of the same, though belated, is a step in the right direction. The appointment of Sir A. Dalal, a co-signatory of the Bombay Plan, has been interpreted in some quarters as very significant. It is natural, therefore, that the country expects much from the new Department.

It is doubtful whether a single person, however expert and capable he may be, is fitted to evolve an all-India plan of economic development. To expedite planning and to evolve fool-proof plans for the economic development of this country, it is necessary that the Member for Planning and Development should immediately formulate an All-India Planning Commission composed of the best brains of the country and competent to deal with the problem of planning. This body may be further split up into various committees, in charge of different sectors of the national economy. The separate plans evolved by these Committees must be considered by the All-India body. The Department of Planning and Development must create the necessary technical personnel to deal with all the technical aspects of planning.

With the necessary adjustments in the planning machinery, the Planning Commission must immediately take up the question of fundamental policies on the following issues:—

(1) *The lot of the common man*

The main objective of planning must be the amelioration of the masses, to substantially improve their standard of living and to help them raise their physical and cultural level. The first thing the Planning

Commission must do is therefore to frame a charter of social security which would define social, economic and political security of the people of this country, will specifically guarantee full employment and a national minimum as regards the standard of living and health service, and will afford equal opportunities for education and for cultural development to all.

(2) *Ownership of the means of production*

The main criticism on the subject of economy in this country centres round the question of the ownership of the means of production. The view point of the common man is that there is no justification for the ownership of the means of production remaining in private hands with unlimited scope and freedom to them for exploitation. Industrially backward as the country is, the very existence of private enterprise depends upon the sacrifice of the people. Naturally therefore, the country is not prepared to have an economic planning and undergo hardships and sufferings for years to make rich the richer. It was the patriotism of the people which saved the industry of this country from collapse during crisis. In view of this, it was expected of our industrialists and commercial community that they should have organised themselves to alleviate the suffering of the people. Instead, they have mercilessly exploited the masses. It is therefore imperative that a declaration be made by the National Planning Commission that the economic development of the country under a planned economy is not to be designed for the primary benefit of any one section of the community and that the ownership of the means of production will be vested in statutory public bodies with a place for private enterprise on the basis of limited ownership and a reasonable rent therefor. Without an unequivocal statement on these lines the people are bound to look at any scheme of planning with an eye of suspicion.

(3) *The Role of the State*

It is necessary that the whole economy be developed for the benefit of the people. The Planning Commission should carefully consider the role of the State in the various activities connected with the whole problem of planning and construction. There is a deep seated suspicion that under the guise of state ownership the Government of India is handing through the back door the management of the national economy to foreign vested interests. It is earnestly hoped that if there is any ground for this suspicion the Member for Planning and Development and the Planning Commission should set the matters right.

GOVERNMENT OF INDIA
RECONSTRUCTION COMMITTEE OF COUNCIL

FIRST REPORT

ON THE

PROGRESS

OF

RECONSTRUCTION PLANNING.

1st March 1944.



PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI
PRINTED BY THE MANAGER, GOVERNMENT OF INDIA PRESS, NEW DELHI,
1944.

CONTENTS

	PAGES.
INTRODUCTION	(i)—(ii)
SECTION I—THE BACKGROUND	1
The Atlantic Charter—Anglo-American Agreement—The United Nations Conference on Food and Agriculture—U.N.R.R.A.—other Measures of International co-operation.	
SECTION II—THE NEED FOR PLANNING NOW	6
Some problems emerging directly from the war—Problems arising out of the present conditions—Long-term problems of post-war reconstruction—Financial aspects of reconstruction—Machinery set up at the Centre to deal with the problems of reconstruction—Development Officers.	
SECTION III—RE-SETTLEMENT AND RE-EMPLOYMENT OF EX-SERVICE AND OTHER PERSONNEL	13
Industrial Labour and Technical Personnel—Technical and urban Re-employment—Re-employment of ex-service personnel in Govt. services—Resettlement on land—Utilisation of the Post-war Military Reconstruction Fund for the permanent benefit of the enlisted Classes.	
SECTION IV—DISPOSALS, CONTRACTS AND GOVERNMENT PURCHASES	16
The nature of the problem—Machinery set up to deal with Disposals—Contracts—International aspect of the problem of Disposals.	
SECTION V—TRANSPORT AND COMMUNICATIONS	19
Civil Aviation—Railways—Road Transport and Road-rail relations—Roads.	
SECTION VI—PUBLIC WORKS AND ELECTRIC POWER	25
Public works other than roads (irrigation)—Electric Power, Load Surveys and Financial considerations, Thermal Power Station Siting—Organisation of Public Utilities—Training of Indian Engineers in the Public Utility Management—Requirements of Plant and Machinery for Electrical Development in India.	
SECTION VII—TRADE AND INDUSTRY POLICY	32
Indian Trade Policy in the Post-war Period—International Monetary Policy—Industrial Planning—Acquisition of capital goods—Organisation of Industrial and Scientific Research.	
SECTION VIII—AGRICULTURE, FORESTRY AND FISHERIES	37
<i>Agriculture</i>	
Relation between India's Food Resources and Requirements—Technological Possibilities of Development.	
<i>Forestry</i>	
Objects of Post-war forest policy—Rehabilitation of existing Reserved Forests—Prevention of floods and erosion—Agricultural Forests.	
<i>Fisheries</i>	
First Five-year Plan of development.	
SECTION IX—SOCIAL SERVICES	44
Education—Public Health—Labour Welfare and Legislation.	

(i)

RECONSTRUCTION COMMITTEE OF COUNCIL

INTRODUCTION

This FIRST REPORT ON THE PROGRESS OF RECONSTRUCTION PLANNING describes the progress which has been made at the Centre upto 1st of February 1944 and indicates some of the problems which the various Policy Committees are considering at present or would have to consider at some later stage. Similar reports will, it is hoped, be published periodically and will indicate the progress made from time to time not only at the Centre, but also in the Provinces and States.

2. The Report which has been prepared by the Reconstruction Secretariat contains a good deal of argument, discussion of policy and views on the financial and other problems involved. The object of the Report is to give information and to evoke public interest in the problems of reconstruction and it should not be regarded either as an expression of the approved policy of the Government of India or of any of its Departments.

3. Since this Report was drafted a statement has been made by the Hon'ble the Finance Member in his budget speech on the finance of Reconstruction, an extract from which is quoted below :

"It is my firm conviction that the first pre-requisite of reconstruction finance is a sound financial position, both at the Centre and in the Provinces, secured by the fullest development of their respective taxation resources. This may perhaps sound pedestrian, but in the light of our experience of war-time finance there is no reason, given the will to find money for peace on the scale on which it has been found for war, why resources should not be forthcoming to an extent which could not possibly have been envisaged in pre-war days. Many Provinces have already started exploiting their revenue sources and building up reconstruction funds, as a result of which they will embark on the post-war period with an improved revenue position and a useful cash balance. This is a hopeful start, though there is still considerable scope for extension; but the magnitude of the problem is so great that the Provinces will undoubtedly need all the financial assistance that the Centre may be in a position to give. I have recently brought under review the post-war budgetary position of the Central Government, in so far as the many uncertainties inherent in the conditions of the present and the future permit. The review indicates that, on the assumptions of a reasonably speedy rate of demobilisation after the conclusion of hostilities, the maintenance by concerted international effort of full production and employment, and a determination on the part of the Government of the day to utilise to the full the taxable capacity of the country, it might well be that, after one or two deficit years, revenue surpluses would emerge rising in the fourth or fifth year to the order of Rs. 100 crores per annum. With all-out borrowing continued in accordance with the technique developed during the war, it is by no means fantastic to visualise total resources for the purposes of reconstruction during the first effective quinquennium approximating to the Rs. 1,000 crores level; and this excludes any estimate of direct private investment. Beyond that I would prefer at this moment not to attempt to dip into the future, although it would be reasonable to assume that estimates for the subsequent five-year periods could be related to the actual results of the first quinquennium in a sort of geometric progression.

"The immediate task of investigation and planning is already well in hand, and some of the official reports and data which are now under the consideration of Government will shortly be released for the information of the public. These constitute the essential raw materials of any practicable plan of development, but equally important is the preparation of a sure foundation of sound finance capable of carrying with safety the edifice to be erected upon it. This edifice can itself be made both stronger and larger if the individual schemes of which it is composed are so designed as to be in their revenue aspect as remunerative as possible, and if high priority is accorded to such of them as can contribute directly to an increase in material wealth and prosperity and thereby reinforce the public revenues."

After explaining the new taxation proposals for 1944-45, the Hon'ble the Finance Member concluded that "this programme will assist the preparations for post-war development, by providing for the regular building up by industry of the necessary reserves, as well as by fortifying permanently the revenue resources of the State.

"In the last-named direction much still remains to be done. In particular the Provinces, on whom so large a share of the building of the future inevitably falls, will need expanded resources. We have therefore under active consideration the possibility of an estate duty on non-agricultural property, which would be levied by the Centre but of which the proceeds would be assigned to the Provinces. In spite of war-time taxation it is indisputable that enormous private fortunes have been made during the war, aggravating the great inequality which already existed. Even on a modest programme vast sums will be needed for the post-war development of the country, and there is manifest justification for a system of death duties whereby these large fortunes will be laid under contribution. We have encountered, as we expected certain initial difficulties, but we hope to overcome these and to be in a position to place a carefully prepared measure before the Legislature at a subsequent session. I have no doubt that such a measure would not only fill a gap in the fiscal armoury of India but could serve a great social end.

"That brings me to the end of my story. The last five years have witnessed changes of a significance and magnitude which few indeed could have ventured to foretell, as India has been caught up ever more irresistibly in the rapid stream of world events. Who can doubt that she is destined to play a momentous part in the years ahead, when the last great effort has been crowned with victory, and men turn again to the fruitful tasks of peace?"

T. J. HUTTON,
Lt.-General,
Secy. R. C. C.

SECRETARIAT (N. BLOCK);
New Delhi, the 1st March 1944.

SECTION I—The Background.

The significance of the Post-war Reconstruction movement lies in the fact that after every great war, considerable changes take place in the mental outlook of the world and there is a genuine desire to improve conditions which prevailed before the war and which were to some extent responsible for it. History shows that almost every great war has tended to break up and sweep away the structure of an old social and political order and lay the foundations of a new one. War begets new needs and new loyalties which help to determine social and political forms during the ensuing period of peace. "War is thus never the end" says a famous historian, "but always the beginning of a new social order."

This applies particularly to the present war which is being waged on an unprecedented scale. In the first place, the area of the conflict is the largest ever known and not a single country of the world is really unaffected. Secondly, many scientific inventions have been put in practice during the last four years, and, not only have the methods of destruction improved but also the commercial arts which are capable of promoting national welfare in peacetime. Thirdly, enormous advances have been made in the field of economic and financial controls. These controls have proved that the machinery of production and distribution can be greatly improved when governments and public opinion are determined to adopt national policies and to pursue them with vigour and without the intimidation of vested interests. They have awakened the public to a consciousness that if a modern society can achieve conditions of full employment and increased national income under the stimulus of war, it should be possible to use the whole apparatus of wartime control for the advancement of the standard of living and the abolition of poverty. Fourthly, this war as no other war in history could be truly called a peoples' war. Many sections of the population have suffered tribulations and hardships to a varying extent, and the people, the working classes particularly, are now generally more internationally minded than ever before.

These characteristics of the present war have created a profound impression on the masses and the problems of post-war reconstruction are now attracting more attention than they did during any other war. The slogans of the last war were essentially political, e.g., 'the war to end war', 'the war to make democracy safe', and the thinkers of that period thought more of the political aspects of international co-operation than of the moral and social aspects. The deliberations at the Versailles Conference hardly ever emphasised social or economic problems in any specific manner, except in so far as they concerned the immediate post-war period. Similarly, the bigger problems of post-war reconstruction did not find a place in the 'Fourteen Points' put forward by President Wilson and the social and economic activities of the League of Nations were largely a side-line of the main political activity.*

During this war, on the other hand, the emphasis has shifted from the purely political to the social and economic aspects of post-war reconstruction and the programme of reconstruction is far wider both in scope and in origin. Moreover, it has its origin not in the demand of any one section of the community for the satisfaction of a series of claims by concessions to be made by another section, but in a widespread desire to improve the living conditions of the world as a whole. This is clearly noticeable in the various statements of policy adopted and declared by the heads of States and responsible ministers. President Roosevelt's "freedom from want" defined as "a constantly increasing and widening standard of living" takes equal place with the other three fundamental freedoms, namely, freedom of speech, freedom of worship and freedom from fear. British ~~statements~~ have on several occasions ~~stated~~ that the war is being fought to obtain economic security for all classes ~~and for all nations~~.

The Atlantic Charter. At a conference in an Atlantic port in August, 1941, Mr. Churchill and President Roosevelt drew up a joint declaration laying down "certain common principles in the national policies of their respective countries

*Towards our True Inheritance: the Reconstruction work of the I. L. O. (Montreal 1942), page 2.

on which they base their hopes for a better future for the world". These principles are embodied in the Eight Points which are:

THE EIGHT POINTS

The President of the United States and the Prime Minister, Mr. Churchill, representing His Majesty's Government in the United Kingdom, being met together, deem it right to make known certain common principles in the national policies of their respective countries on which they base their hopes for a better future of the world.

FIRST, their countries seek no aggrandisement, territorial or other.

SECOND, they desire to see no territorial changes that do not accord with the freely expressed wishes of the peoples concerned.

THIRD, they respect the right of all peoples to choose the form of Government under which they will live; and they wish to see sovereign rights and self-government restored to those who have been forcibly deprived of them.

FOURTH, they will endeavour, with due respect for their existing obligations to further enjoyment by all States, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity.

FIFTH, they desire to bring about the fullest collaboration between all nations in the economic field, with the object of securing for all improved labour standards, economic advancement and social security.

SIXTH, after the final destruction of Nazi tyranny, they hope to see established a peace which will afford to all nations the means of dwelling in safety within the boundaries, and which will afford assurance that all the men in all the lands may live out their lives in freedom from fear and want.

SEVENTH, such a peace should enable all men to traverse the high seas and oceans without hindrance.

EIGHTH, they believe all of the nations of the world, for realistic as well as spiritual reasons, must come to the abandonment of the use of force. Since no future peace can be maintained if land, sea, or air armaments continue to be employed by nations which threaten, or may threaten, aggression outside of their frontiers, they believe, pending the establishment of a wider and permanent system of general security, that the disarmament of such nations is essential. They will likewise aid and encourage all other practicable measures which will lighten for peace-loving peoples the crushing burden of armament.

The Atlantic Charter is now the accepted statement of policy adopted by practically all the Allied and Friendly Nations in the world. The details of the principles embodied in the Charter have yet to be worked out. It will however be noted that the preamble as well as the three Points of the eight specifically mention the international aspects of economic and social collaboration after the war. The preamble declares the belief of all the Nations who are a party to the Charter that the observance of the Eight Points constitutes the keystone on which "hopes for a better future for the world" can be based. The fourth Point states that *all* countries of the world should have free access to the raw materials of the world. The fifth Point aims at securing for *all* improved labour standards, economic advancement and social security. The sixth Point again emphasises the need of creating conditions which would enable "*all* the men in *all* the lands" to live out their lives "in freedom from fear and want".

It is also significant that the Charter is not meant to apply to any particular country or group of countries, but to every state of the world whether it be "great or small, victor, or vanquished."

Anglo-American Agreement. The principles of the Atlantic Charter have been reiterated in the Mutual Aid Agreement of February, 1942. It has been signed by a majority of the Allied Nations, although India is not a party to it. The Agreement is bilateral between the U.S.A. Government on the one hand

and each of the signatory Allied Governments on the other. Article 7 of the Agreement reads as follows:—

“In the final determination of the benefits to be provided to the United States of America by the Government of the United Kingdom in return for aid furnished under the Act of Congress of March 11, 1941, the terms and conditions thereof shall be such as not to burden commerce between the two countries, but to promote mutually advantageous economic relations between them and the betterment of world-wide economic relations. To that end they shall include provision for agreed action by the United States of America and the United Kingdom, open to participation, by all other countries of like mind, directed to the expansion, by appropriate international and domestic measures, of production, employment, and the exchange and consumption of goods, which are the material foundations of the liberty and welfare of all peoples; to the elimination of all forms of discriminatory treatment in international commerce, and to the reduction of tariffs and other trade barriers; and, in general, to the attainment of all the economic objectives set forth in the Joint Declaration (Cmd. 6321) made on August, 12, 1941, by the President of the United States of America and the Prime Minister of the United Kingdom. At an early convenient date conversations shall be begun between the two Governments with a view to determining, in the light of governing economic conditions, the best means of attaining the above-stated objectives by their own agreed action and of seeking the agreed action of other like-minded Governments.”

The United Nations Conference on Food and Agriculture. These statements of policy are now being examined in detail and international discussions on the various aspects of social, economic and financial reconstruction are in progress.

The first important conference held in this connection was the Hot Springs Conference on Food and Agriculture which was attended by the technical experts and the official representatives of fortyfour Allied and Friendly Nations covering in all more than 80 per cent, of the world's population. Being the first of a series of conferences which would be necessary at a later stage, this Conference was essentially exploratory in nature and the purpose was to facilitate an exchange of views and information on the technical and the general aspects of Agricultural and Nutritional Policies to be pursued after the war.

One of the findings of the Conference was that “there has never been enough food for the health of all people. This is justified neither by ignorance nor by the harshness of nature. Production of food must be expanded and we have now knowledge of the means by which this can be done.” The Conference therefore declared its “belief that the goal of freedom from want of food, suitable and adequate for the health and strength of all people, can be achieved”.

But, it was quite evident that “freedom from hunger” could be achieved only by urgent and concerted efforts to increase production and to distribute it to the best advantage of the world as a whole. The Conference found that the first cause of hunger and malnutrition was poverty and recommended that “there must be an expansion of the whole world economy to provide the purchasing power sufficient to maintain an adequate diet for all. With full employment in all countries, enlarged industrial production, the absence of exploitation, an increasing flow of trade within and between countries, an orderly management of domestic and international investment and currencies, and sustained internal and international economic equilibrium, the food which is produced can be made available to all people.”

The first immediate result of the work of the Conference is the establishment of an Interim Commission whose primary function is to prepare “a specific plan for a permanent organisation in the field of food and agriculture”. The Conference has thus set up a world machinery to deal with the fundamental problem of food. The work of the Conference also constitutes the first united attempt towards making effective the pledge of the Atlantic Charter for peace “that will afford an assurance that all men in all lands may live out their lives in freedom from fear and want”. The Conference recommended

that the member governments should issue a formal declaration recognising their obligation to their respective peoples and to one another, henceforth to collaborate in raising levels of nutrition and standards of living of their peoples, and to report to one another on the progress achieved. One of the functions assigned to the Interim Commission is to formulate this declaration for the consideration of member governments.

The Conference also realised that "the primary responsibility lies with each nation for seeing that its own people have the food needed for life and health; steps to this end are for national determination". It is however clear that under modern conditions, no country of the world can achieve this end merely by pursuing policies of national self-sufficiency or exclusiveness. The Conference therefore emphasised that the goal of freedom from hunger for the world as a whole can be achieved only if all the countries work together. This principle of international collaboration was accepted by the Governments represented at the Conference and a joint declaration was drawn up recognising and embodying the obligation of each government to its own people and to one another.

The significance of this declaration for India cannot be exaggerated. India is primarily an agricultural country and it is all to her advantage to pursue her agricultural and nutritional policies on the lines accepted at Hot Springs. Since agricultural production and prices are extremely sensitive to world influences, it follows that the policies which are likely to be evolved later will exert far-reaching influence on Indian economy. It is therefore to India's interests to co-operate whole-heartedly in the work of the Conference and simultaneously to pursue policies aimed at increasing the nutritional standards of her own people.

United Nations Relief and Rehabilitation Administration. An Agreement for United Nations Relief and Rehabilitation Administration was signed at Washington on the 9th November 1943, on behalf of forty-four Governments or Authorities representing the United Nations or Nations associated with the United Nations in the war. The Agreement establishes a world machinery for affording relief to liberated countries immediately after the termination of hostilities in such countries. The Preamble of the Agreement expresses the determination of the United and Associated Nations that "immediately upon the liberation of any area by the armed forces of the United Nations or as a consequence of retreat of the enemy the population thereof shall receive aid and relief from their sufferings, food, clothing and shelter, aid in the prevention of pestilence and in the recovery of the health of the people, and that preparation and arrangements shall be made for the return of prisoners and exiles to their homes and for assistance in the resumption of urgently needed agricultural and industrial production and the restoration of essential services".

India has signed the Agreement subject to the reservation that it shall not come into force until it has been approved by the Indian Legislature. Thirteen other Governments have signed the Agreement with a similar reservation.

The Council of UNRRA which is the policy-making body of the Administration and on which all the member governments are represented held its first session at the Atlantic City from the 10th November, to the 1st December 1943. Important decisions were reached on the policies to be followed by the Administration in regard to the organization of measures for the relief and rehabilitation of liberated areas, including the financing and procurement of supplies.

In addition to the Council, four main Committees have been set up, namely the Central Committee, the Committee on Supplies and the Regional Committees of the Council for Europe and the Far East. The Central Committee consists of the representatives of China, U.S.S.R., U.K. and U.S.A.; while the Committee on Supplies is composed of the representatives of those member governments likely to be principal suppliers of materials for relief and

rehabilitation. The two Regional Committees consist of the representatives of the member governments in the region and of certain other member governments directly concerned with the problems of relief and rehabilitation in the region. It has also been decided to set up standing technical committees to deal with agriculture, displaced persons, health, industrial rehabilitation and welfare. The standing technical committees will be authorised to appoint expert sub-committees to assist them in their work.

Other measures of International Co-operation. The interwar period between 1918, and 1939, was characterised in the earlier stages by violent fluctuations in exchange rates and a virtual collapse of the international monetary system, and, in the later stages by the economic depression which inflicted great hardship on almost every section of the community in all the parts of the world. It is now generally realised that the unstable conditions which prevailed during that period arose largely out of lack of international co-operation in the economic field.

The remedial measures based on international co-operation in the field of economic activity have been grouped under the following main heads in the preface to *Proposals for an International Clearing Union* put forward by the British Treasury:—

- (1) The mechanism of currency and exchange,
- (2) The framework of commercial policy regulating the conditions for exchange of goods, tariffs, preferences, subsidies, import regulations and the like.
- (3) The orderly conduct of production, distribution and price of primary products so as to protect both producers and consumers from the loss and risk for which the extravagant fluctuations of market conditions have been responsible in recent times.
- (4) Investment aid, both medium and long term, for the countries whose economic development needs assistance from outside.

Various international monetary proposals have already been put forward regarding the control of the mechanism of currency and exchange, i.e., (1) above, and are being discussed by the Treasury experts of the U.K., the U.S.A., and other countries. The main object of those proposals is to establish a multilateral system of clearing which would provide for an orderly and agreed method of determining the values of national currency units and which would aid in the restoration and development of healthy international trade after the war. The proposals of the U.K. and the U.S.A. experts have already been reprinted by the Government of India Press and are for sale to the public. The experience of the past is so disastrous and the lack of international control in the sphere of currency and exchange has been felt for such a long time that there is no doubt in the minds of currency experts about the desirability of establishing some system which would minimise the possibility of violent fluctuations in economic activity in the post-war period. The proposals now under discussion have a fair chance of being accepted in some form or the other by an overwhelming majority of the countries of the world. It is also for India to consider them in the light of her own conditions and to be prepared to take part in any international conferences which may take place.

The other proposals envisage a system of foreign trade which would not be hampered unduly by the pursuit of selfish or ignorant policies on the part of a few countries. "The orderly conduct of production and distribution of primary products" will obviously raise questions of commodity controls, buffer stocks, bulk imports and exports, etc., and these are subjects which concern India no less than any other country of the world. "Investment aid" and the policies underlying the Atlantic Charter and the Mutual Aid Agreement are closely connected with each other and the proper management of an internationally regulated investment policy might well result in the industrial and economic development of the backward countries in Asia, Africa and other continents which, it is now recognised, would be an advantage to the world as a whole.

SECTION II—Need for Planning now.

It is true that it is still too early to estimate the precise form and magnitude of India's post-war problems and the task becomes all the more difficult because of the fact that Indian conditions must to a large extent depend on factors governing not India alone but the world as a whole. This is however no reason why preliminary planning should not take place now. The cessation of hostilities will create problems no less serious than those brought about by the war, and, it is the duty of everyone to visualise them and to be prepared by forethought for the kind of situations which are likely to arise.

As a result of war conditions economic and social development have been suspended over almost the whole field. It is essential, therefore, to take stock of the situation and decide which are the most urgent matters to proceed with once the war is over. Whether it is called Post-war Reconstruction or not, such an examination of development policy will in any case have to take place over the whole field in respect both of Central and Provincial subjects. The arguments for doing this before the war is over, and in a co-ordinated manner, are of course overwhelming.

Apart from the administrative aspect there is no doubt of the political demand from all classes of society that such an examination should take place. The Government of India would be failing in its duty if it ignored this demand and did not make every possible preparation for an enlightened post-war development policy based on the clearly expressed demand of the people of India.

Some problems emerging directly from the war. The economic system of the whole world is now working at top speed and various factors which are generally non-existent in peacetime are in operation. The end of the war must therefore mean considerable dislocation. In the first instance, there will be a check to recruiting and some demobilisation. Secondly, there will be a check to the flow of war orders and probably the cancellation of contracts with consequential decline in the volume of production in war industries which now cover an extremely wide range and involve large sections of the population. Thirdly, there will be considerable changes in the industrial structure which will affect the civil market as a whole, e.g., changes in capacity now used for specialised war goods, changes in technique and specifications, disposal of stocks held by the market and the Government. Fourthly, in so far as production is reduced, some measure of unemployment and reduction of earnings will manifest itself in industries now engaged on war production. Similarly, the changes in the shipping position, the opening up of markets now closed, the effects of international relief measures and the changes in international currency and price structures cannot but affect India as a whole.

Problems arising out of the present war conditions. Apart from the problems arising directly out of the impact of the war, there will be others which would be a legacy of the conditions prevailing during the war itself. They will be discussed at length in the following sections, but the most important of them may be mentioned here as illustrations. Prices in India are now abnormally high and it is clear that they should come down as soon as possible. But, these high prices have already created a series of new economic relationships, e.g., a peasant bringing land under cultivation which, in normal conditions, would not have been cultivated at all; new contractual obligations formed on the basis of present prices, etc. Any sharp and sudden decline in them must inevitably create a new set of problems which might prove to be extremely difficult of adjustment. One of the immediate post-war problems, would therefore be to consider how best to safeguard the interests of the cultivator against a possible inrush of cereals into India without at the same time unnecessarily subjecting the consumer to the present level of abnormal prices.

What applies to primary commodities, applies in a different form to industrial products also. The war has stimulated many industries and has been responsible for the creation of a large number of new ones. It is a matter of the

utmost importance to safeguard some of these industries; but the manner in which this should be done requires a great deal of forethought and planning. Any protection, whether in the form of tariffs or otherwise, which may be afforded to such industries raises questions of national and perhaps international importance and must involve a careful examination of the wide range of alternatives suitable for adoption.

Similarly, the wear and tear of the war has been enormous; roads have not been properly repaired; locomotives and rolling stock have not been fully overhauled; industrial machinery has not been replaced and public works and repairs have either been suspended or delayed. This applies not only to India but to the whole world. The reparation of the damage done to the physical apparatus of production in India would therefore be another important task to be performed during the early post-war period. For this India will require enormous quantities of materials, heavy plant and machinery as soon as the war is over. Its procurement, on the other hand, will present some difficulty. All the countries of the world will be competing for the limited quantities of capital goods which can be produced, and it cannot be assumed too easily that there will be available all the machinery India would require for her replacement and development purposes. It is therefore essential to draw up an order of priorities according to the preference we would like to give to any specified project of replacement or development and this presupposes some kind of orderly planning during the war itself.

Long-term Problems of Post-war Reconstruction. By far the most important problems of post-war reconstruction will, however, be those which are only distantly or indirectly connected with the war. As has already been explained*, the war has given an impetus to a world movement directed towards the improvement of the conditions of living of all nations. It is the declared policy of the United Nations to strive for a world which "will afford assurance that all the men in all the lands may live out their lives in freedom from fear and want". The post-war period will, we may hope, be characterised by a desire on the part of all nations to help each other and by policies which would bring about the largest measure of international collaboration for the happiness and well-being of humanity as a whole.

It is against this background that India will have to review her pre-war policies, estimate the progress made during the last few decades and, in the light of such review, adopt broad lines of policy aimed at concerted development in all the spheres of economic and social activity. The war has created conditions peculiarly favourable for such development. In the first instance, the volume of economic activity and employment is probably greater today than it has ever been before. Secondly, in spite of the hardships caused by rising prices, India's financial position is in some respects stronger than ever before. Whereas the country has large quantities of foreign exchange in the form of sterling assets, it has within its own borders the rupee finance necessary for schemes of expansion and development. Thirdly, many big industries have expanded on a very large scale. It should be possible to consolidate the wartime expansion by the adoption of new techniques, so that it could form a healthy nucleus of the future economic growth of the country. Similarly, the high prices of agricultural products have greatly increased the money income of the cultivator. This may result in the reduction of the chronic indebtedness of the agriculturist. Fourthly, an effective machinery of governmental controls has been evolved during the last four years which is capable of being used for the permanent good of the country. It is recognised on all hands and in all countries that a large measure of governmental control in the economic sphere will be essential in the early post-war period if the dislocations and hardships caused by the last war are to be avoided. It is now for us to consider how these

controls could be modified to suit the changing conditions of the post-war period, how they could be utilised towards raising the general standard of living and how they could be converted into an effective instrument of state activity in the various spheres of life during the post-war period.

The Financial Aspects of Reconstruction. Reconstruction planning thus covers all problems which, so far as can be foreseen, will arise for solution at the end of the war. There is no apparent limit to the number of these problems and they will vary enormously *inter se* as regards their urgency and importance, their intrinsic value to the community and their financial significance. Some will arise as the immediate and inevitable consequence of the termination of hostilities and others mainly as schemes of post-war development designed to improve the conditions of living and to raise the standard of life. There will be others of an intermediate character like the reconditioning and expansion of industries inclusive of public utilities. Again, some will be mainly of central interest and responsibility, others will fall within the purview of Provincial and Local Governments, while yet others will primarily be a matter for private enterprise. Certain types of schemes will involve heavy expenditure, either non-recurring or recurring or both, while others will require very much less. Specific funds are already in existence from which the costs of certain schemes can be met, in whole or in part, while others must from their nature be a charge in full on public revenues or loans either Provincial, Central or both. Then again some schemes will be either fully or partially remunerative within a limited period, while others will produce no direct return, although from a long range point of view they may ultimately increase the general economic strength of the country by (for example) securing an improvement in the general level of education, or of public health, or of agricultural practice.

With so great a diversity in the character, scope and financial features of the problems of reconstruction it is scarcely feasible to formulate general principles of reconstruction finance of anything like universal applicability. Moreover, the post-war financial and borrowing capacity of the Centre as of the Provinces will depend on a number of factors which are at present entirely unpredictable and, if only for that reason, no Government can at this stage undertake in advance heavy and indefinite financial commitments for the future.

But the fact that the financial position of all Governments must remain indeterminate for some time after the war is in itself an important reason why the financial and other implications of every scheme should be assessed as carefully as possible. It would be beyond the capacity of the wealthiest Government to undertake simultaneously all the schemes proposed and reconstruction planning must therefore largely be a matter of choice between "unlimited wants and limited resources".

What applies to social services applies with equal force to the choice between the extent of development to be aimed at as between the different subjects involved in post-war development. An all-India plan can only be based on a careful selection of certain approved schemes of a practical nature which have been the subject of ~~planned~~ and energetic preparation beforehand and which fit together into a general scheme of all-round development.

It is essential that such schemes should be prepared now and their financial and other implications scrutinised as carefully as possible. This would enable the country to prepare well-planned and well-thought out schemes of development, the more urgent of which could be put into operation with the least possible delay as soon as financial and other opportunities offer themselves after the termination of hostilities. It is certain that in the absence of such schemes, the dislocations caused in the early post-war period will prove to be too powerful to be remedied soon and would damage the prospects of a co-ordinated development of the country.

The Departments of the Government of India have therefore been asked to address, where this has not been done already, Provincial and States Governments and obtain as soon as possible information regarding the larger reconstruction schemes contemplated by these administrations in as full detail as possible, including estimated costs and receipts and proposed financing arrangements.

It should however be realised that a considerable proportion of the finance required for reconstruction purposes will come from private sources. India now possesses a large amount of sterling balances which will furnish the foreign exchange required for the import of capital goods and machinery after the war. But, the utilisation of these balances is largely an internal problem, in view of the fact that India would have to find internally the means to buy from the Reserve Bank the foreign exchange required. Industrialists will therefore have to find the rupee credits to enable them to avail themselves of the foreign exchange in the form of sterling assets. The same applies to Provincial and State Governments. It is the duty of the commercial and industrial classes to consider now the methods by which industry in future should be financed. The only way by which this could be done is to build up reconstruction reserves during the war, so that they could be utilised for industrial expansion as soon as the war is over. This would have the additional advantage of checking the present inflationary trends and preventing a sudden contraction of currency after the war. Many of the Provinces have already been earmarking some of their current budget surpluses for post-war development.

Machinery set up at the Centre to deal with the Problems of Reconstruction. The Government of India are fully alive to the problems which are likely to arise during the transitional period from war to peace and the possibilities of general development during the post-war period. As early as June 1941, Reconstruction Committees were formed at the Centre to deal with the various aspects of Post-war Reconstruction and in March 1943 this machinery was overhauled and a Reconstruction Committee of the Executive Council with H. E. the Viceroy as President and the Hon'ble Sir J. P. Srivastava as Deputy President was set up together with a number of Official and Policy Committees corresponding to the previous ones. The establishment of the Committee of Council and the inter-departmental co-ordination effected under its auspices have resulted in the various Departments of the Government of India undertaking a large amount of preparatory work, including especially the collection of data so essential for any co-ordinated planning. Most of the Provincial and State Governments have also constituted Reconstruction Committees and are engaged on a preliminary examination of the problems concerning their respective spheres of activity. The Central Government is in close touch with reconstruction planning in the Provinces and States, particularly in respect of schemes which are applicable to the country as a whole or which affect more than one administrative unit.

The problems of reconstruction naturally divide up under the following main heads:—

- (i) Re-settlement and Re-employment.
- (ii) Disposals, Contracts and Government Purchases.
- (iii) Public Works and Communications.
- (iv) Trade and Industry.
- (v) Agriculture, Forestry and Fisheries.
- (vi) Social Services including Education, Public Health, Labour Welfare, etc.

A Policy Committee on each of the subjects (i), (ii), (iv) and (v) above has been formed. It is considered that the problems relating to Public Works and Communications are so wide that they can only be adequately dealt with by three separate Policy Committees which have also been formed. One of them will deal with Transport including Railways, Ports, Inland Water Transport, Roads and Road Transport. The second will deal with Posts, Telegraphs, Telephones and Air Communications including Metereology, while the third will concern itself with Electric Power, Water Supply, Irrigation, Mining and Miscellaneous Public Works. It will be the duty of these Committees to advise the Government on any schemes which may be placed before them and to suggest ways and means of giving effect to them.

The Policy Committees will be presided over by the Hon'ble Members concerned with the subject in question and are composed of official representatives of the Central, Provincial and State Governments and non-official representatives of trade, industry, labour and other organisations, as well as members of the general public with expert knowledge or experience. Corresponding to each of these Policy Committees, there is an Official Committee on Secretary level presided over by the Secretaries of the Departments of the Government of India who are primarily concerned with the subject in question. The function of these committees is to prepare data, to co-ordinate the work and to carry out a preliminary examination of proposals. They will also prepare detailed schemes for approval by the Reconstruction Committee of Council, and, translate into executive action the decisions of the latter.

The Government of India realise that factors which increase national welfare and improve the standard of living must take a prominent place in any constructive planning of the post-war future. An Official Committee has been constituted to co-ordinate the activities of the various Departments in respect of Social Services and to ensure that the whole field is adequately covered. The importance of associating women's representatives with the planning for better Social Services is fully appreciated and it has been decided to constitute a Women's Committee on Social Services.*

In addition to the above Committees, there is a Consultative Committee of Economists presided over by the Hon'ble the Commerce Member and, in his absence, by the Economic Adviser, to deal with the economic aspects of Reconstruction.

There is also a General Policy Committee to advise Government on major matters of policy and also on matters which do not fall within the purview of one or other of the various Policy Committees. The major questions of policy are now being sorted out for orderly discussion and the General Policy Committee will have in due course an opportunity of expressing an opinion on reconstruction policy as a whole. The General Policy Committee may also

*See Section IX which deals with the various Committees consisting both of officials and non-officials to examine the problems of public health, education, labour welfare, etc.

advise Government as to the relative importance of the recommendations of the various Policy Committees. Each Policy Committee will naturally rate its recommendations as of the highest importance and will claim for them the highest priority. Neither the finance nor the administration necessary for all such recommendations can possibly be available for a simultaneous advance on the scale recommended by each of these Committees. The pace will have to be regulated and the General Policy Committee may advise Government on questions of priority.

There is strictly speaking no rigid distinction between the short-term and the long-term problems of reconstruction, since the former are closely related to the latter. The idea of reconstruction planning is that it should not be piecemeal and that every scheme adopted should offer the best solution possible both to the short-term and the long-term problems and should fit in with the general scheme of all-round development. The various Official and Policy Committees are therefore intended to deal with one main group of allied subjects and it is for these Committees to decide which problems relating to their own subjects are more urgent and pressing and to make recommendations accordingly. The general order of priority in which the various schemes should be undertaken will be a matter for the Reconstruction Committee of Council to decide; and it will be for this Committee to co-ordinate the activities of the Official and Policy Committees and to lay down general policies in respect of all the problems relating to reconstruction.

Development Officers. The Central Government have also considered the appointment of an Industrial Commission, which could in theory prepare complete plans for industry, but feel that, in present conditions, it would be very difficult to appoint a Commission of the required authority and to find the staff for it, and that even if these difficulties could be overcome, the final report could not be expected for a period of eighteen months or two years. This question will be further considered but for the moment some simpler method must be found. They have accordingly decided to appoint Development Officers responsible to the appropriate Department of the Central Government for the preparation of an all-India plan as a basis for discussion by the appropriate Committee concerned. Each Development Officer will be given formal terms of reference telling him what he is expected to do, and will be required to work with

- (a) a panel of experts nominated by the Central Government; and
- (b) Provincial representatives competent to advise him of the wishes and intentions of the Provinces, and to inform him of the nature and approximate cost of the various Provincial projects.

He will be required to tour freely and to spend some time in each Province. The all-India plan under any one head would consist of tables exhibiting the projects proposed, distinguishing where necessary between Central and Provincial Projects, with a brief description of each project, an approximate estimate of its cost, a statement of the manner in which it is proposed to finance it, and a brief covering report. Each Development Officer would be personally responsible to his Department for his own work, but his report would state clearly what assistance he has received and from whom. The plan will be submitted through the Department concerned to the appropriate Policy Committee at the Centre on which Provincial Governments are represented. Provincial Governments will understand that the object in view is to produce quickly material suitable for consideration by the Policy Committees and by the Central Government, and that in so far as Provinces do not want Central assistance in any form for matters entirely within their own jurisdiction, the inclusion of their projects in the all-India plans will not imply interference by the Central Government except to the extent to which the use of scarce resources requires priority to be allotted.

The arrangements proposed are summarised in the following statement:—

Subject.	Policy Committee responsible.	Central Dept. responsible for appointment and work of Development Officer.	Remarks.
Electrical development.	3 (C) Public Works & Electric Power.	Labour Dept.	
Industries	4—Trade and Industry.	Industries & C.S. Dept.	
Irrigation	3 (C) Public Works & Electric Power.	Labour Dept.	
Roads & Road Transport	3 (A) Transport	War Tpt. and Posts and Air Depts.	
Agriculture	5—Agriculture	E., H. & L. Dept. To include:— (i) Agriculture. (ii) Animal husbandry. (iii) Co-operation.	

It is appreciated that the Development Officers cannot make much progress without some indication as to the general policy of the Government of India. On the basis of all the preparatory work which has now been done, it is intended that a policy directive should be drawn up stating the major points on which the Government of India thinks that detailed planning should proceed. Such directive will naturally be the subject of discussion in the appropriate Policy Committees and would be given to the Development Officers as a basis for further discussion with the Provincial and State Governments. In order to bring all these different directives into a co-ordinated whole, it will be necessary to produce at any rate a preliminary directive covering the whole field and indicating the emphasis which should be placed on the different items of development. Such a draft is under preparation and will be placed before the General Policy Committee in due course.

SECTION III—Re-Settlement and Re-Employment of Ex-Service and other Personnel.

Industrial Labour and Technical Personnel. The War has created employment in all directions and apart from the large number of enlisted men, there are many others employed in Ordnance factories and factories engaged on the production of war materials and also on military works. The present volume of employment is probably the highest ever attained in India and it is obvious that the cessation of hostilities, if it does not reduce the present volume of employment, will, at any rate, necessitate a shift of personnel from one group of occupations to another. The main object of the demobilisation policy should be to avoid any unnecessary dislocation in labour conditions and this cannot be achieved unless:

(i) we have a proper statistical service relating to the increase in the volume of employment in industries primarily affected by war demands, *e.g.*, Ordnance and Clothing factories, Engineering, Textile and other industries;

(ii) on the basis of the approximate numbers available, plans are made for technical ex-service personnel and industrial labour which (a) can be absorbed easily in peacetime occupations without extensive retraining and (b) would require a new kind of training for civil occupations; and

(iii) the existing facilities for training and recruitment of labour are utilised for their re-direction from wartime to peacetime occupations.

The Directorate of Welfare and Amenities have a card index system for each soldier which gives information likely to be required for the purpose of finding him suitable employment after the war. The card index shows, among other things, the soldier's Army trade and the class and district to which he belongs. The Labour Department have similarly introduced various statistical services which would enable them to estimate the magnitude of the problem and to prepare plans for finding alternative employment for industrial personnel now engaged in war production. It will be possible with the help of the figures now collected (and which will be maintained up-to-date) to estimate:

(i) the number of persons employed in factories under two broad categories (a) Government and local Fund factories and (b) all other factories. These figures would also show significant increases in respect of each category by Provinces;

(ii) the number of persons employed in the various sub-classes of the factories in (i) above;

(iii) the number of workmen employed in factories, railways, mines and tea plantations; and

(iv) the number of war technicians trained under the Technical Training Scheme and supplied to the Army, and civil industry.

The Industrial Questionnaire* which has already been issued to all industries asks specifically for information which would enable the Government to estimate the number of skilled, semi-skilled and unskilled workers likely to be rendered 'surplus' to the present production requirements as a result of the cessation of war orders. The information to be obtained from the Questionnaire, the statistical services of the Labour Department and the card index for enlisted personnel will give in due course an accurate picture of the problem of shifting labour now engaged in war production to peacetime occupations.

On the basis of this information and also on the basis of suitable assumptions regarding the pace and the period of demobilisation, it is expected that the Government of India would be able to prepare plans which would aim at providing suitable employment for as many of the 'surplus' industrial and technical personnel in India as possible. It is however appreciated that the level of post-war employment will depend on the capacity of the economic system to absorb all kinds of labour.

The Army authorities have made considerable progress in evolving a scheme of Vocational Training of Indian troops in respect of industrial as well as agricultural occupations during the post-war period. There are some 300 trades in the Army in many of which vocational training can be provided and it is expected that during the period intervening between the cessation of hostilities and actual demobilisation each soldier will have the opportunity of learning a new craft which would make him a better worker in civil occupation or of improving his knowledge of the vocation he followed during or before the war. It has also been decided to continue the Technical Training Scheme (under which nearly 50,000 workers were trained up to 31st July 1943) for 18 months after the war with a view to enabling demobilised personnel to receive such further training as would fit them for civil industry. The kind of training to be given will obviously be based on the probable requirements of industries after the war.

Technical and Urban Re-employment. Many men from rural areas have been trained as Army technicians and it is to be expected that a considerable percentage of them will seek post-war employment in the towns. Employment for these men and for Army personnel recruited from urban areas—probably 30 per cent. of the Army—must be sought in the towns, or in technical occupations in rural areas. Large scale development of post-war road transport should absorb many of these men. Schemes for Co-operative workshops developed on a large-scale, Labour or Development Corps, a Corps of Commissionaires on the lines of that so successfully organised in Britain and a Public Health Corps are being worked out by the Army authorities and should provide much employment for technicians and non-technicians in town and country.

The Labour Department have also prepared an Employment Exchange Scheme under which a number of Exchanges will be established in the larger towns and some of them have begun to function already. Each Exchange will provide a place where information is collected and furnished to the public respecting employers who desire to engage technical personnel and such personnel who seek engagement or employment. Information obtained from persons seeking employment will be recorded and employers will be encouraged to apply to the Exchanges for any personnel they may need. Provincial Governments will be initially given some latitude in the organisation of Exchanges subject to the outlines of the general scheme. Experts would visit the Exchanges from time to time and watch the operation of the scheme for a period of one year after which the question of co-ordination and the best form of organisation would be taken up in the light of the experience gained.

Re-employment of ex-personnel in Government Services. The Government of India are also examining the problems involved in regard to the re-employment of ex-service personnel in Government services with reference to the various undertakings given from time to time by the Centre and the Provinces. In particular, the procedure to be adopted in selecting candidates so as to ensure a fair chance to those serving overseas as well as in India is receiving attention.

Re-settlement on land. An accurate estimate of the proportion of service personnel belonging to rural areas is being obtained from the Adjutant-General's Branch. It is however already known that the great majority of demobilised personnel will consist of people with an agricultural background—i.e. villagers rather than townsmen. A certain proportion of them actually own land and a much larger number are tenants, agricultural labourers or are occupied as village artisans.

The area of land which is cultivable or which could be made cultivable without heavy expenditure and which is available for allotment to ex-service men is small. There are of course large tracts in certain Provinces which might be brought under the plough by extensive schemes of forest clearance, anti-malarial operations and irrigation and drainage. In some of these the difficulties, and consequently the cost, are likely to be prohibitive; but in other cases, notably in South India, and possibly in Central India also, it might be possible

to reclaim fairly extensive areas. The Provincial Governments are making every effort to ascertain accurately their potential land resources and where they exist to prepare definite schemes for colonisation. The Governments of States where possibilities exist are also co-operating. It is not however expected that it will be found possible to find land for any considerable proportion of demobilised service men.

Utilisation of the Military Reconstruction Fund for the permanent benefit of the enlisted classes. The Military Reconstruction Fund which is financed by *per capita* contributions by Government is intended to be used for the permanent benefit of enlisted classes. It now amounts to about Rs. 5 crores and may exceed twice this amount if demobilisation does not actually begin for another two years. All Provinces have been addressed explaining the existence and object of the Fund and have been asked to submit schemes for approval. The primary condition attached to the use of the Fund is that the money must be spent for the permanent benefit of the enlisted classes. Moreover, it is essential that large sums of money should not be frittered away in a multiplicity of small schemes which would have no inherent element of permanency and which might leave little or no mark behind them.

It appears from the investigations already carried out that there are two subjects upon which it should be possible to spend this money with advantage and which would meet the conditions attached to the use of the Fund, namely, education in various forms including technical and female education, and the improvement of agriculture. All Provincial Governments are actively considering the best method of utilising their share of the Fund having regard to the conditions of their Province.

SECTION IV—Disposals, Contracts and Government Purchases.

The nature of the Problem. The ultimate object of war economy is to direct the available resources of the country to the production of such goods and services as are essential to the successful prosecution of the war. The whole economy of a country endeavouring to achieve this result is of necessity more or less fundamentally changed. A peace economy is based on the successful anticipation of the future wants of the population and the criterion of success is the gain by the producers of such returns (profits) as would enable them to repeat the process on a gradually expanding scale. Under normal peacetime conditions this result is achieved by the producers with the minimum of interference from the State, and, economic activity is mainly determined by the forces of unchecked demand and supply. During the war, on the other hand, such foresight regarding future wants by the producers ceases to be the major instrument of success; and demand is determined very largely by the Government and made known through its various Purchasing and Contracting Departments before the productive process begins. The Government thus becomes by far the largest single purchaser and stockholder of many of the raw materials and finished products required not only for the direct purpose of waging the war but also for distribution to the population. The controlled exigencies of war and reasons of safety further necessitate the piling up of large stocks which in some cases may exceed the normal national consumption over a number of years.

This applies to all the belligerent countries of the world and the existence of exchange and other controls and the difficulties of transportation also result in the accumulation of certain surpluses in non-belligerent countries.*

The world economy after war will therefore be faced by two opposite forces, namely, the accumulation of large government-owned stocks of certain commodities essential for the conduct of the war and an acute shortage of certain essential plant and machinery and articles of common need.

The main object of the Disposals Policy will be to promote the utilisation of the surplus commodities in a manner which would make up as far as possible for the more serious shortages in the civil market. The problem will undoubtedly be partly national, but it will also be an international problem which can be solved only through the closest of international co-operation during the early post-war period. The fundamental principle of the Disposals Policy in the U. K. was announced by the President of the Board of Trade in the House of Commons in February 1943 in the following terms:—

"I suggest that this time we must neither drive nor be driven by shortsighted interests into getting rid as quickly as possible by sales at any price to whoever will come forward to bid for these large stocks, which will be greater than last time, which will have been accumulated of goods desirable and necessary for post-war purposes. We must, on this occasion, have an orderly disposal which will have regard on the one hand to the interests of consumers. We must not allow profiteering at the expense of consumers, particularly in consumers' goods. On the other hand, regard must be had to the interests of producers in the proper time of these disposals in regard to stocks and current production."

This policy will also be generally followed in India and implies a continuance of control of imports having regard to current production, stocks and surpluses for disposal.

Machinery to deal with Disposals. Surpluses for disposal, other than actual armaments which for obvious reasons will require special treatment, will fall broadly into the following classes—land and buildings, plant and machinery, motor transport, innumerable items of general stores, and the produce of reclaimed salvage. There are obvious difficulties in making even the roughest estimate of the extent of the problem at this stage in terms of either types

*For example, large stocks of wheat reported to have accumulated in the major exporting countries.

or quantities likely to be thrown up, or of the stages at which they can be released by the Departments concerned. Such an estimate will be possible only in the light of the nature and extent of the post-war organisation for defence on the one hand, and on the other of the plan approved for post-war development in all its aspects. None the less it is evident that a vast problem will exist and a broad appreciation of the issues involved and of the organisation, which will ultimately be necessary for dealing with them, must be made now.

In peace time "disposals" is confined almost entirely to the disposal of military salvage for which purpose a cell is attached to the normal military purchasing organisation (the Contracts Directorate) which for the duration of the War has been amalgamated with the civil purchasing organisation (the Indian Stores Department) and placed under the control of the Supply Department. During the first years of War such disposals cells continued to be attached to each of the Chief Controllers of Purchase under the Supply Department. The first "disposals" problem which arose during war-time was that of the handling the greatly increased volume of military salvage which has been thrown up as a result of active operations in the eastern theatres of war. This combined with the necessity for examining the problems which will arise in connection with the disposal of surpluses, the organisation necessary and the methods of such disposal, has necessitated the formation of a separate Directorate General under the Supply Department. It is contemplated that the machinery for disposals will be basically the Supply Department organization operating in reverse. The experience gained by the officers of the Department in dealing with supply problems will be of great value in the approach to the corresponding problems of disposal, and as the general load gradually changes from supply to disposal, a corresponding switch of functions within that Department is considered the best method of tackling the question initially. Whatever therefore be the ultimate fate of the organization for supply and whether or not a separate Disposals Department is later found necessary, the nucleus of the future organisation must at present be set up within the Supply Department.

For the present the functions of the Director General (Disposals) are carried out by the Director General (Supply) in addition to his own duties. A Deputy Director General (Disposals) has been appointed to co-ordinate and examine the problems which will arise and the detailed organisation necessary for dealing with them and for controlling generally the existing work of the Disposals Directorate. The latter is at present primarily concerned with the disposal of increasing quantities of salvage and in addition some items of surplus stores are already being reported. Regional organisations in charge of Deputy Directors have been set up in Calcutta and Bombay while in other areas the Directorate operates at present through the Controllers of Supplies.

The War Department will be the greatest holder of surplus stores and a section has been set up in the M. G. O.'s Branch for receiving information regarding surpluses from all Defence Services and ensuring that such are used to the best advantage to meet military requirements before reports are made to the Disposals Organisation mentioned in the previous paragraph. In the case of land and buildings, a Committee with similar functions has been set up in Q. M. G.'s Branch.

The Defence Department, which has been concerned throughout the War period with the co-ordination of policy and procedure connected with the requisition and acquisition of lands and buildings has also been made responsible for implementing post-war disposals policy in the case of such property.

The Industries and Civil Supplies Department are keenly interested both in the disposal of surplus stores and in the utilization of surplus lands, buildings and plant, and machinery. It is intended that this Department should be closely associated with the day to day work of disposals and it is contemplated that this should be secured through representation on a Disposals Board which

will take decisions on major disposal questions and generally guide the work of the Director General.

Industrial and commercial interests are actively interested in Government's disposal plans and it is only from such sources that Government's information regarding current demands for various classes of goods can be completed. It is intended that they should be associated with day to day disposals decisions through the medium of Advisory Committees for various important categories of goods.

CONTRACTS.

Government is at present the biggest purchaser of items of indigenous production and has been responsible for an extensive change-over from peace time methods to a war basis of production of articles many of which have no peace time value. The manner of Government's withdrawal, as the War draws to a close, from these markets, will therefore be of the greatest importance to the national economy. Government's major long-term contracts include a break-clause which will have to be operated at the appropriate time as reductions in demands are communicated to the Supply Department. The nature of the action under this clause will be a matter for individual decision in the light of such factors as Government's financial commitments in view of special raw materials already supplied and the extent of partly completed work, the speed at which a change-over to production for civil requirements can take place, and problems which may arise in connection with demobilization of labour. Meanwhile the Supply Department will undertake an examination of all such contracts with a study of the special problems which will arise on their cancellation so that prompt decisions may be possible when the question of applying the break-clause actually arises.

SECTION V—Transport and Communications.

Civil Aviation. In May 1926, the Indian Air Board submitted a memorandum on the past history and future development of Civil Aviation in India. The Board observed that India is a country admirably suited for the development of aerial transport. Meteorological conditions are excellent for many months of the year and there is no reason to believe that the difficulties occasioned by the monsoon, although serious, are insurmountable. The large commercial centres are situated at considerable distances from one another enabling aerial transport to accomplish valuable savings of time. Apart from the question of internal services, it has been recognised, ever since commercial aviation became a practical proposition, that India's geographical position marks her out as an all-important link in any air route between Europe and the Far East.

After examining the past history, the Board made a number of recommendations, of which the most important were:—

(1) All landing grounds in India and their necessary equipment should be the property of the Government of India who should be responsible for the provision of wireless and meteorological facilities.

(2) The Government of India should claim in future to be consulted at all stages on the terms of any contract for an external air service touching India and to participate as a principal in any such contract.

(3) As far as internal air services are concerned, Government should accept the principle of subsidising such services in the earlier years.

The Government of India accepted these recommendations. While unable to subsidise air transport directly, their general policy has been to secure the operation of internal air services by Indian companies under Indian management, and to afford to Indians opportunities for training and employment in aviation. In the views of the Government of India, internal air services are the sole concern of India. Their policy has also been to ensure reasonable participation by India in external air services touching this country. In pursuance of this policy and within the limitations imposed by the financial condition of the country, the Government of India secured participation on the Empire Air Mail Services operating to and across India and awarded Air Mail contracts to two companies for the distribution of the Mail in India.

Post-war Civil Aviation Planning proceeds on the basis of this policy. The first part of the plan is the establishment of a system of internal air services, necessary in modern conditions for the proper development of India as a whole socially, commercially and industrially. Such a system should link the principal commercial and administrative centres of the country, serve as distributors for the worked air services and, by reciprocal arrangement, link the neighbour countries of India, namely, Burma, Ceylon and Afghanistan. Other services to serve local needs, stimulated by local or private initiative, may be successfully operated and may in time become of national importance, but in the initial period of development, in the major plans of the country they occupy a subordinate position. Having regard to these considerations the air services of the post-war period in and around India fall into the following plans:—

A. *Air Services essential for the social, commercial and industrial development of India.*

I. *International (British Commonwealth and Foreign) Air Services.*

(a) *Europe and Africa via Karachi-Calcutta to Australia and China.* (Such services may eventually be operated non-stop between Karachi and Calcutta.)

(b) *Europe and Africa via Karachi-Bombay-Colombo to the East.* Flying Boat Route.

(This is dependent on development in flying boats which may or may not come about.)

II. *Indian Trunk Air Services (including essential connections with neighbouring countries).*

Route 1.—*Karachi-Bombay-Bangalore-Colombo.*

Route 2.—*Calcutta-Allahabad-Cawnpore-Delhi-Lahore-Peshawar-Kabul.*

- Route 3.—*Delhi-Nagpur-Hyderabad-Madras.*
 Route 4.—*Calcutta-Cuttack-Vizagapatam-Madras-Colombo.*
 Route 5.—*Bombay-Nagpur-Calcutta.*
 Route 6.—*Karachi-Jodhpur-Delhi.*
 Route 7.—*Bombay-Ahmedabad-Delhi.*
 Route 8.—*Calcutta-Akyab-Yenangyaung-Rangoon.*
 III. *Essential links between Trunk Air Services.*
 Route 9.—*Karachi-Quetta-Lahore.*
 Route 10.—*Calcutta-Dacca-Sylhet-Tezpur-Dinjan.*
 Route 11.—*Madras-Bangalore-Cochin.*

B. *Local Air Services.*

The following are a few examples of many such possible services:—

- (a) *Ahmedabad (or Bombay)-Kathiawar States.*
- (b) *Hyderabad-Bombay.*
- (c) *Hyderabad-Bangalore.*
- (d) *Lahore-Srinagar.*

The degree of initiative which India must take in the establishment of international services (British Commonwealth and Foreign) will depend on the degree of co-operation which is brought about in the sphere of world air transport. This is the subject of international discussions. Whatever may be the precise form of the post-war agreement on the subject, there are clear indications that it will embody (on a reciprocal basis) some greater measure of freedom of the air than that prevailing before the war, coupled with the control and regulation of international air transport services by a world co-ordinating authority. The central geographical position which India enjoys will afford her considerable opportunities of attracting world air traffic within her borders, but no specific steps can be taken in that direction at present.

In the field of internal air services, plans have been worked out in considerable detail. They are based on the operation of mixed transport services (passengers, freight and mails) with modern passenger transport aircraft, giving the speed, reliability and comfort necessary for the establishment of air transport. Daily air services on all the main routes scheduled will provide connections enabling the traveller to reach almost any point in India within the day. The progressive development of night flying will improve that position still further. Experience of air transport shows that it cannot be established on a paying basis immediately. If it is decided to foster its development therefore the State must either accept losses on State operation or give financial assistance for a period of years to commercial operators. A careful examination has therefore been made of various possible methods of Government assistance in the earlier years, and the results will be placed before the Policy Committee. Legislation has been introduced in the current session of the Legislative Assembly to control the establishment and operation of air transport by means of a licensing system.

To enable the internal air transport system to operate and to meet the stepped up technical requirements of the modern aircraft, both on the international and internal air route, a large programme of ground organisation development is necessary. Such a programme covering larger aerodromes, runways, hangars, workshops, traffic and control buildings and re-organised aeronautical radio and meteorological services is well advanced in plan. Air Force development of aerodromes for war purposes goes a long way to meet one of the many requirements.

Among other developments expected to take place after the war is the establishment of a school for the training of air crews and all categories of technical personnel required for the manning of the Government aerodrome and radio services and the workshops of the aircraft operators.

Railways. In any scheme of future development, railways must play a large part; whatever the prospects of road development railways will have to move the long distance and heavy traffic of the country. The war has created

special problems. The most pressing of them will be the repair or replacement of the rolling stock and other equipment which has suffered excessive wear and tear due to war conditions. Apart from rehabilitation the establishment of a postwar locomotive industry, electrification of some of the railways, revision of rate schedules, utilisation of surplus army stores and equipment, special facilities for cold storage and absorption of the demobilised army personnel in railway services will also have to be specially investigated.

A new Member has recently been appointed to the Railway Board. He has been entrusted with the planning of post-war reconstruction on railways and will shortly have a special post-war reconstruction branch in charge of a senior officer. A great deal of preliminary investigation has already been done in regard to the manufacture of locomotives and boilers in India. A tyre (wheel) and axle plant has recently been installed and is expected to be in a position to meet post-war requirements. The restoration of the branch lines dismantled to provide track material and equipment for war purposes is being co-ordinated with the road development now programmed.

Considerable progress has also been made on planning under the following main heads:—

- (1) Annual programme for replacement of machinery in railway workshops.
- (2) Annual programme for replacement of locomotives and general service wagons.
- (3) Absorption of the demobilised army personnel in railway services.

In addition to the above, the following technical subjects are under special investigation:—

- (a) Construction of new lines in undeveloped areas.
- (b) New designs of—

(i) third class passenger coaches;	}	to meet post-war requirements.
(ii) wagons; and		
(iii) locomotives.		
- (c) Standardisation of types of locomotives to be built and of renewable parts of locomotives in use.
- (d) Extension of the activities of railways to other transport services—road, air, etc.
- (e) Development of staff welfare organisations to improve the welfare and efficiency of railway employees.
- (f) Regrouping of railways.
- (g) General lines of development of post-war goods, parcels and passenger traffic.

Road Transport and Road Rail Relations. In 1933, the Committee of Independent Experts to the International Chamber of Commerce, made the following statement on the object of transport policy, which, it will be generally agreed remains true today:—

“1. Industry, trade and the general user require cheap, efficient and rapid transportation, adapted as closely as possible to their specific needs.

2. The transformations that have taken place in the *de facto* monopoly of land transport, held until recent years by the railways, and the interdependence of the various means of communications call for a comprehensive policy in each country.

3. The principal aims of such a policy should be to co-ordinate all the means of transport in such a way as to secure for each of them the traffic for which it is best suited, and to avoid overlapping, the financial consequences of which the community would ultimately have to bear.

4. Public action becomes necessary in so far as the efficiency of the various means of transport is compromised by competition among themselves, particularly road and rail competition.

5. The function of the State is not to maintain the *status quo* or to favour one means of transport at the expense of another, but to create the requisite conditions for securing the maximum efficiency of all means of transport and to further their evolution in the interests of the general welfare of the community and of technical progress.

6. These aims can only be attained by a series of measures, the nature and scope of which will be influenced by the conditions existing in each country.

The importance of a rationalized transport policy has been thrown into relief by competition between motor and railway transport. This problem is more or less the same in all civilized countries."

Here, in India, the pace at which road transport became mechanised was unexpected and the Motor Vehicles Law contemplated and provided for no regulation of competition with the result that in a very short time the internal competition in road transport for the carriage of passengers led to rate cutting, which in turn diverted large numbers of passengers from the rail to the road. It was not until about 1931 that the full effect, on railway revenues, of the financial depression became apparent, and the possible further losses of railway revenues to the roads assumed alarming proportions and threatened to jeopardise the position of large national assets in the shape of railways. The present Motor Vehicles Act of 1939 was the first substantial step forward in the direction of creating conditions of fair competition. But the general opinion is that it does not go far enough to deal with the complicated problem. In war conditions there is traffic for every one and for this as well as other reasons, acute competition has ceased but with the now rapidly increasing deliveries of new transport vehicles for civil use and the post-war releases of army trucks, India may have on the roads a very much larger number of transport vehicles than in 1939. There will also be a very large number of demobilized soldiers who have been trained to drive and who will be needing employment. The seeds of immediate trouble inherent in such a position is obvious and if the available vehicles and man power cannot be diverted into channels profitable to the community, then there will be a relapse into road-rail anarchy from which it may take very many years to recover. The future of road transport and road-rail relations have accordingly been the subjects of special study by an expert committee who have now submitted a most valuable report.

The Committee while feeling that motor transport is not likely to be used to any appreciable extent in the near future, for marketing staple crops, consider that it should be encouraged to assist special forms of agriculture, such as market gardening and fruit growing. They have recommended that every effort should be made to carry the benefit and service of motor transport into the heart of the countryside and to use it to a greater extent than hitherto for administrative and development purposes. So far as goods traffic is concerned, the Committee are of the opinion that the transfer to the roads of short-haul goods traffic, in which motor transport can compete economically with railways, should be encouraged and that except where long distance goods traffic by road is in the public interest, competition between road and rail should be prevented by a system of regulation, combining expert judgment of the merits of each case on the basis of public and economic need with scientific zoning. In the case of passenger traffic however, they feel that healthy competition between road and rail is desirable and have suggested that the principle of maximum amalgamation of passenger service operators to form substantial concerns on main routes, and of controlled monopolies on light traffic routes, should be the basis of policy. Subject to salutary conditions, they have recommended that there should be no restriction on the range or numbers of passenger motor transport and that minimum fares for both road and rail should be established by agreement. These recommendations are calculated to develop motor transport, particularly in rural areas. The importance of railways developing closer co-operation with road passenger transport and ultimately acquiring a commanding interest has been stressed. The Committee have also suggested a review of the position of branch line railways closed during the war as also of the question of the use of decked railway bridges and of the finance of combined road and rail bridges, from the point of view of public service. A scientific review of motor vehicles taxation has also been proposed. In order to facilitate a co-ordinated system of cheap and efficient transport, the Committee have recommended that there should be a Central Transport Budget for transport as a

whole, in which Provinces should share, for pooling of revenues and balancing of capital expenditure on both road and rail. In conclusion, the Committee have recommended that an Indian Road Board should be created to examine in greater detail the complex problems involved, to prepare for the launching of a road plan and to make an immediate beginning in the regulation and co-ordination of transport and the development of closer road-rail relations and ultimately to be responsible for the development of roads and road transport and to implement the policy of road-rail co-ordination.

The recommendations of the Committee are under consideration.

Roads. The importance of improved means of communications as a factor of economic and social progress cannot be exaggerated. The true income of the cultivator and hence his standard of living are largely dependent on the efficiency of communications and our picture of the future of rural India should be one in which motor transport would penetrate the remotest villages connecting them with the main transport system. Thus the villager will have at his disposal modern means of transport, readier communication with the outside world, medical attention, educational facilities and other social services to no less a degree than the town dweller.

It is well-known that roads are a Provincial subject and the responsibility for the bulk of the roads upon which rural welfare depends has been thrown on local bodies with bad results. 'Provincial' metalled roads have been developed largely as a skeleton of a system convenient to the administration and the more influential sections of the population. Rural roads, on the other hand, have been badly neglected. The tracks connecting the village with the nearest public road are not so much a thoroughfare as private lanes used or abused by the people of the village. Their legal status, the width of the land and even the ownership of the land, are in most cases imperfectly defined. These tracks often follow the boundaries of fields rather than the most direct route and the actual alignment may vary from time to time with fragmentation and consolidation of holdings. In short there has been no systematic road planning of any kind in India as a whole and it is necessary to have a comprehensive road plan for the whole country which would receive the highest priority in any reconstruction schemes to be undertaken.

The Official Committee concerned with the subject has now made a preliminary examination of the best method of approach to the preparation of a comprehensive plan of road development on an all-India basis. The suggestion (which is naturally subject to further examination in consultation with the Provincial Governments) is that with the assistance of an organisation to be set up under the Consulting Engineer to the Government of India (Roads), Provincial Governments and Indian States should undertake the preparation of a plan for post-war development on a uniform basis. For this purpose, it has been suggested that roads be divided into four classes, that is to say:

- (a) National Highways and Trails,
- (b) Provincial Highways,
- (c) District Roads,
- (d) Village Roads.

The first class, which will be the framework on which the whole road system of the country depends, will consist of main highways running through the length and breadth of the country, connecting ports, foreign highways, capitals of Provinces and larger Indian States and including strategic roads required for the defence of the country. The second will comprise all other main trunk or arterial roads of a Province or State, connecting up with the National Highways or highways of adjacent Provinces or States, district headquarters and important cities within the Province or State. The third will include roads traversing each district, serving areas of production and markets and connecting these with each other or with highways and railways. Village roads will connect villages or groups of villages with each other and to the nearest district road, main highway, railway or river ghat.

It would appear that the first class being inter-Provincial and also traversing many States should primarily be the concern of the Central Organisation. The development of the second (Provincial Highways) would have to be planned at the headquarters of each Province; thus reducing the plan for the third class, namely district roads, to a district by district survey and schemes in which a large measure of uniformity of presentation could be achieved. One of the first questions in connection with the planning of district roads would be how far the system would have to be extended to give greater accessibility to and from large villages. The main object of the plan would however be to bring every village with a population exceeding about one thousand within, say, half a mile of a public road.

As regards village roads, there are in some Provinces Union Boards, while in others there is little, if any, organised maintenance, and here the plan would vary with different circumstances. In some provinces, it may be bound up with the consolidation of holdings.

If this classification is accepted, the Central Organisation will have to play a prominent part in the planning of the National Highway System and will suggest standard forms for the compilation of the material necessary for the preparation of the district road plan. As regards the village roads, while the Provincial Department responsible for other roads will doubtless give every assistance, it would probably be necessary in several Provinces to impose this responsibility upon a special officer.

The execution of the plan as a whole will require the collection and distribution of all relevant available information and the advance planning of the plant and machinery required. This aspect of the question and the technical problems involved have recently been discussed at a Conference of the Chief Engineers of the Provincial and State Governments at which the outlines of the plan were accepted and a number of far-reaching recommendations have been made. It has now been decided to appoint a Development Officer on Roads and Road Transport who will tour the Provinces and work out detailed schemes of expansion and it is hoped that a comprehensive road plan for the whole of India will be prepared before long. It will be accompanied at each stage by an approximate estimate of the cost involved, so as to furnish a complete picture of its financial implications.

SECTION VI—Public Works and Electric Power.

Public Works other than Roads. Apart from the development of roads and railways, the other public works which would require immediate attention after the war will relate largely to irrigation, electric power, town planning, slum clearance, etc. The importance of public works financed through public and Government expenditure as an instrument of stabilising the volume of employment and monetary conditions is now fully appreciated. During the post-war period, a large number of skilled and unskilled workmen will have to be shifted from war industries to *peace-time occupations* and the prospects of finding them suitable employment will be considerably improved by the institution of minor as well as major public works. This will also have the advantage of maintaining during the post-war period the existing high level of productivity in industries whose capacity has now been expanded to meet the increasing requirements of the defence services, such as the cement industry, iron and steel industry, brick-making, coal mining, etc. Moreover, as an anti-inflationary measure and for other causes inherent in war conditions, no important public utility concerns or public works have been undertaken during the last four years either by the Provincial or the Central Governments. As soon as the war is over, it will be necessary to undertake some of the more urgent works which have been delayed and the large technical personnel and building and other material rendered 'surplus' by the cessation of hostilities would be an invaluable asset in any programme of development that may be launched.

The total area now irrigated in all India is estimated at about 60 million acres out of a total cultivated acreage of about 320 millions, that is, less than one-fifth of the total cultivated area is irrigated in spite of the precarious nature of the monsoon. Half of this area is irrigated by canals, public or private, and the other from small works financed through private capital like wells, tanks, small streams, etc. There is still scope for further expansion and any development of irrigational facilities will be reflected in corresponding improvement in the total yield of the crops grown.

State-owned irrigation works may be classified as productive or protective. A protective work is not expected to meet the full interest charge, but is designed to guard against crop failure in a district otherwise liable to famine. A productive work, on the other hand, is one yielding, or estimated at its inception to yield, a return fixed by the Government concerned. The State-owned irrigation canals have on the whole done extremely well and the net annual return on expenditure on productive as well as protective canals taken together has been estimated at well over 5 per cent. per annum in the years preceding the outbreak of war. One of the main difficulties in the past in respect of all public works has however been the rigid financial test of 'productivity' which was applied to them and only in urgent necessity were 'protective' works encouraged. Our ideas regarding "productivity" are now undergoing revolutionary changes and it is probable that the view which will prevail in future will be that any work is 'productive' which meets the administrative and maintenance charges and which contributes directly towards the improvement of living conditions.

It is therefore necessary to make a proper survey of all the irrigation and other public works projects which it is desired to undertake soon after the war. (Some of them may be financially indefensible, but their execution might help to promote national welfare on a large scale in one form or the other.) On the other hand, there may be some which would give a handsome return on the capital invested, while there may be yet another group which is somewhere between the two. It will be impossible to decide which projects to undertake as a reconstruction measure until the whole picture of all the proposed projects is available and the financial and other implications of each are carefully scrutinised.

The Government of India have now considerable information on the subject of irrigation projects and a large number of these are actually receiving

some kind of State-aid as a 'Grow More Food' measure. The Labour Department have addressed all Provincial and State Governments to prepare a detailed list of proposed irrigation projects and to prepare estimates of the machinery required. These and other projects would then be considered against the background of general schemes and on their own merits to enable the Government of India to estimate the total requirements of capital goods required for the purpose and to make policy decisions in consultation with the local Governments regarding the projects to be undertaken.

Electric Power. It is generally agreed that the solution of the Indian economic problem lies in the rapid industrialisation of the country and a simultaneous improvement of agricultural conditions. Neither of these objectives can be attained without the provision of the cheap and abundant supplies of motive power. History shows that the economic development of every industrial country in the world has followed the exploitation of its fuel or power resources, and, it is well known that some of the earliest projects undertaken under the Russian Five Year Plan related to the development of hydro-electric power.

India is rather unfortunate in respect of her coal resources in the sense that they are localised in one or two Provinces. This involves long railway haulages with the consequent increase of costs to be borne by industries using coal or steam-generated electric power. It is significant in this connection that during pre-war years nearly half of the goods traffic on railways was in coal. Furthermore, the difficulties of transporting coal from a railway station to the remoter parts of the country are so great that its use in small rural industries is economically almost prohibitive. Similarly, India is particularly poor in mineral oil and there are at present no indications of any large deposits. India will therefore have to depend on her water resources for much of the power which is essential for the development of the country and the creation of large blocks of hydro-electric power to be supplied cheaply and evenly all over the country will be one of the main objectives of reconstruction planning. At present, India is very poorly supplied with electric power, the total energy generated being only of the order of 1/50th of that generated in the United States and about 1/9th of that of the United Kingdom. On the other hand, the potentialities of development are enormous. (Technical investigations show that less than a tenth of the definitely ascertained and practicable sources of hydro-electric power have yet been exploited.)

The cessation of hostilities will make it possible to resume the expansion of the electric supply industry which has been sharply restricted during the war due to the inability to import heavy plant and machinery. Normal healthy expansion would be in the neighbourhood of 10 per cent. per annum, but since the domestic uses of electricity in India have scarcely been touched we might reasonably look to a normal expansion for many years to come of about 12 per cent. per annum. Apart from this normal growth of existing utilities in supplying the increased requirements of the larger urban areas, there is the important factor of "specially promoted loads". We should be able to look forward to this with some confidence if active stimuli are applied by Government to the widespread development of electricity throughout the country. It is as well to consider what are the prospects for the utilisation of the electricity on major schemes of development. These may be divided into three main groups:—

- (a) Industrial expansion.
- (b) Rural electrification including lift irrigation and dewatering.
- (c) Electro-chemical and metallurgical production and inorganic fertilizer.

A. Main Industrial Loads. Of our existing industries the greatest scope for further demands on electric public utilities may be expected in Jute and Cotton textiles by electrification of mills following the scrapping of their own individual motive power installations which are now mostly worn out and obsolete. In addition there will be the establishment of new textile mills to meet the increased demands for cloth which would follow from any rise in the economic level of the rural population. The basic steel industry is not likely to impose

much further demand on electric public utilities except for the probable introduction of electric blast furnaces for pig iron production in South India where coal is expensive. There is, however, good reason to anticipate a considerable expansion of the trades ancillary to basic steel such as tube making, rolling mills, forging plants, sheet mills, etc. The heavy engineering industry too may be expected to develop considerably in the light of the requirements for locomotive manufacture, ship building, and the production of machinery generally for factory development, *e.g.*, machine tools.

B. Rural Development. The introduction of electric service on a really broad scale in rural communities is likely to form a most important field for development. This development would ultimately have a profound bearing on the economics of village life and agricultural prosperity generally, but it would be unlikely to show any direct return to the utility providing such services at any rate for several years. The financing of rural electrification cannot be contemplated other than on an extremely limited scale by any self-supporting electric public utility. The advantages to be gained while substantial, are to a great extent intangible and will not be reflected in public utility revenues for many years to come. That subventions to the electric public utility from agricultural development funds would be necessary, goes without saying. Unless the utility is placed in a position by which it can offer exceptionally promotional facilities in the first few years, no appreciable results will be obtained in changing over from the present system of motive power and methods of working village industry and agriculture. The Electrical Commissioner's office is studying this problem and various proposals are under review.

It is easy to over-estimate the potential demands of rural electrification. Nevertheless, there are about 22,000 "large villages" (*i.e.*, 2,000—5,000 population) in the whole of India and if it were possible to provide electric service to meet the present motive power requirements of all of them *plus* a small addition for lighting, we might contemplate an aggregate demand for 440,000 K. W. On the rather bold assumption that it might prove practicable to provide such service to half of the "large villages" we could look forward to a new demand from this source of about 220,000 K. W. which would require about 300,000 K. W. of installed generating capacity *i.e.*, an increase of about 25 per cent. of the present all-India total. It should be noted that any really strong policy of assisted development for small village industry might easily treble these figures. The provision of driving motors, starters and wiring on some form of extended payment or loan is of course an essential corollary to any scheme for village electrification.

It is clear that any widespread development of "large village" electrification will go hand in hand with the expansion of electricity for irrigation requirements. The field for electric power in irrigation is undoubtedly substantial there are several extensive tracts suited to tube-well development, others are only suited to pumping from open wells or tanks, while there are also extensive areas the agricultural development of which could be completely transformed by electric dewatering.

C. Electro-chemical and metallurgical production and inorganic fertilizer. It is considered that a promising field for securing a base load of secondary power in large hydro-electric schemes may be that of large scale electro-chemical ammonia plants situated in proximity to the main power station. The fact that such industries can usually function with a supply of power for only 9 months in the year exerts a profound influence on the initial capital expenditure required in most hydro-electric projects. In most of the hill or mountain hydro-electric areas in India the question of storage of water over the driest season usually looms very large. This is of course particularly so in areas like the Western Ghats or the Nilgiris which have no streams originating in melting snows. The central Government is at the present time investigating the prospects for the establishment of factories for the fixation of atmosphere nitrogen required for the production of inorganic fertilizers on a really large scale. Such factories are peculiarly adapted to the problem under review

herein since their raw material requirements are mainly air and water both of which are found at all hydro-electric power station sites.

Electro-chemical and electro-metallurgical works are other forms of large loads which can sometimes be located near a proposed generating station to form the base load of the station.

Summary of Prospective new load. We may tentatively conclude that the following fields of development are likely to be outstanding in creating new demands for electric power:—

- (a) Electrification of cotton and jute textile mills at present mechanically driven.
- (b) New cotton textile and woollen mills.
- (c) Secondary industry ancillary to basic steel production.
- (d) Engineering workshops, shipyards, etc.
- (e) The production of inorganic fertilizers.
- (f) "Large village" electrification.
- (g) Lift irrigation and dewatering.
- (h) Electro-chemical industries other than fertilizers.

Load Surveys and Financial Considerations. All schemes for the establishment of new power stations require justification on the basis of a survey of the prospective load. Such surveys are generally made on the basis of the previous trend of load development and on the general assumption that the conventional policy will be followed *i.e.*, the provision of electric service to the community when, but not before a sufficient demand has arisen from the inhabitants. The whole basis of a load survey changes if a really extensive system of rural supplies for "Large village electrification", lift irrigation, dewatering, etc., is to be made available. It will be clear from this that the necessity for forward planning with particular reference to rural and semi-rural economic factor is of special significance in the development of electric power in any part of India outside the great centres of population. The fact that 95 per cent of the population of the country lives outside such centres is an added reason for approaching the problem of electrical development on new lines. If we are to achieve rapid progress with the implementation of most of the large hydro-electric projects in India the following conditions will require to be satisfied:—

- (a) A really extensive rural reticulation system will need to be laid down far in advance of its proper loading as judged by the conventional standards at present applicable to such works. This necessarily implies the provision of substantial subventions to the authority operating the utility in the provision of the transmission and distribution network, village sub-stations, etc.
- (b) A base load requiring a large block of secondary energy (*i.e.*, for 8-9 months in the year) is extremely desirable.
- (c) For the first six or seven years it will usually be necessary to permit annual deficits to be charged to capital account.
- (d) The financial justification for proceeding with the project must be based on the estimated result over a period of at least 10 years and this after allowing for the capitalization of early losses.
- (e) Apart from specific capital subventions to enable the utility to provide electric service to agriculture under sub-economic conditions, some allowance will have to be made for the many less tangible advantages to the region involved and which may be expected to accrue from the widespread availability of electric power at low cost.

Thermal Power Station Siting. Turning now to steam power station development we find that large schemes are frequently put forward for "the generation of power in the coal fields" and its transmission to relatively distant industrial areas. The fact is often overlooked that the water requirements of a large steam power station are frequently so exacting as to make it generally more economic to establish the generating capacity where there is a very large supply of condensing water available rather than in the immediate vicinity of cheap coal. Here we must not overlook the fact that major industrial centres so frequently

grow up in the vicinity of large supplies of water in the shape of a harbour or a navigable river. *Per contra* most of the Indian coalfields either lie in zones where water supplies are inadequate for a really large steam power station, or where the provision of adequate supplies of condensing water entail the construction of a barrage or other large expensive civil works to control the discharge of a river which is normally unruly in its behaviour. It is worth adding the remainder that a steam power station requires almost 500 times as much water as it does coal; and while this water is not consumed and may be returned for other purposes or discharged again into the river bed, the magnitude of the condensing water problem is seldom appreciated. Not only is it therefore necessary to compare the cost of transporting coal with the cost of transmitting electrical energy to the industrial zone but the higher cost of civil works in providing adequate condensing water enters largely into the equation.

Organization of Electric Public Utilities. The organization of the existing electric companies has been examined in considerable detail by the Departments of the Government of India concerned. The examination has shown that there are several defects in the existing organization of the industry, which, unless they are remedied, would continue to affect healthy development. The defects which came to the forefront were due to political boundaries, lack of proper development of certain electric companies, lack of standardisation, lack of uniformity in the administration and the presentation of annual returns.

The future organization of the industry was discussed at a recent meeting of the Policy Committee No. 3 (c) (Public Works and Electric Power) and there was general agreement that a Central organization should be set up to assist and co-ordinate electrical development in India. There was also general agreement that in the future, new major power schemes should be undertaken by Government or quasi-Government owned organizations.

At a subsequent conference held in Calcutta under the auspices of the Electrical Commissioner, leading power engineers from all over India met to discuss questions of Post-War Electrical Development and the best means of assuring that this was undertaken on standard and progressive lines.

At this conference it was unanimously agreed that a Central Technical Power Board should be established immediately. This Board should consist of about seven or eight members, two of whom together with the Chairman, should be full-time members. One full-time member should be an Hydro-Electric Engineer and the other a Power Utilization Engineer of wide experience. This decision has been endorsed by the Subjects Committee of the Reconstruction Committee of Council.

The main function of this Board would be to scrutinize and co-ordinate all existing and potential power schemes with a view to developing the maximum utilisation of the natural resources of the country on the following lines:—

(i) Initiate the preparation of preliminary reports on power schemes of potential National value wherever considered necessary.

(ii) Arrange for the carrying out of a systematic hydro-electric survey throughout India on a recognised standard basis.

(iii) Endeavour to ensure that no measures are undertaken by the Governments concerned which conflict with the best possible utilisation of natural resources both for power and irrigation. The Technical Power Board would also collaborate with the Central Board of Irrigation in their mutual interests.

(iv) Review and lay down for the whole of India standard voltage and practice for generation, transmission and distribution of electricity. Where proposals are made which depart from these standards, the attention of the Governments or utilities concerned should be called to the disadvantages of non-standard apparatus.

(v) Arrange for assistance to any Provincial or State Government for technical investigations when the Governments interested make a direct request to the Board.

(vi) Initiate the establishment of a research organisation adapted to the requirements of the special conditions of electric power development in India.

(vii) Co-ordinate power and industrial development throughout India and co-operate wherever practicable in the investigation of large industrial projects with a view to siting them in the most suitable manner in relation to prospective power development schemes. In addition, to undertake when desirable an industrial power survey of a given area and a forecast of probable growth and development over a period of years.

(viii) Study the possibilities for, encourage and assist the establishment of the electrical manufacturing in India.

(ix) Take steps to provide technical training both abroad and in India for Indian engineers. At the Conference, it was also decided to establish for retention by the Government of India a panel of consulting engineers including two firms of the highest repute—one from the United Kingdom and another from North America.

Training of Indian engineers in Public Utility Management. An essential provision in contemplating a large expansion of the electricity supply industry in India must be the availability of personnel of adequate calibre to hold positions of senior executive responsibility. While there is no doubt about the shortage of properly trained electrical engineers with adequate experience in electric public utility work, the greatest deficiency at present is in respect of those trained in the quasi-technical side of administering and operating large electric public utilities.

In any large undertaking of this kind the senior executives, while they must necessarily have sound engineering training and experience, also require a high degree of initiative in and experience of the commercial and economic aspects of electricity supply. This side of electric utility operation covers such subjects as the framing of tariffs, policy in sales promotion, improved methods of costing, consumer analysis and several other important factors which go for the making of efficient management in a specialised industry. It will therefore be necessary even before the termination of hostilities to have trained men who would be able to take up responsible positions in the large public utility concerns which may be undertaken immediately after the cessation of hostilities. A scheme for the training of such engineers both on the technical and the administrative side is now under the active consideration of the Government of India.

Requirements of plant and machinery to be imported from overseas for electric power development in India. There is likely to be an extremely large demand immediately after the war for heavy power equipment to meet the rehabilitation of all devastated and occupied territories. These heavy demands for power equipment must inevitably fall mainly upon the United Kingdom and the United States. It is becoming clear that the manufacture of such plant will have to be undertaken on what virtually amounts to a priority basis for some years after the cessation of hostilities. It is therefore of the utmost importance that India should lose no opportunity in the immediate future to secure her requirements of heavy power equipment for post-war development. To this end the Provinces and States were requested some months ago to compile in suitable form information covering all the heavy power equipment probably required in their territories immediately after the war. This information was all sent to the Electrical Commissioner's Office in Calcutta where it was examined and collated. It was then placed before the Technical Power Development Conference held in Calcutta in the latter part of January where it was scrutinised by leading power engineers from various parts of India. The schedule was then amended and modified in certain respects and has since been sent to the Secretary of State for India in London with the full support of the Government of India in order to secure as soon as possible manufacturing capacity for this plant. The amount of plant represented in the schedule is considerable but it is nevertheless hoped that India

may be allotted manufacturing capacity for a considerable portion of this plant perhaps before the end of the war. The schedule of heavy plant does not of course include any equipment which could be manufactured in India for some years to come. As this plant is in the nature of a key to industrial development in India the prospects for its early manufacture are being extremely carefully watched by the Central Government.

SECTION VII—Trade and Industry.

Indian Trade Policy in the Post-war Period. Certain broad principles of international commercial policy have been accepted by the majority of the Governments of the United Nations and are contained in Article 4 of the Atlantic Charters and Clause 7 of the Mutual Aid Agreement. These statements are at present only in general terms and it is probable that international discussions will take place soon as to the manner in which they should be translated into practice. It is clear from what has been said in Section I above, that the trend of world thought is towards the liberalisation of world trade in the post-war period and it will be necessary for India to consider the broad lines of her future trade policy against this background to be able to participate to her best advantage in any conferences which may take place.

The Economic Adviser to the Government of India, has prepared a memorandum on certain aspects of Indian Trade Policy in the Post-war period which was circulated to the members of Policy Committee No. 4 (Trade and Industry Policy) and the Consultative Committee of Economists which met respectively in October and November last. The memorandum gives a historical background of the forces which have determined Indian trade movements in the past and states how they may be modified by the structure of post-war world economy and by the announcements contained in the Atlantic Charter and the Mutual Aid Agreement. The questions which would have to be considered in the first instance were presented by him to the last meeting of Policy Committee No. 4 (Trade and Industry Policy) as follows:—

Firstly, what kind of world trade policy would suit India best? Would it be to India's interest to accept the principles embodied in these announcements or would it be against her interests?

Secondly, if India were on balance inclined to accept these principles, what reservations would she like to make?

Thirdly, assuming that she were to decline to associate herself either with the more liberalising tendencies of the Roosevelt-Churchill declarations or with any of the trade blocs which were a practical alternative to the acceptance of those principles, could she carry out an autonomous trade policy with no commitments of any kind to anybody.

It was generally agreed at this meeting that it was not to India's interest to pursue an isolationist policy and that a system of multilateral trading on a world basis was most desirable. India should therefore accept the principles embodied in these announcements subject to the reservations that (a) she should retain her fiscal autonomy; (b) she should be free to pursue a protectionist policy to foster industrial development if she felt it desirable to do so; and (c) the main object of her post-war commercial policy should be the industrial expansion of the country and this should not be hampered by any international agreements which India may join.

The discussion was taken a step further at the meeting of the Consultative Committee of Economists when some of the detailed issues of policy arising out of the above general conclusions came up for discussion. India has followed a policy of protection during the last twenty years or so and although industrially not so developed as the U. K. or the U. S. A., she is by no means completely backward. The efficacy of protection as an instrument of industrial development has been severely criticised by one school of thought, while the other is always agitating for an increase of protective duties. It is certain that the tariff question would come to the forefront in the international trade conferences and it is essential that India should make up her own mind about the essentials of her future tariff policy. In this connection, the Hon'ble Sir Ramaswami Mudaliar pointed out at the meeting of the Consultative Committee of Economists that it had been suggested in various circles that the U. S. A. which had been the strongest supporter of high tariffs in pre-war years would insist on their continuance in the post-war period also. But, from the discussions he has had in responsible American circles, he felt certain that America would be prepared to lower her tariffs both in her own interests as well as for the promotion of international trade.

*As stated in Section I, page 2, India has not signed the Mutual Aid Agreement.

Tariffs are however of two kinds, namely, revenue tariffs and protective tariffs and the following practical issues came up for discussion at the meeting:—

(i) whether India should agree to an international ceiling only so far as revenue tariffs were concerned or whether such a ceiling should be accepted for protective tariffs also.

(ii) whether in view of the comparative backwardness of Indian industries and the low standard of living, India should maintain the position that her protective tariffs had always been levied after the most careful investigation and that her Tariff Boards had been more like judicial tribunals than the *ad hoc* committees of the U. S. A. or Australia and other countries which hurriedly went through the question of protective tariffs in respect of a number of industries at the same time and fixed high duties on considerations which were not always purely economic or statistical. In short, the question was whether or not India should put forward the proposal that each country should be free to levy protective tariffs provided that such tariffs had been found to be justifiable after an accurate and scientific examination, the results of which would be published and made available to all the countries;

(iii) what would be India's attitude if an over-all ceiling for all tariffs were proposed at these conferences? A proposal might be put forward at these conferences that as far as these ceilings were concerned they should be started at a particular level so as to cause the minimum amount of disturbance in the existing industrial development of any country and that they should be gradually reduced in due course to meet the changing requirements of each particular country;

(iv) another possible proposal which might be made at these conferences would be that no country should levy a unduly high protective tariff but that each Government should be free to help its industries through subsidies and other methods of direct governmental aid. Should such a proposal be put forward, it would in all probability be supported by the wealthier nations of the world and it was for the Committee to decide whether India should countenance such a proposal in view of the fact that her finances must necessarily be limited during the next few decades. Moreover, it had to be accepted that in the final analysis the results of a protective tariff or a subsidy were the same and that both of them were equally a clog on international trade. Whereas a protective tariff raised the cost of the protected article and threw an additional burden on the purchaser, a subsidy could be made only by increasing taxation and thereby throwing the burden on the tax-payers.

It is not only the question of tariffs which has to be considered. Problems of quantitative control of imports and exports are fully relevant to the discussion of trade policy and they would also probably be raised at the international conferences. There can be no doubt that the existing import and export controls would have to continue in some form or the other during the transitional period from war to peace. Quantitative restriction of imports or exports is however a potent and perhaps one of the drastic methods of protection and it is necessary in this connection to consider:—

(i) whether a policy of quantitative restriction is desirable for India;

(ii) what would be its effect on the various classes of the community if it is adopted; and

(iii) how that policy would fit in with the world trend towards multilateralism and the principle of free access to raw materials enunciated in the Atlantic Charter.

In the light of the main conclusions reached at the last meetings of Policy Committee No. 4 and Consultative Committee of Economists, a memorandum on the detailed issues of policy is under preparation by the Economic Adviser to the Government of India. It will come up for discussion at later meetings of these Committees.

Monetary Policy. Closely connected with the problems of trade and tariff policy are those relating to the international monetary organisation in the post-war period. The relations between monetary policy and reconstruction may appear remote when reconstruction is thought of primarily in terms of our

domestic situation, but even here the connection is close, and it is closer still when one bears in mind that India is part of the world order. Monetary institutions are part of the fabric which binds the various countries of the world together, and as the world learnt to its cost in the disturbed period after 1931, a breakdown of the world's monetary institutions has a direct bearing not only on the volume of international trade but upon internal well-being, since the volume of world trade has a close and intimate connection with the national income and the volume of employment of every single country. Agricultural countries, whose national income is liable to be gravely upset if the level of world prices undergoes violent changes, no less than industrial countries, are interested in seeing to it that after the war, the recovery of well-being shall not be impeded by avoidable weaknesses in the monetary mechanism, and such weaknesses can only be avoided by taking thought, that is, by having a right monetary policy.

For the last two years or so, the expert officials of the British and the U. S. A. Treasuries have been engaged in and almost continuous discussion on the topic of improving the organisation which is to underpin the various monetary systems of the different countries of the world.

At the last meeting of the General Policy Committee, the general outlines of these Plans were discussed and a memorandum prepared by the Economic Adviser to the Government of India was placed before the Committee. The Memorandum deals with general principles and analyses the British and American Plans in the form in which they subsisted in the autumn of 1943. These Plans have since undergone revision and no finality has yet been reached. For that reason, the General Policy Committee confined itself to the wider issues which had been raised in the various Plans, namely:--

- (i) The general advantages or disadvantages of India's adhering to a monetary pact;
- (ii) India's attitude in the immediate post-war period as regards adhesion to the organisation, and
- (iii) a preliminary review of what our policy should be in regard to some of the more urgent of our immediate post-war problems.

Industrial Planning. The first essential step in any kind of planning is to obtain full information on the subject and to proceed on the basis of that information. The earlier years of the war constituted a period of constant change and adjustment for industries and little useful information regarding their war-time organisation and their post-war prospects could have been obtained to serve as a basis for future planning. But the Government of India are now anxious without any further delay to collect the required data in order to obtain a correct picture of the present structure of industrial organisation in India and to determine future lines of development. For this purpose a Questionnaire has been drawn up by the Industries and Civil Supplies Department after consultation with Policy Committee No. 4 (Trade and Industry Policy). It shows the information which is considered necessary for the purpose of industrial planning and asks for factual information regarding India's post-war requirements of plant and machinery, the possibilities of fabricating it within India itself, the approximate estimates of internal and external demands, dislocations likely to be caused during the transition period from war-time conditions to normal peacetime conditions, etc. Apart from the factual information required, it also seeks the views of industrialists and the commercial community on the various aspects of future development and the lines of policy to be adopted. Enclosed with the Questionnaire is a list of industries together with the more important products of each industry regarding which it is desired to have separate sets of information as shown under the various headings of the Questionnaire.

The Questionnaire was addressed to all industrial and commercial associations in India, as also to the Provincial and State Governments towards the end of November last and replies have been asked for in about two months' time. The importance of developing small-scale industries is fully appreciated and it will be open for these associations and the local governments to furnish information in this respect.

In the meantime it is appreciated that there is a vast mass of information on the subject of industrial organisation in the various Departments of the Government of India, especially which have come into existence during the war. A Special Officer has been appointed in the Supply Department to collect this information and to put it in a form similar to that to be obtained from the Questionnaire.

The information obtained in this manner will be collated by the Industrial Adviser attached to the Department of Industries and Civil Supplies, in a form which would facilitate planning. As, however, no one person could have an intimate and accurate knowledge of the various industries involved, there would be an advisory panel of industrialists. Specific points would be referred to committees consisting of two or more members of the panel and the Adviser, and on their advice definite proposals would be formulated. The question of constituting an Industrial Commission to survey the field is also under consideration but this survey would take place alongside the factual work which would be done by the Adviser and the panel. When the work is completed and discussed by Policy Committee No. 4 on Trade and Industry and any other appropriate committees, it would be possible to lay down the final specific policy in regard to Industrial Development. Such a policy would determine general objectives of economic development, the pace at which industrialisation should proceed, the priorities and State aid, if any, to be given to particular industries, and in particular the location of each project with reference to raw materials, transport and the needs of individual areas.

The Indian Trade Commissioners abroad have also been asked to investigate the prospects of India's post-war trade with foreign countries and to furnish periodical reports on the subject which are being received.

Acquisition of capital goods. As has been stated earlier, it is essential to obtain as soon as possible some estimate of India's post-war requirements of heavy plant and machinery. It is probable that unless orders are placed early and under a scheme of priorities sponsored by Government, it would be almost impossible to secure the required capital goods within a reasonable period after the end of the war. The Industries and Civil Supplies Department have therefore without waiting for other information, asked industries to furnish information regarding their requirements of capital goods as soon as possible. A Press Note to this effect has already been issued and as soon as the industrial requirements have been compiled, it is intended that the estimates so obtained and those obtained by Labour Dept. in respect of Public Works should be scrutinised by government in order to determine which of the machinery required could be fabricated within India and what system of priorities should be adopted in placing orders abroad.

Organization of Scientific and Industrial Research. The Government of India fully appreciate the important part to be played by scientific and industrial research in the economic development of the country. The Council of Scientific and Industrial Research, the greater part of whose income is derived from a Government grant although the Council is an independent body, has already done admirable work within the limits of the funds allotted to it (supplemented by hitherto disappointingly small assistance from industrialists). The Council has for some time had in view an ambitious programme for the establishment of national research laboratories in different parts of India, but lack of funds and war conditions have stood in the way of its realization. The Government of India have now agreed to the Council drawing up plans for the establishment of these laboratories on the assumption that grants from Government of a total of Rs. 1 crore over a period of a few years will be forthcoming towards capital expenditure. The programme contemplates the establishment of—

- a National Physical Laboratory
- a National Chemical Laboratory
- a National Metallurgical Laboratory
- a Fuel Research Station, and
- a Glass Research Institute.

It is generally recognized that it is impossible to establish the first three institutions until after the war, but work is to commence immediately on the Fuel and Glass Research institutes; funds for the establishment of these two projects and for preliminary work in connection with the first three will be provided by Government during 1944-45. The Tata Trust have agreed to donate a sum of Rs. 20 lakhs towards the cost of the Chemical and Metallurgical Laboratories and it is hoped that other industrialists will emulate this fine example.

The Council has also recently appointed a Committee of Scientists and Industrialists to survey all existing facilities for research in India, to recommend measures for the promotion of research by research organizations and private firms, and to suggest steps for the furtherance of industrial and scientific research after the war.

SECTION VIII—Agriculture.

The problems of Indian agriculture were comprehensively reviewed in 1928-29 by the Royal Commission on Agriculture and the decade preceding the outbreak of the war saw the adoption of many of its recommendations by the Central and the Provincial Governments which, taken as a whole, have resulted in a substantial development of the organisations which are designed to serve the needs of agriculturists in India. The establishment of the Imperial Council of Agricultural Research, the re-organisation of the Imperial Institutes of Agricultural and Veterinary sciences, the formation of the department of agricultural marketing, the setting up of an Institute for research on Dairy problems are all instances in point. Similarly the provincial governments had throughout the decade evinced a keen desire to develop what are popularly known as "nation building departments" of which the Agricultural Department in its broadest sense is the most important. This desire was not only implemented to the extent possible with the resources available with the Governments but it has also been accompanied by a considerable volume of activity in the legislative field bearing on problems of agricultural improvement such as the reform of tenancy laws, the amelioration of rural indebtedness and the provision of cheap credit. The main task in that decade, however, was to maintain somehow the level of agricultural production in a period which was marked by a catastrophic fall in the price levels of agricultural commodities. The economic conditions were unfavourable for the success of any large scale measures for the improvement of agricultural production and distribution.

Indian agriculture was barely recovering from the adversities of the preceding decade when the war broke out. With few exceptions, war conditions have, on the whole, brought about a "boom" in the price levels of agricultural commodities which has created conditions favourable for their production generally. But at the same time glaring light has been thrown on the weaknesses of the structure of agricultural production in the country. Notwithstanding the most promising prospects of adequate economic return, Indian agriculture, particularly that sector which is concerned with the production of food grains, has been unable to meet the demands made on it. In spite of the strong stimulus of favourable prices, the net increase in the area sown in the last 3 years has been, comparatively speaking, insignificant and there are reasons to believe that the output per acre has also not increased to any considerable extent. Consequently the aggregate output from the total area sown has not been sufficient to meet in full the country's growing requirements in respect of food. These two elements in the situation seem to suggest that the limits of the area capable of cultivation by private enterprise alone have been very nearly reached and secondly that with the resources available to the un-aided effort of peasant agriculture in the country the efficiency of agricultural production cannot be raised to any considerable extent. These two possibilities viewed against the background of increasing pressure of population on land and on food supplies may seem to hold out a dismal picture of the future. Yet the picture need not be as gloomy as it appears to be if concerted and well-planned measures are adopted for general development in the future. India is believed to possess more than 111 million acres of land classified as culturable waste, a substantial portion of which is believed to be capable of cultivation though at a higher cost and at a considerable capital expenditure over reclamation. The total production of the country depends not only on the total amount of the land available but also on the yields per unit of land. In respect of yields the present levels obtained in India compare most unfavourably with those in other important countries as the following table would show:—

	Rice		Wheat		Cotton
	Average for 1931-32 to 1935-36		Average for 1924-33		Average for 1937-38
	lbs.		lbs.		lbs.
	per acre		per acre		per acre
Japan	2,053	Europe	1,146	Egypt	531
Italy	2,963	U.S.A.	846	Anglo-Egyptian Sudan	277
U.S.A.	1,413	Canada	972	U.S.A.	264
Egypt	3,709	Argentina	780	India	89
India	829	Australia	714		
		India	636		

The low yields obtained in India appear to suggest possibilities of considerable improvement in this direction.

The need of long-term planning on a large scale and the necessity of the State taking a hand in the conservation of all possible resources for employing them in securing greater efficiency of production cannot be doubted. But planning on such a wide field requires the formulation of a general policy for the country as a whole. The agricultural policy for a country of the size of India, if conceived on a comprehensive scale, will have numerous facets and is bound to concern itself with and react on practically all phases of the life of the people of the country. In one phase it will be concerned with economic questions of far-reaching importance such as the question of stabilizing the price of agricultural commodities at economic levels, the question of crop planning and the various controls necessary to render it effective; in another it will have to take into account questions of financial policy on matters such as the development of the means of irrigation, rural communications and highways, the introduction of large scale afforestation and reclamation schemes, schemes for the control of erosion, schemes for the more general utilisation of seeds of improved varieties, the provision of facilities for rural finance, the development of crop advisory and protective services, the development of manurial resources, and so on; in another aspect it will have to consider lines of advance in respect of questions bearing on the reform of tenancy laws, organisation of village agencies such as Panchayats, Co-operative Societies, etc., problems of man power in relation to the needs of general and technical administration of the plans.

Again there is the aspect on which the Royal Commission on Agriculture in India laid special emphasis, the environment and psychology of the cultivator. To quote the Commission:—

“Throughout our Report we have endeavoured to make plain our conviction that no substantial improvement in agriculture can be effected unless the cultivator has the will to achieve a better standard of living and the capacity, in terms of mental equipment and of physical health, to take advantage of the opportunities which science, wise laws and good administration may place at his disposal. Of all the factors making for prosperous agriculture by far the most important is the outlook of the peasant himself.”

It is not proposed to give an exhaustive list of the questions which will have to come up for review and consideration in the formulation of a national agricultural policy, but it will be readily observed that they carry large implications.

The formulation of a broad policy need not necessarily imply that every provincial and State Government must adopt identical measures. Such a course, even if it were possible, would not be desirable. What is needed, however, is the formulation of plans for every region which will fit into the broad outlines of the general policy. Questions bearing on the general policy will be considered by the Government of India in consultation with non-official opinion and provincial governments and when they have been decided the latter will be requested to prepare plans fitting into the broad outlines of the general policy. All the regional plans taken together with suitable adjustment where necessary will form the basis of the master plan for the country as a whole.

Relation between India's Food Resources and Requirements. As in all things so in the matter of agricultural development the means must be adjusted to the ends in view. What are the ends which agricultural reconstruction in India should keep in view? The first and the foremost aim must be to provide adequate nutrition for India's growing population. In respect of the nutritional requirements of the country, the Indian delegation to the Hot Springs Conference prepared a memorandum in which the following conclusions were stated:—

“India is self-sufficient as regards her food supply in the sense that both imports and exports of food in normal times are small in relation to total indigenous food production. But she is not self-sufficient in the sense that the population is abundantly or satisfactorily fed. In order to make the national diet more satisfactory from the standpoint of nutrition, far-reaching changes in production and consumption are necessary. The direction of these changes is illustrated in the following table. The first column of the table shows a diet, in terms of ounces per adult man or consumption unit daily, which is reasonably

balanced and satisfactory in its contents of necessary food constituents. The energy value of the diet is 2,600 calories, the item 'meat, fish and eggs' being regarded as an alternative to milk. The second column indicates approximately the quantities per adult man of the various foods at present produced. The difference between columns 1 and 2 shows roughly the changes in the production of the various main group of food supplies necessary in order to bring the national diet to the desired level of adequacy."

Table.

	Ounces per day per adult (or consumption unit)		Total quantities in million tons.	
	Required for a balanced diet	Available	Required	Available
Cereals	16	18.5	48.0	55.5
Pulses	3	2.5	9.0	7.5
Sugar	2	1.8	6.0	5.3
Vegetables	6	3.0	18.0	9.0
Fruits	2	2.0	6.0	6.0
Fats and oils	1.5	0.6	4.5	1.9
Whole milk*	8	1.5	32.0	6.3
	Per capita			
Butter milk	...	3.0	...	12.5
Meat, fish and egg.	2.3	0.5	6.0 to 9.0	1.5

*The figures for available milk are based on existing information about the uses to which the milk supply is put. All the figures in the table should be regarded as illustrative rather than absolute. The table shows in a general way the existing trend of consumption and how this needs modification.

The conclusions of the Indian delegation to the Hot Springs Conference do not represent the considered views of the Government of India on the question of what targets in respect of nutrition should be accepted. They, however, afford a basis for further discussion.

Another aim must be the production of the raw material required by the industries of the country. In respect of some goods manufactured from the raw materials produced in India, there is the prospect of developing a remunerative market. In respect of other goods such as textiles, it must be constantly kept in view that the primary aim should be to find an ever expanding market within the country. As the level of agricultural incomes rises the effective demand for cloth and other goods of a similar nature will rise and plans for the future must take into account the production of adequate raw material to enable Indian industry to meet the rising tempo of such demands.

To some extent India's agriculture must also be called upon to produce commodities for which there is an effective demand in foreign markets. The export of such material will be required in order to enable the country to import essential capital and consumption goods needed by the country.

In respect of the three aims explained above, it will be necessary to proceed with planning on the basis of definite targets.

Technological Possibilities of Development. Just as it is necessary to adjust means to ends, it is equally obligatory that the ends which should be kept in view must be such as are capable of actual attainment. In other words in formulating the targets of production it will be necessary to keep in view the technological possibilities of agricultural production in the country. A clear appreciation of these possibilities will provide the basis on which the future plans of agricultural production should be based. In the course of a review specially compiled to serve as the basis for reconstruction planning in this respect, Dr. William Burns, D.Sc., C.I.E., late Agricultural Commissioner with the Government of India has taken each of the principal crops in turn and after considering the average outturn obtained at present, has tried to assess the technological possibilities of these crops in the future in the light of the yields per acre, which research so far has shown to be possible through such means as using improved varieties of seed, the application of manure and protection from

(b) the prevention of run-off, floods and erosion generally. Naturally this concerns areas outside the reserved forests but one of the most important aspects is the control of the headwaters of streams many of which are inside reserved forests;

(c) the introduction of new forests properly distributed throughout India (this especially applies to North India) to supply the agricultural villager with fuel and small agricultural timber. These must be supplied more or less at the villager's door-step.

(ii) *The rehabilitation of existing reserved forests* This is a routine matter of forests management. It implies the revisions of old working-plans and the drawing up of some new plans after the war. The forests have not been affected by war fellings to any great extent from their protection point of view though fellings have been in excess of the normal yield. Even this aspect is not as serious as might be expected. Taking India as a whole, the excess fellings are not likely to amount to more than 3 years' yield, but the significant facts are that this excess yield on the total has been taken from the best and most valuable trees and in the most accessible places and that some provinces have felled more in advance than others. Even so, the worst that need be contemplated is a reduction in yield of 30 or 40 per cent. for about 10 years.

(iii) *The prevention of run-off floods and erosion* is best attained by correctly managed forest covering. As, however, it is obviously impossible for the whole country to be managed as forest, it implies correct land management. For whatever system is adopted in a particular place—whether it be forestry, agriculture or pasture—the first step—will be to classify the land and indicate what land must be managed with special reference to floods and erosion control. Land allotted to this category must always be so managed that the protective function comes first. It may be added that the correct management from the point of view of floods and erosion is usually the best management from other points of view as well, that is to say, forest managed correctly for timber production does in fact exercise the best flood and erosion control; an area correctly managed produces the best crops and is usually more effective for flood and erosion control than one incorrectly managed; an area managed to produce the best pasture is also usually most effective under that particular form of land management for flood and erosion control.

(iv) *Agricultural forests.* The solution of this problem is the crux of the post-war forest problem in India. It will incidentally solve much of the problem under (a) and (b) above. Accurate figures are not available, but very approximately, out of the 800,000 square miles of British India, 400,000 square miles consist of cultivated area and current fallow, 144,000 square miles are culturable waste, another 144,000 square miles are classified as unfit for cultivation and 112,000 square miles as forests. This forest area only represents some 14 per cent. of the total area which is by accepted standard far too low. The proportion might well be nearer 20 or 25 per cent. But out of the 288,000 square miles of the so-called cultivable waste and uncultivable waste, it should not be impossible to find at least another 100,000 square miles fit to grow these "agricultural" forests properly distributed for the villagers' supply. This would solve that part of the problem and the effect will be far-reaching. Lack of fuel causes villagers to burn cowdung instead of fuel. There are probably 300 million head of cattle in India producing perhaps 400 million tons of cowdung per year. If this cowdung were all used for its legitimate purpose of manure for the fields instead of being burnt, it would increase food production sufficiently to alter the whole agricultural economy of the country. How much of the cowdung is being burnt nobody knows, but it is almost certainly somewhere between 125 million and 250 million tons. How much this would increase the total food production is a problem for agricultural experts, but it would certainly adequately manure some 15 to 30 per cent. of the whole cultivation in India. Moreover cowdung is a cheap form of manure available for every agriculturist, provided it is not burnt. Nor need this be a vision of the distant future. What the agriculturist wants is quick growing trees to provide fuel,

charcoal, small house building timber and timber for ploughs. Such forests can be grown in on short rotation of 15 to 20 years and would provide their first return of fuel from thinnings within 5 years of formation. Nor is there technically any difficulty in finding the tree or growing it in areas with more than about 20 inches average rainfall per year. There are, however, many treeless areas with a rainfall much below this. Where irrigation exists there is again no technical difficulty in growing these small agricultural forests. Where no irrigation exists the problem is more difficult of solution, but down to an average rainfall of about 12 inches and even on practically pure sand the correct species of forest trees can be grown to supply the simple wants of the villager. Much of this low rainfall area occurs west of a line running from Lahore to Rohtak through Ajmer to Nawanagar and east of a line running roughly from Lyallpur through Bikaner about 50 miles west of Jodhpur and down to a point about 100 miles south-east of Karachi. The introduction of village forests over the optimum proportion of these areas would not only solve their immediate fuel and small timber problem but would have a great effect on the general climate, the general pasture and fertility of the soil. The surface evaporation at Jodhpur is about $7\frac{1}{2}$ feet per year and with a proper proportion of forests this evaporation would be very largely reduced. Nor would it decrease the available fodder and grazing grounds. Grazing, and above all the grazing of goats, would certainly need regulation, but this type of agricultural forest would produce far more grazing than the areas produce at present (probably 3 times as much) and at the same time in many of the areas the trees themselves would provide fodder.

Sir Herbert Howard's report is being released for publication.

III. Fisheries.

Dr. Bains Prasad, Director of the Zoological Survey of India, was asked to prepare a report dealing with questions bearing on the problems of post-war development of the fishery resources of India. The report outlines the various stages of development to be planned annually in the first five years programme of development. The more important features of this preliminary five-year plan are:—

- (i) First year, establishment of a central organisation to guide research and to prepare plans for the development of fisheries;
- (ii) Second year, preparation of detailed reports on the possibility and the best method of exploiting Indian sea, river and lake fisheries;
- (iii) Third year, establishment of demonstration farms, training of teachers and demonstrators and research on marketing, cold storage, preservation, craft best suited to operate in the various fisheries, etc.;
- (iv) Fourth year, establishment of small model fish factories;
- (v) Review of the first four years' work, co-ordination of inter-provincial activities, enactment of legislation, if necessary, to protect fisheries from excessive or improper exploitation, provision of patrolling boats and construction of fish-passes in rivers, streams and canals.

The report is under departmental examination but is being released for publication.

SECTION IX—Social Services.

The Government of India are fully alive to the importance of developing the Social Services of India and have instituted a number of committees to make a factual survey of the conditions prevailing in the various fields of public social activity and to make recommendations regarding their reorganisation and expansion. The work of these committees has made good progress and it is expected that the broad policy regarding the development of social services will be decided and administrative and financial details filled in, after consultation with the Provincial and States Governments concerned, before the cessation of hostilities.

Education. So far as Education is concerned, the problem of Post-war Reconstruction, though it will no doubt be found, in practice to present special difficulties of its own, is probably simpler in some respects than that of the other Social Services. While it goes without saying that any system of public instruction, suited to the needs of the Indian people, must be framed with special regard to their history and traditions as well as the particular conditions under which they live, there is a large measure of agreement among modern nations which are or aspire to be civilised democracies as to what the minimum content of an efficient system of public instruction should be. Whatever, therefore, the modifications that may be required to meet local conditions, it may be assumed that India will not be able to hold her own in the post-war world unless she is able to give to her people, and to the rising generation in particular, a training for life and for livelihood comparable with that which other great nations are providing for theirs. The minimum facilities, therefore, which post-war plans should aim at providing, can be defined within reasonably accurate limits, and in this respect they are less likely to be influenced by developments external to India than in the case of other services—particularly in the industrial and economic spheres. The immediate task has also been rendered easier by the fact that the Central Advisory Board of Education, which has been asked to prepare a post-war plan and has just completed its labours, has been studying intensively during the last 6 or 7 years the reforms which are necessary in most of the branches of education to place India on a comparative equality with other civilised countries.

The main branches of a system of Public Instruction, which is likely to satisfy the needs of post-war India, have been outlined by the Board as follows:—

(1) Universal, compulsory and free education for all boys and girls from the age of 5 or 6 until 14, in order to ensure literacy and the minimum preparation for citizenship.

(2) A reasonable provision of education before the compulsory age for school attendance in the form of nursery schools and classes. This is important mainly in the interests of health, particularly in areas where housing conditions are unsatisfactory.

(3) An efficient school medical service, which will see that children are made healthy and kept healthy. This means treatment as well as inspection and the provision of proper nourishment in necessitous cases. It is a waste of time and money to try to teach a child who is underfed or conscious in other ways of serious physical discomfort. Health also postulates the provision of hygienic buildings in suitable surroundings, the right kind of furniture and equipment and ample facilities for physical training and games.

(4) Secondary or high school education for those children who show the capacity for benefiting by it. Probably to satisfy this requirement provision should be made ultimately in high schools of various types for 20—25 per cent. of the boys and girls in each age-group. Variety both in types of school and in the curricula of individual schools is essential to suit the varying tastes and aptitudes of the individual pupils on the one hand and the requirements of their future occupations on the other. In addition, so that no boy or girl of outstanding ability may be debarred by poverty from further education,

liberal financial assistance in the form of free places, scholarships and stipends must be forthcoming.

(5) University education, including post-graduate and research facilities for picked students. It is difficult to fix a quantitative standard here but probably places equivalent to 10 per cent. of the high school population would be the ultimate goal. Until, however, a selective system of High Schools on a national basis has been firmly established, a smaller provision would meet all reasonable needs.

(6) Technical, commercial and art education. The amount, type and location of this will necessarily be determined to a large extent by the requirements of industry and commerce.

(7) Adult education, both vocational and non-vocational of all kinds and standards, to meet the needs of those who were denied adequate opportunities in their earlier years or recognise the importance of supplementing what they then received.

(8) Special schools for children suffering from mental or physical handicaps.

(9) Recreational facilities of all kinds, to satisfy the craving for corporate activity and to counteract the drabness of the conditions in which so large a part of the Indian people otherwise spend their lives. It is difficult to think of a country where a well-organised Youth Movement would be more remunerative than it would be in India.

(10) Employment Bureaux to guide school and college leavers into profitable employment and so far as possible to adjust the output of the schools to the capacity of the labour market.

(11) Arrangements for training the vast army of teachers which a system of this kind will require.

(12) An administrative system which will place initiative and authority in the hands of those who understand and care about education.

How far the present system of education in India is from complying with these minimum requirements may be seen from a few simple facts. 85 per cent. of the present population is illiterate. Of the children who actually enter the doors of a school, less than 1 in 4 remain long enough to reach the earliest stage (class IV) at which permanent literacy is likely to be attained. Since the average pay of a primary teacher in Government Schools in India is about Rs. 27 p. m. and in private schools is actually much lower—in one of the largest Provinces the average is below Rs. 10 p. m.—it can hardly be said that the teaching service in India is likely to attract at the moment the sort of people who ought to be in charge of the nation's most valuable asset, namely, its children, during its most malleable stage. In the higher stages of education there is practically no selection, the main criterion for admission to high schools being ability to pay fees rather than intellectual promise, and apart from the passing of an admittedly easy matriculation, the same largely applies to University education. The provision of technical, commercial and art education is entirely inadequate to meet the anticipated requirements of a more highly industrialised India. In regard to the other main branches referred to, the present provision is either non-existent or in such an embryonic stage that it can hardly be said to touch the fringe of the problem.

The plan prepared by the Central Advisory Board covers all the branches of education set out above. It prescribes universal compulsory and free education for all boys and girls from 6 to 14. It contemplates the provision of 10 lakhs of places in nursery schools and classes for children below the age of 6. It sets out the basis upon which an efficient school medical service should be provided. In high schools, it aims at the provision of schools of varied types suited to the aptitudes of the pupils, which will cater for at least a fifth of the boys and girls in each age-group. It also emphasises the necessity of providing liberal financial assistance in the form of free places, scholarships and stipends so that no boy or girl of outstanding ability may be debarred by poverty from further education. In consequence of the number of boys and girls of outstanding ability which a national system based on equality of opportunity is sure to throw up, it aims at

a very large increase in the provision of education at its higher stages, whether in universities or in technical institutions of university level. It also foresees the necessity for enlarging and making more practical the present provision for technical, commercial and art instruction at all levels in order to provide India with the research workers, executives and skilled craftsmen which the expansion of her industrial, economic and agricultural resources will inevitably demand. It also does not neglect the purely cultural and recreational side of education as it attaches particular importance to the provision of the widest facilities for encouraging boys and girls, men and women, to fulfil themselves as individuals and to make a profitable use of their leisure.

Finally it makes suggestions for removing the obstacles in the existing administrative system which have militated against its success in the past and may be expected to put still graver obstacles in the way of any comprehensive development. It is not possible here to do more than indicate the main lines of the structure which the Central Advisory Board have in mind. As they themselves have made abundantly clear, it will be for Provincial and State Governments to work out in detail the best way of applying in their own areas the general principles which have been laid down by the Board. Reference may, however, be made to certain fundamental aspects of education not specifically mentioned in the outline of the scheme which has been given above. The Board emphasise in the report that the training of character must at all stages of education be regarded as not less important than the training of intellect and that physical, mental and moral instruction must proceed side by side. They have also stressed the importance of accelerating the provision of educational facilities for girls and women in view of the extent to which their claims have been ignored in the past, in fact they have stated their conviction that whatever may be provided for boys and men, not less should be provided for girls and women.

The Board have estimated that the system they have in mind, when in full operation, will cost Rs. 312 crores gross or Rs. 277 crores net per annum divided as under:—

	Estimated gross annual expenditure.	Estimated income from sources other than public funds.	Estimated net expenditure to be met from public funds.
	Rs. in lakhs	Rs. in lakhs	Rs. in lakhs
1. Basic (Primary & Middle)	20,000	...	20,000
2. Pre-Primary Education.	320	...	320
3. High School Education.	7,900	2,900	5,000
4. University Education.	960	290	670
5. Technical, Commercial and Art Education.	1,000	200	800
6. Adult Education.	300	...	300
7. Training of Teachers.	620	170	450
8. School Medical Service.* . . . .	...	...	...
9. Education of Handicapped* . . . . .	...	...	...
10. Recreational and Social facilities.	100	...	100
11. Employment Bureaux†	60	...	60
12. Administration.‡ . . . .	...	...	...
Total	31,260	3,560	27,700

* An amount equal to 10 per cent. of the gross expenditure at the appropriate stages has been provided to meet the cost of the School Medical Service and Education of the Handicapped.

† Special provision has been made for this service in the beginning ultimately it should be absorbed in Administration.

‡ Provision to cover the cost of Administration has been included at all stages. It is assumed that this will approximate to 5 per cent. of the gross expenditure.

Approximate incidence of increased cost of education involved by the adoption of the Board's proposals is as follows:—

	Rs.
5th year	1,000 lakhs.
10th "	2,380 "
15th "	3,740 "
20th "	6,145 "
25th "	10,600 "
30th "	16,500 "
35th "	25,000 "
40th "	31,200 "

It is assumed in the above table and throughout the Board's report that capital expenditure on school sites and buildings will be met out of loan in future. Provision has accordingly been made for interest and sinking fund charges only.

Warning, however, is given that these are approximate figures based on pre-war standards, both in regard to cost of living and population, and that they are liable to very substantial variations in view of the changes in social and economic conditions which are likely to take place during the period which must elapse before the scheme can be brought into full operation.

It was stated at the beginning of this section that while educational development might be simpler to plan than in the case of other services, it would present special practical difficulties of its own. One of these will be apparent from what has already been said, and that is the enormous lee-way which has to be made up. An equally difficult problem from the point of view of the planner is the fact that educational development does not lend itself to short term planning. The whole carrying out of any plan of educational development depends on the supply of teachers required being available. It takes time to recruit and train teachers—in some cases the period of training may extend to 4 or 5 years—and the result is that the teachers trained in the course of one 5-year plan will have to be provided with employment during the next. Furthermore, a modern system of education to achieve its full success, or indeed to be successful at all, requires that its various branches should be closely linked up with one another. It is little use to provide education for all children unless they are required to remain long enough at school to receive the minimum training which will make them good citizens and good workers. It is not less evident that those with the requisite capacity should be selected for further training in order that they may provide the community with the leaders in all walks of life which it will require. It has already been explained why various ancillary services are necessary to make the whole system sound and complete. This, therefore, means that the system must be introduced as a hole in an area large enough to provide in economic unit with sufficient variety in the various types of educational institutions required. Since it would clearly be neither equitable nor expedient to provide education for some children and not others, it will be necessary to satisfy public opinion that a complete plan has been prepared by which their claims for educational opportunity will be met sooner or later. Warnings have been given elsewhere in this report as to the impracticability of one Government committing its successors to the implications, financial and otherwise, of a long term policy, but it is difficult to see how this can be avoided in the case of education. When a start has once been made, it is imperative to proceed to the logical conclusion. The social services, however, in this respect are on a somewhat different plane from economic and industrial development, for it is difficult to conceive that any democracy of the future will be satisfied with a smaller provision in this respect than present opinion regards as necessary.

The Health Survey and Development Committee. It would be a truism to say that there is a vast scope for the improvement of public health conditions in India. The Government of India appreciate that a high level of health for the individual and for the community can be attained only through measures designed to cure disease, to prevent sickness and to promote positive health. They have therefore appointed the Health Survey and Development Committee under the Chairmanship of Sir Joseph Bore which held its first meeting in

New Delhi on the 26th—28th October 1943. The following extracts from the message sent by His Excellency the Viceroy to the Committee gives an indication of the problems which the Committee will have to examine.

"In the most highly organised countries of the world a large scale system of social services guards the health of the community. The Maternity and Child Welfare Service, the school clinic, and the sickness insurance plan—all backed by well-equipped hospitals and highly qualified medical men—prevent and cure disease in the individual. Through local authorities, and under the various statutes governing work in factories, provision is made for environmental hygiene. There are schemes of slum clearance and rehousing. The supply of water and food are competently supervised, and control is maintained over domestic and industrial wastes. I need not prolong the list; but I must add that behind the Social Services there is, in the advanced countries to which I refer, a powerful network, of research organisations.

"In India we have traversed only a small part of the road towards National Health. I acknowledge the devoted work done, often in conditions of great difficulty, in this field; nor do I forget the poverty of India—that heavy disability which lies upon all agricultural countries whose populations are large and whose individual holdings of land are small. But I have no doubt that given guidance from a Committee such as this, and a determination to attack the problem, we can do much more than has hitherto been thought possible.

"It is not for me to attempt to guide you in your deliberations, but I may perhaps outline some of the questions which have occurred to me during the past two years. In our cities we have slums which are a disgrace to a civilised country. Much has been done by some of the Improvement Trusts—particularly in Calcutta—to remove the worst of the slum dwellings and to introduce light and air. But have we yet faced the gigantic task of rehousing the slum dwellers in such a way and under such supervision that they will not relapse into their original condition? The financial implications of any rehousing scheme in which the displaced population cannot afford to pay something like an economic rent are very great, and I am aware of all the difficulties. But is it not time for us at least to face the problem and to see what can be done about it?

"Again, although in some of our cities we have excellent water supply and sanitary systems, in others little has yet been done to produce hygienic conditions.

"Then, there is malaria, the universal scourge, which probably causes more ill-health and inefficiency than any other one factor in the health field. Have we yet made sufficient use of the admirable work of the Malaria Institute? Could insecticides be made from Indian-grown materials on a scale and at a cost which would render their nation-wide use possible? Could not more be done to provide protective materials—such as mosquito netting and mosquito wire—and could not these things be made on a larger scale in India? The average family may be unable to afford them, but their use could undoubtedly be extended.

"We certainly need more maternity and child welfare centres, more school clinics, and more qualified medical men both for preventive and for curative medicine. What prospects are there of improving the medical and health services in the village? Can medical men be attracted to the villages as private practitioners? Why is there so much difficulty in establishing an adequate nursing service?

"Two other points which occur to me are the possibility of improving the production of home-grown drugs, and the need for the development of research organisations in addition to those we already have.

"I have stated these questions not because I believe that they cover the whole ground, but because they show how the defects in the present organisation strike a layman who has not in the past been directly connected in his work with the medical and public health administration of the country. Your task will be to cover the ground as adequately as you can, and I have no doubt that in doing so you will not neglect the experience gained and the results achieved in other countries—especially those whose economy is comparable to that of India."

As a result of the work of the first meeting of the Committee, it was decided to set up five advisory Committees to deal with the subjects of public health, medical relief, industrial health, medical research and professional education respectively. All the Advisory Committees met once last year and some of them held their second meetings in January 1944; and the main Committee at its second meeting, in January 1944, reviewed the work of the Advisory Committees. Questionnaires have also been issued to Provincial Governments and various institutions and individuals interested in the different public health problems and the information thus collected will be supplemented during the tours in the Provinces which the Advisory Committees will undertake.

I. **The Public Health Advisory Committee** will deal with the following subjects:—The state of public health in India, environmental hygiene, nutrition, chief diseases, internal and international quarantine, maternity and child welfare and health and physical education.

The composition of the Committee is as follows:—

Rai Bahadur Dr. A. C. Banerjea.

Lt.-Colonel C. A. Bozman.

Dr. A. H. Butt.

Lieut.-Colonel E. Cotter.

Dr. J. B. Grant.

Dr. B. C. Das Gupta.

Sir Frederick James.

Honourable Mr. P. N. Saprú.

Mr. B. Shiva Rao.

Mrs. Shuffi Tyabji.

Honourable Dr. Wadhvani.

The Committee has already started examining the question of urban and rural housing, nutrition, maternity and child welfare, water supply and the training of public health engineers and the development of special facilities for the prevention of malaria, leprosy, tuberculosis, etc., and has interviewed several experts in these lines. It will also deal with quarantine, internal and international, school-health, physical education and health education.

II. **The Medical Relief Committee** will deal with medical relief in urban and rural areas, organisation of hospitals and dispensaries, after-care for patients discharged from hospital, provision of diagnostic facilities, mental hygiene, prevention of mental diseases, provision for mental patients and mental defectives, drug addiction, control of the trade in medicines, production and standardisation of drugs and biological products, etc.

The Committee is composed of the following:—

Dr. R. B. Chandrachud.

Dr. D. J. R. Dadabhoy.

Major-General J. B. Hance.

Sir Henry Holland.

Pandit L. K. Maitra.

Major-General W. C. Paton.

Dr. B. C. Roy.

Lt.-Colonel B. Z. Shah.

This Committee is now examining the problem of the formation of a co-ordinated plan or preventive and curative health services for the country as a whole and with special reference to the rural population.

III. **The Industrial Health Committee** will be concerned with all the problems affecting the health of the industrial population such as administration of health services, occupational diseases, accidents, environmental hygiene in the factory, housing, nutrition, welfare work, sickness and maternity benefits, planned regional zoning of industry, drug and drink habits and industrial health research.

The composition of the Committee is as follows:—

Lt.-Colonel E. Cotter.

Major General J. B. Hance.

Sir Frederick James.

Mr. N. M. Joshi.
 Dr. B. C. Roy.
 Mr. B. Shiva Rao.
 Honourable Mr. P. N. Saprú.
 Sir Shri Ram.

This Committee has appointed a Sub-Committee to prepare a minimum health target for the industrial population and is now engaged on the examination of labour legislation and its administration with particular reference to public health.

IV. **The Medical Research Committee** will deal with the problems relating to the existing organisation of medical research facilities, and facilities in respect of research into social and administrative problems from the point of view of public health organisation.

The composition of the Committee is as follows:—

Dr. W. R. Aykroyd.
 Lt.-Colonel Sir Ram Nath Chopra.
 Lt.-Colonel E. Cotter.
 Major-General J. B. Hance.
 Pandit L. K. Maitra.
 Dr. B. Vishwa Nath.
 Dr. C. G. Pandit.
 Dr. V. N. Patwardhan.
 Major-General Sir John Taylor.

The Committee is now engaged on formulating a scheme for the establishment of a National Medical Research Council and of a Central Research Institute. The incidental problems which the Committee is also examining are those relating to the procurement and organisation of research workers, co-ordination of existing research institutions and the organisation of special researches into specialised problems such as malaria, nutrition, etc. The Committee has already interviewed several experts in these lines.

V. **The Medical Education Committee** will examine the whole problem of professional education, which includes pre-medical scientific education, the under-graduate training of doctors, the training of public health officers, the provision of refresher courses and post-graduate training in different subjects, the training of other health personnels such as dentists, pharmacists, nurses, sanitary inspectors, health visitors, midwives, etc., and registration of medical men and other health personnel.

The composition of the Committee is as follows:—

Dr. J. B. Grant.
 Dr. M. A. Hamid.
 Major-General J. B. Hance.
 Dr. M. S. Lazarus.
 Diwan Bahadur Dr. A. L. Mudaliar.
 Dr. U. B. Narayanrao.
 Dr. B. Vishwa Nath.
 Dr. B. C. Roy.

Labour Legislation and Welfare. The Government of India in the Department of Labour have under consideration several important schemes designed to promote the welfare of the working population.

All important proposals relating to labour are now being regularly considered in the Tripartite organisation set up in 1942 and consisting of a Labour Conference and a Standing Labour Committee. On both these bodies, the Central Government, Provincial Governments and the more important States and the Chamber of Princes are represented. Employers and workers have also an equal representation on them. The organisation follows broadly the model of the International Labour Organisation.

At the fifth meeting of the Labour Conference held in September 1943, one of the important items on the agenda was "Social Security". It was recommended by the Conference that the Government of India should set up a machinery for investigating into various labour questions so that a Planning committee which may be set up later, can prepare practical schemes, for the social

security of labour in India. In pursuance of this recommendation and in order that information may be collected, bearing upon various aspects of social security so as to enable the Planning committee subsequently to be set up to draw up a programme of social security for labour in India, the Government of India have appointed a Committee of Enquiry to be known as Labour Investigation Committee. The Committee is composed of:—

(1) Mr. D. V. Rege (Chairman)
Members

(2) Mr. S. R. Deshpande.

(3) Dr. Ahmad Mukhtar.

(4) Mr. B. P. Adarkar (Member and Secretary).

The Government of India have already appointed a special officer to prepare a draft Sickness Insurance Scheme for certain classes of skilled and technical labour which is now being examined by a panel of actuaries and which it is hoped will form the basis for future Sickness Insurance legislation. On other questions, such as, old age and unemployment, very little statistical material is at present available and a thorough preliminary investigation is essential before any advance can be made. It is expected that the Labour Investigation Committee will be able to collect more information on these subjects and that the factual survey on which they are at present engaged will furnish the basis of future planning. This investigation will also be useful for considering Minimum Wage legislation. The question of the form the machinery for wage fixation should take has already been considered in some detail by the Standing Labour Committee in January 1944.

Besides the special investigation work which the Labour Investigation Committee will undertake, Labour Department are taking steps to improve generally labour statistics in India.

The working of the Employment Exchanges and their probable effect on the general conditions of employment have already been mentioned in Section III.



**RECONSTRUCTION COMMITTEE
OF COUNCIL**

SECOND REPORT

ON

RECONSTRUCTION PLANNING

CONTENTS

PART I—GENERAL PRINCIPLES

	PAGES
I. PREAMBLE	1
II. CONSTITUTIONAL ASPECTS	1
III. THE TIME FACTOR	2
IV. GENERAL OBJECTIVES	2-4
V. URBAN DEVELOPMENT	4-5
VI. RURAL DEVELOPMENT	5-7
VII. LAND DEVELOPMENT	7-8
VIII. INDUSTRIAL DEVELOPMENT	8-10
IX. FINANCE	10-12
X. METHOD OF PLANNING	12-13
XI. PRIORITIES	13
XII. LIMITING FACTORS	14-15

PART II—SUMMARY OF DEVELOPMENT POLICY IN RESPECT OF CERTAIN MAIN SUBJECTS

1. FINANCE	15-16
2. RE-SETTLEMENT AND RE-EMPLOYMENT OF EX-SERVICEMEN	16-18
3. POST-WAR EMPLOYMENT	18-19
4. DISPOSALS, CONTRACTS AND UTILISATION OF ORDNANCE FACTORIES	19-22
5. TRADE AND COMMERCE	22-24
6. INDUSTRIAL DEVELOPMENT	24-27
7. ROADS AND ROAD TRANSPORT	27-29
8. RAILWAYS	29-30
9. POST-WAR SHIPPING POLICY	30-31
10. INLAND WATER TRANSPORT	31
11. CIVIL AVIATION	32-33
12. POSTAL AND TELEGRAPH SERVICES	33
13. ELECTRICITY DEVELOPMENT	33-34
14. MINING DEVELOPMENT	34-35
15. IRRIGATION, WATER-WAYS & DRAINAGE	35
16. FOOD	35-38
17. AGRICULTURE (INCLUDING KINDRED SUBJECTS SUCH AS ANIMAL HUSBAN- DRY AND ANTI-EROSION MEASURES)	38-42
18. FORESTS	42-45
19. FISHERIES	45-46
20. CO-OPERATIVE SOCIETIES	46-48
21. INSTRUCTIONAL PROPAGANDA AND RURAL UPLIFT	48-50
22. EDUCATION	50-52
23. PUBLIC HEALTH AND MEDICAL SERVICES	52-53
24. HOUSING, TOWN PLANNING AND URBAN ADMINISTRATION	53-55
25. LABOUR CONDITIONS	55-56
26. SCIENTIFIC RESEARCH	56-57

RECONSTRUCTION COMMITTEE OF COUNCIL

Post-war Development Policy

PART I.—GENERAL PRINCIPLES

I. **Preamble.**—The first report on the progress of reconstruction planning described the progress which had been made at the Centre up to the 1st February 1944, and indicated some of the problems which the Government were examining in consultation with the various Policy Committees. The present report is a summary of the views of the Departments of the Government of India on the issues that arise in so far as it has been possible to formulate them with the material and in the time at their disposal. It is not however intended to convey specific approval to any particular measures. It is not possible for Government to arrive at final conclusions on matters of policy until a more definite picture of the plans of the Provinces as well as the Centre can be drawn. The report is meant to provide guidance to the Departments at the Centre as well as to the Provinces, on the lines on which they should proceed. It is also intended to invite the expression of public opinion and to enlist public support. When the proposals in the report refer to subjects within the purview of the Provincial or State Governments they are subject to the views of these Governments.

II. **Constitutional aspects.**—(a) There is no need to describe here the constitutional position as regards the respective responsibilities of the Centre and the Provinces. Provincial autonomy exists over a large field of subjects and in regard to their internal administration the autonomy of most States is of course complete. The plans for post-war development have been drawn up on the basis of the existing constitution, as it is not possible at this stage to anticipate what exact form the future constitution will take. It has been the experience of other countries with federal constitutions, the constituent states of which enjoy a measure of autonomy far greater than that enjoyed by the provinces in India, that for the purpose of economic development they have to come together and formulate a common policy in the general interests of the country as a whole.

(b) The proposals now made for post-war planning and development do not in any way affect the constitutional issue, as whatever form the future constitution takes, and whatever autonomy the future Provinces or States of India enjoy, they will all benefit by the measures of economic progress and development contemplated by the Plan. One of the fundamental principles of the Plan is regionalisation so that the different parts of the country benefit in as equal a measure as is compatible with the physical features and natural resources of each part. The ultimate political affinities of the different regions in the India of the future need not, therefore, stand in the way of their benefiting by the schemes of development hereunder proposed.

(c) Although most of the subjects of development are the responsibility of the Provinces, the present position is not as difficult as might appear. There is general agreement as to the measures necessary over a great part of the field and for a task of this nature and magnitude a pooling of all resources will clearly be desirable, if not necessary, and this will inevitably entail a considerable degree of co-ordination. Co-ordination is especially necessary in respect of such subjects as re-settlement, industrial development, electric power, irrigation, road transport and road planning. In certain matters requiring unified direction it may be possible to set up autonomous authorities with powers of an all-India nature in agreement with Provinces and States. In certain cases it may be desirable to set up regional authorities which extend over the territory of neighbouring Provinces and States somewhat on the lines of the Tennessee Valley Authority in the U. S. A.

(d) The need for planning for the whole of India and the exercise of far more initiative by the State than hitherto in matters of social reform and economic

(iii) The development of road communications and transport services on a comprehensive scale, especially in rural areas.

(iv) The improvement of agriculture and with it the development of irrigation, anti-erosion measures, land reclamation, etc.

It is in these directions that large capital expenditure by the State or private corporations will be necessary and it will be by the increased revenue resulting from such expenditure that comprehensive social services on modern lines must eventually be financed.

(e) It should be understood that the foundations of improved education, health and housing must be laid at the same time, not only because these services are essential for the welfare of the community, but also because at least a substantial development of education, particularly of technical education, is a necessary pre-requisite for the development of industry, agriculture, etc. The expansion of these services must be based on a carefully thought out programme which will gradually gain momentum and eventually cover the length and breadth of India. It must be emphasised, however, that the recurrent costs of such services must sooner or later be borne out of revenue or out of recurring grants which can be relied upon over a period of years.

(f) In the case of Educational and Health Services, it may be necessary to overhaul the existing organisations and to place them where necessary on a sound foundation as well as to embark on a definite plan involving the provision of these Services on a comprehensive scale throughout Provinces and States. Owing to the heavy cost involved and the long term measures necessary in respect of the provision of buildings and staff, development in the first instance will have to be gradual. This should not however prevent urgent measures being put in hand such as anti-malarial measures, the provision of health services in rural areas, or town planning and the provision of decent living accommodation for workers in urban areas. In the case of education, special emphasis should be laid on the education of women, adult education on proper lines and the improvement of educational facilities for which there is a definite demand. Special measures will probably be necessary to provide technical training or to continue in a modified form the technical training now being undertaken throughout India. It is especially emphasised that education should not be construed in the narrow sense of increasing the number of literates or graduates but should be part of a general uplift movement, especially in rural areas.

(g) It will be convenient to deal with the broad aspects of social reform under two headings, urban and rural development for, although these have much in common, each has its own special problems.

V. Urban Development.—(a) Probably the most important objective here is the improvement of urban administration and while local self-government should be fostered in every way possible, efficiency must come first and foremost. If necessary, legal powers must be taken to enable action to be taken where required and it should not be necessary to wait until mal-administration becomes an open scandal or the waste of public money has assumed large proportions before taking effective action.

(b) The provision of adequate water supplies, effective public health measures, hospitals and schools should find their place in the programme of development. It is, however, equally important that the services which are already provided should be efficient and the provision of funds for development should be made dependent on this condition.

(c) Town planning is important and every town, even the smallest, should have its town-plan to control all development and re-building.

(d) The provision of suitable housing accommodation for the industrial population is very necessary. The development of existing industries and the location of new industries should be made conditional on the provision of adequate housing for the employees either by Government or by quasi-Government organisations consisting of employers, local health authorities and Provincial representatives. Alternatively housing can be provided by the particular industry concerned, subject to adequate supervision to ensure that satisfactory standards are maintained.

(e) The location of industry must primarily depend on convenient access to power, raw materials, transport facilities and markets but, subject to this condition, industry should, wherever possible, be located in rural areas or small towns where expansion is easy and labour can be obtained in close proximity to its village of origin. The creation of a large industrial population divorced from its villages of origin and living in squalor in large cities is at all costs to be avoided.

Industrial Development must not be confined mainly to a few Provinces and States but so far as conditions permit should be extended in a rational manner over the whole of India. Particular attention shall be given to those parts of India which are industrially undeveloped and every assistance given towards the establishment of industries in such areas. Industries depending on agricultural raw materials must be linked up with Agriculture and their location decided after due consideration of the availability of the raw material, facilities for transport, availability of power and the proximity of the market.

(f) Perhaps the most important matter affecting urban development is the improvement of the conditions of labour. If the worst features of industrialisation in Europe are to be avoided in India radical measures will be necessary. This is not only necessary for the welfare of the workers themselves but no superstructure of efficient industrial development can be built upon unorganised, inefficient, underpaid and unhealthy labour.

VI. Rural Development.—(a) Any plan for the general improvement of the social and material conditions of the people as a whole must pay special attention to the villages. This is especially necessary in India because a large proportion of the inhabitants of the town are migrants whose homes, or at any rate, whose roots, are in the village. The measures required for such improvement are many and include improved methods of agriculture, better livestock, organised marketing, the financing of agriculture, the relief of indebtedness, anti-erosion, irrigation and reclamation measures, and reforms in land tenure and the laws of inheritance. In addition, improved communications, medical and health services, and education are required and it is doubtful whether any real progress can be made without them.

(b) The various measures desirable under these heads are indicated in Part II of this memorandum and will be elaborated in detail in the statements of policy to be prepared by the Departments concerned.

(c) The important point to emphasise is that rural development must be dealt with as a whole and that the social and material advancement of the people must proceed simultaneously on all fronts. This requires not only money but also enthusiasm on the part of the administration combined with an intensive use of instructional propaganda, organised on modern lines. For this purpose, an extensive organisation making use of modern methods of transport is necessary and it must include the radio, cinema, loud-speaker, poster and the spoken word. Its programme must include all subjects, not excluding entertainment and education in the broadest sense of the word. Only in this way can the interest and enthusiasm of the people be aroused and maintained.

(d) Perhaps the most serious obstacle to advancement in the villages is the absence of any real leadership and self-help in the villages themselves. The fostering of panchayats, co-operative societies, etc., may do much to improve conditions and to ensure co-operation between the various classes. The ex-soldier, if used in the right way, may be invaluable and the village schoolmaster should become in the East, as formerly in the West, the leader of village uplift and village society. His wife may well do the same as regards the women.

In many parts of India the presence in the villages of a minority belonging to the Scheduled Castes, village menials, etc., who have neither land nor settled occupations, and are subject to many disabilities, presents a problem requiring special treatment. Their standard of living is generally lower than that of other communities and greater efforts will have to be made to bring them up to the

higher standard aimed at for the country as a whole. This would require, among other matters, giving them special preference and attention in the matter of their settlement in new colonies, if available, the teaching of village trades and industries, or their migration to the towns to become workers in industry.

(e) Cultivators should be persuaded to adopt improved agricultural practices and should be organised for the purpose, co-operatively where possible. Where a particular measure is for the benefit of the community as a whole and is accepted as such by a majority, it may be necessary to provide that it should be accepted by all. A suitable organisation is required to handle common buying and selling, crop planning, the facilities for finance, etc. The organisation contemplated might take the form of a co-operative society or of a Trust which could be made attractive by Government assistance in the form of provision of seed, manure, irrigational facilities (e.g. improvement of wells), elimination of middlemen and provision of school and medical facilities. A number of such schemes should be started on an experimental basis in each province in order to discover the basis of organisation and to demonstrate its advantages. All new colonies and land brought under cultivation should be cultivated on this system.

Special measures will have to be taken to provide expert co-operative and agricultural staff of the required quality and each Province should begin now to build up a service of high grade and well-paid personnel for this purpose.

(f) Pending the widespread introduction of the organisation suggested above, a more active intervention by Government is required in all matters of rural development. This is especially the case in respect of consolidation, anti-erosion measures, control of grazing, tree planting and the use of manure pits.

(g) Owing to the backward state of the agricultural population it is very difficult to get teachers, doctors and nurses of good education and standing to be willing to work in the villages and when they do so the lack of amenities and educated society, is a serious handicap. This applies especially in the case of women. It is suggested that better roads and transport facilities may do much to improve the situation but they will not remedy it altogether. A possible solution might be in the selection of centrally placed villages as cultural centres for a group of say four or five villages, at not more than say four miles distance from it. Here in a small settlement could live, under reasonable conditions, the doctors, nurses, school teachers and subordinate officials responsible for providing the necessary service for the group. Housing will have to be provided by Government and transport in the form of bicycles or tongas will have to be made available, especially for the women. In view of the fact that the provision of complete facilities for every village on the scale desirable is likely to take a great many years, this system is also a means by which some facilities can be placed within reasonable reach of every village. Each village should if possible have its own school to be conducted by school teachers coming daily from the centre; where however this is not possible, some at any rate of the children can attend school at the centre. Similarly, doctors and nurses will be able to visit villages in rotation and the sick can if necessary be brought to the centre for treatment.

(h) Throughout the whole of India, and especially in the rural areas, no real improvement in the standard of living will be possible until the education of the women has been taken in hand. This must be taken in the broadest sense as including primary education, domestic and health training, and especially training in hygiene and the care of children. It is not likely that much progress will be made until the well-to-do classes set the example in this respect.

It must be emphasised that many of the measures essential to rural development are quite simple and require comparatively little money but great enthusiasm, effort and co-operation. Such items as manure pits, proper latrines, protected wells, drained streets, good seed, anti-erosion measures, etc. etc. can be carried out in any village if the will to do so is there. This can be created by the personal influence of officials, land-owners, ex-soldiers, etc., and also by well directed propaganda.

(i) In order to enable the necessary impetus to be given to the Rural Uplift Movement it may be desirable that Special Development Officers should be appointed to assist District Officers and that they should be made responsible for the co-ordination and encouragement of the work of the Health, Education, Agricultural and Veterinary Services in the districts. The general enlightenment of the cultivator should be as much a function of the Education Services as that of teaching the three 'Rs' which are of less immediate importance to the welfare of the people. The officers of all these Services must therefore co-operate over the whole field of social betterment under the general supervision of the Development Officer. The selection of officers for appointments should be made with this object in view and it is for consideration whether special training in agricultural and rural uplift subjects should not be given to all new entrants to the administrative Services. The institution of special courses or tours to give officers information as to the latest ideas on these subjects and the work that has already been done in certain districts should also be considered.

(j) A question that greatly affects rural prosperity and contentment is the prevalence of excessive litigation. There is not only great scope for the development of arbitration and the simplification of legal procedure but also a need for a comprehensive review of the legal system as a whole.

(k) It is for consideration whether it is desirable to spread efforts at development over the whole of a Province or whether it may not be preferable to concentrate on certain areas to which picked staff can be appointed and, as more staff and funds become available, to take in gradually more areas until the whole Province is covered. If this method is adopted it might be advisable to start at both ends of the scale. *e.g.*, the more advanced classes who may be regarded as ripe for development at one end and the more primitive people who require to be brought up to the general average at the other. As regards the former the imaginative methods adopted by the Tennessee Valley Authority in the United States or the 'Shock troops' methods of Russia have much in them that might with advantage be imitated in India.

VII. Land Development.—(a) The most important factor affecting post-war development is the fact that the population of India, now about 400 millions, is increasing at the rate of 11 to 15 per cent. a decade. It is possible that, as has happened in other countries, the birth rate will eventually tend to decline owing to such factors as the growing desire for a better standard of living, later marriages, and education, especially of women. The decline, should it take place, is, however, likely to be offset in India, as elsewhere, by an improvement in the survival rate due to better nutrition, education in hygiene, medical and public health measures. It will be wise to assume therefore that the increase in population will continue at the present rate for two or three decades.

(b) The population at present employed in organised industry is officially computed as 2.16 millions in 1941 as compared with 1.75 millions in 1938 or an increase of nearly 25 per cent. in three years. The increase in 1944 as compared with 1938 would be of the order of 50 per cent. This does not of course include large numbers who are actually working in village industries, small businesses or various works employing unskilled labour. While no definite estimate can be given of the possible expansion of industry and other forms of non-agricultural employment resulting from post-war development, it would appear very doubtful if it can absorb the whole of the probable increase and, as emigration is likely to be more restricted in the future, it will be clear that the pressure on the land is likely to continue.

(c) Even allowing for far more intensive cultivation than exists at present, the present agricultural population in most parts of the country is too great for the land available and there is an urgent demand for new land or the irrigation of existing land. Although there are large areas which are not at present cultivated, or are only cultivated occasionally, on account of insufficient rainfall or lack of irrigation, it is often stated that most of the productive

irrigation schemes have now been carried out and that much of the area now classified as cultivable waste is not in fact capable of being cultivated on a paying basis.

(d) It is suggested that for the following reasons the position is not so hopeless as might appear:—

(i) It is possible to establish a large number of new irrigation schemes on an economic basis, even if the return is not comparable with what has hitherto been aimed at, and by this means to bring new land under cultivation and increase the output from existing cultivation.

(ii) There is a big scope for the installation of wells, tube wells and pumps to utilise subsoil water or to draw water from rivers below the general level of the surrounding country.

(iii) Tanks and reservoirs can be increased.

(iv) Enormous areas of land in the Deccan and Rajputana which suffer from a low rain-fall can be made productive by comprehensive contour bunding, afforestation and anti-erosion measures (e.g., regulation of grazing), combined with modern dry-farming methods.

(v) Considerable areas of water-logged or salt lands can be reclaimed in canal areas, and coastal lands drained or protected from flooding.

(vi) Badly eroded areas can be rehabilitated and eventually brought back into cultivation.

(vii) Mosquito control measures can often reduce if not entirely eliminate malarial infection.

(e) In order to carry out this work an expert organisation is required and as much of it falls outside the scope of existing Agricultural, Forestry and Irrigation Services, it is suggested that a Land Development organisation should be set up in each Province to carry out on a comprehensive scale such of these measures as cannot be better undertaken by the existing Services.

It is also necessary to arm the executive with the necessary legal powers in the form of Soil Conservation or Land Development Acts. Such Acts must not, however, be allowed to remain a dead letter but should be vigorously enforced.

(f) One of the most important subjects connected with land development is the question of erosion. It is not a matter merely of dealing with badly eroded areas but of ensuring proper anti-erosion measures and controls over the whole of British India and the States including forests, waste land and cultivated land. There is very little land in India that is not liable to suffer from erosion in one way or another—even if only on account of floods, silt etc., caused by erosion elsewhere. It is no exaggeration to say that millions of acres have already been rendered unproductive by erosion and that much land is going out of cultivation, or profitable use, every year.

(g) The measures referred to above are required not only to decrease the pressure on the land and raise the standard of living of the agricultural population but also to ensure the food supply of the non-agricultural population. It is true of course that it may be possible for India to import foodstuffs but it is not desirable either in peace or war that the lives of millions of the population should be dependent on such imports. In peace it may be sound economically to grow cash crops and import food but the area under cultivation should as far as possible be capable in emergency of supporting the entire population.

VIII. Industrial Development.—(a) That an intensive development of industries in India is necessary cannot be gainsaid. It is only by such development that a balanced economy can be achieved. Under modern conditions a country without highly developed industries has no political future, as the present war has demonstrated. It is only by the development of industries that the national wealth can be produced which will enable amenities contemplated elsewhere

in the report, such as education, public health, housing, etc., to be provided. The development of agriculture must, however, proceed *pari passu* with that of industry so as to provide the purchasing power for the products of industry.

The development of industries is at present a provincial subject, but the development of any specific industry can by means of federal legislation be made a central subject. Industrial development during war time is being regulated and controlled under the Defence of India Rules, but for post-war planning legislation will be required.

(b) The question of the priorities to be assigned to industries *inter se* will have to be determined as the Plan develops. In general, it can be laid down that power, which is the basis of all industrial development, should have priority over others. In the beginning, important capital goods industries, considered essential for national purposes, should also have preference over consumption goods industries. Among these may be mentioned the iron and steel industry, the heavy engineering industries, the machine-tool industry, the heavy chemical industry and fertilisers. If, however, attention is exclusively devoted to the development of capital goods industries, the additional purchasing power created thereby will not find an outlet in the consumption of goods, resulting in inflation of prices and hardship to consumers. A development of consumer goods industries, side by side, is therefore necessary. Many such industries which have grown up during the war and which will serve peace-time needs, will require to be looked after. Most of the small scale and cottage industries are also of this type, and should be encouraged as they require comparatively small capital investment but enable a large number of men to be employed. Priorities between the different industries will have to be assigned, as the Plan develops, on the above general principles and in conformity with the requirements of the different parts of the country.

(c) The general trend of modern thought is in favour of greater control by the State over industries, so that the profit motive is duly harnessed to social needs. State activity in relation to industries take three forms, (i) ownership or participation, (ii) control, and (iii) management. There are certain industries, such as armament and munitions factories, which in the national interests the State should both own and manage. There are other industries, which it may be necessary to establish in the national interests, for which private capital may not be forthcoming, because they are not sufficiently profitable. In that case, it would be necessary for the State to own them. The Ammonium Sulphate industry may provide an example of industries of this kind. In such cases where an industry is, wholly or partly owned by the State it is not always necessary that it should be managed by the State. Management by a private corporation or company may be more economical and more efficient.

The most usual form of state relationship with industries is that of state control. Such control may take various forms, such as nomination of Government directors, licensing, limitation of dividends, etc., extending up to the stage of almost complete control over production or distribution, or both. Industries for which some measure of State control is necessary include public utilities when they are not wholly owned or managed by the State, basic industries and industries utilising scarce natural resources, which are likely, in the absence of control, to transform themselves into monopolies. It is not necessary at this stage to lay down more specifically which industries should be controlled by the State and to what extent. Generally speaking, it may be laid down that, except where national interests require it, industries are at present best left to competitive, capitalist enterprise, the State exercising such control as to see that they are operated for the public benefit after providing a reasonable return on savings and enterprise. Where industries are left in private hands, Government control should interfere as little as possible with the actual management, so as to provide free scope to efficiency. There should always however be sufficient control over all industries to ensure that labour is not exploited and receives fair wages and decent conditions of living.

(d) While there is a natural and widespread desire that expansion should be on a 'national' basis it must be recognised that there is at present a shortage of qualified Indians to fill posts as managers and technical staff. This can be remedied by suitable arrangements for training both in India and overseas, by better conditions of service, and by a greater realisation of the advantages of a career in industry. In the meantime, it may be necessary in some cases to obtain the services of experts from overseas if industrial development is not to be retarded or handicapped.

(e) Where Government decides to enlist the assistance of firms from overseas to develop industries of a highly technical kind, or those which depend on patents, the following principles may be observed:

In such cases, the participation of outside interests may, if possible, be confined to the provision of technical assistance and of machinery and experts, the firm being remunerated for services rendered and by royalties on patents. In cases where participation in capital is required, care should be taken to see that the capital is issued in India, that the majority of the capital, as well as the directorate, is Indian and final control over policy rests in Indian hands. In cases where it is necessary to entrust the management of such industries to outside firms, provision should be made for the training of Indians in all the technical processes and the ultimate transfer of control to Indian management.

(f) It is necessary here to utter a warning against embarking on projects involving complicated processes without the assurance of really expert and reliable technical assistance or of entering into arrangements for the participation of foreign firms of doubtful integrity. In these matters the advice and assistance of Government agencies may be of especial value to industrialists.

(g) Various measures can be adopted by the Central Government to assist and encourage the promotion of private industry. These may include:—

- (i) Scientific and industrial research;
- (ii) Planning and technical enquiries undertaken in conjunction with the representatives of industry;
- (iii) Geological and mining surveys;
- (iv) The provision of facilities for training technical staff in both subordinate and higher grades, including, where necessary, training overseas;
- (v) Obtaining of technical experts from overseas;
- (vi) Allocation of priorities for machinery;
- (vii) Provision of power and transport facilities;
- (viii) Finance, either direct, or through some kind of National Development Corporation in which the public can participate;
- (ix) Organisation of internal and external markets, *e.g.*, through an Indian Export Corporation;
- (x) Tariffs or other means of safeguarding industries;
- (xi) Statistics and commercial information.

(h) In general, there is great scope for exercise of initiative by Central, Provincial and State Governments in promoting the expansion of industry on sound lines. This expansion must be co-ordinated by the Centre in consultation with Provincial and State Governments and for this purpose controls will be necessary. These must not be such as to hamper legitimate development but it would be quite legitimate to use them to prevent schemes being launched which are unlikely to succeed and which may involve the loss of valuable capital and other assets to the community. Capital, even though in private hands, is a national asset and must be used to the public advantage.

IX. Finance.—(a) The finance of reconstruction and post-war development involves important measures, some of which should be taken now. The first of these is to build up during the war large public and private funds or savings which can be utilised for post-war development. This involves the expansion of the revenue by every means possible and the restriction of private expenditure to a minimum.

(b) Some of these revenue measures may be temporary expedients which can only be continued during the war period. Others should aim at laying the foundations of a permanent increase in revenue which can be utilised for development, for meeting recurring costs and maintenance, or to cover the service of loans.

(c) The provision of large capital resources at reasonable rates of interest in the post-war period will be essential to development. The resources available, though large, are limited in relation to the development required and it is essential that they should be utilised to the best advantage of the country as a whole. This may involve control over the flotation of new companies with a view to keeping interest rates low and ensuring that Government and private enterprise can obtain the capital resources required for approved schemes of development.

(d) Pending detailed investigation of the problem of finance, it is suggested that plans should be drawn up on the assumption that capital expenditure on electrical development, roads and irrigation should be financed out of loans, and in the case of industrial development out of private capital except where participation by the State is decided on. Recurrent expenditure by Governments on these services, including the service of loans raised on their account, and of expenditure on social services, should be financed out of revenue (which will improve almost immediately consequent on the discontinuance of special war time expenditure and then increasingly with the completion of the development of roads, irrigation, electrical schemes, etc.), or out of assured recurring grants from the Centre.

(e) It is in regard to the finance of social services that the greatest difficulty is likely to arise but it is common ground that their full development must eventually depend on an increase in the national income and consequently in Central and Provincial Revenues. While recurrent expenditure must be financed out of revenue or grants in aid, it is for consideration whether the capital cost of buildings should not be financed out of loans. Actually the sum that can usefully be spent on Health and Education is limited by the question of recruitment and training of staff. Apart from the capital cost of buildings, the Central Advisory Board of Education estimates the expenditure in the case of Education in British India to increase by some 10 crores at the end of five years or, say, a progressive addition of 2 crores per annum to the existing expenditure of 31 crores. The expenditure required on Health Services is not yet known. These figures are well within the possibilities of increased revenue and much of the capital expenditure in this period could probably be found from accumulated surpluses in Provinces provided loan money is available for the productive schemes such as electrical development. In this connection it is worth noting that in Great Britain expenditure on social services increased six-fold in the period from 1850 to 1900 and over ten-fold in the period from 1900 to 1934. On Education and Health Services alone the increase was also more than ten-fold. During this period the expansion of revenue was almost equally striking, *e.g.*, a five-fold increase from 1900 to 1934.

(f) It therefore appears that provided the development of industry and agriculture, and increase in taxation are on a comparable scale, there is no reason why the provision of comprehensive education and health services over the whole of India should not become possible within a period of forty to fifty years. It should be noted that much of the finance of social services in other countries has been provided from local taxation and private benefaction and it can be argued that the people in general are far more likely to welcome and avail themselves of such services if they have personally paid something towards them. Subject to the maintenance of agricultural prices at a reasonable figure and general prosperity in trade and industry, there is no doubt that in certain areas increased local taxation in the form of a cess on land revenue, or a house tax in the towns, is not only possible but would also be justified if it resulted in the provision of improved social services. This local taxation must, however, be placed on a sound basis.

(g) The principles of financial planning for purposes of post-war reconstruction and development and the order of the sums which the Centre is likely to find for the purposes of Centre and the Provinces in the first post-war quinquennium, subject to certain fundamental assumptions and conditions, are dealt with in Part II, Section 1.

X. Method of Planning.—(a) This must obviously be suited to each particular subject and the methods adopted will not be the same in every case. In general, however, it is intended that there should be an all-India Plan on broad lines for a period of 15 years, or for a longer period in respect of certain subjects. Except, however, in subjects which are a Central responsibility, it will be necessary for detailed plans to cover a definite period to be drawn up by Provinces and States in consultation with the Centre as regards ways and means. The result in effect will be—

(i) An all-India Plan in respect of Post-war Reconstruction and Development as a whole.

(ii) A detailed 5-year plan for British India for Central subjects including finance.

(iii) A detailed 5-year plan prepared by each Province in respect of its own subjects also including finance.

(iv) A detailed 5-year plan prepared by each State of a suitable size, in respect of all subjects including finance.

The functions of the Centre will mainly consist in—

(i) Initiating plans and policies for those questions for which the Centre is responsible and elaborating them in detail, if necessary, in consultation with Provinces and States.

(ii) Providing expert advice to Provinces and States and endeavouring to ensure a common policy on important questions.

(iii) Insuring interchange of information and possibly of technical advice between Provinces and States.

(iv) Co-ordination of plans and priorities.

(v) Provision of financial advice and assistance where considered justifiable or necessary.

(vi) Provision of assistance in respect of the procurement of plant or technical staff.

(vii) Co-ordination of scientific research and experiment, expert and technical investigations, training of technicians, etc.

(b) The method by which plans will be evolved is that for each subject a Development Officer will be appointed where necessary by the Central Government, together with such expert staff as may be considered necessary.

In respect of Central subjects these officers will elaborate a detailed plan in consultation with the other interests affected, e.g., Provincial and State Governments, commercial interests, etc.

In respect of Provincial subjects, a memorandum will be drawn up stating the policy recommended by the Central Government as a basis for discussion with Provinces and States. Development Officers will obtain details as to the proposed plans or policies of the Provinces and States respecting their own subjects, advise them where necessary and effect the necessary co-ordination between them. In addition they must advise as to what assistance, if any, is required or can be given by the Centre. To carry out this work effectively, these officers must spend a considerable time visiting each Province and State, the main centres of industry and possible areas for industrial development.

(c) Planning will be greatly facilitated by the appointment by each Provincial Government of a Development Commissioner or the creation of a special Department devoted entirely to development planning, co-ordinating the activities of the various Departments and maintaining contact with the representatives of the Central Government. It will also be necessary for each Province or State to select suitable development officers and experts to work with the representatives of the Centre and to enable them to ensure co-ordinated Plans in respect of the various subjects. It will be understood of course that in some cases the Development Officers will find complete plans prepared which need little amendment. Furthermore, they will find in the plan of almost every Province and State certain features that can with advantage be adopted elsewhere or which may be of sufficient importance and general significance to modify the all-India plan as a whole.

(d) The appointment of these Development Officers will in no way absolve the Secretaries of Central Departments from the ultimate responsibility for planning. So far as their duties permit under war conditions, it is desirable that they should visit Provinces, and make themselves personally acquainted with the problems of post-war development. The meetings of policy Committees will afford an opportunity for official discussions with senior representatives of Provinces and should assist in resolving any difficulties that arise.

(e) At an early stage it will be necessary for the Centre, and each Province and State, to draw up a phased plan showing the proposed programme of development in terms of recurrent and capital expenditure over a term of years over the whole field for which they are responsible. This must be commenced at an early date in order that the financial plan may be kept in step with the development plan and in order that the latter may be drawn up on a practical basis. The phased plan will not of course be regarded as rigid but may have to be revised from time to time both on administrative and financial grounds.

XI. Priorities.—(a) There has been a good deal of discussion among the public as to priorities for post-war development. From the practical aspect it is quite obvious that an advance is required on all fronts both revenue producing, directly or indirectly, and those which involve expenditure on social services.

(b) The importance of the former is that they will eventually pay for the latter but the need is so great that the country cannot afford to wait for improved education and health services.

(c) In practice the considerations that will determine priorities will, it is probable, be such questions as availability of trained staff, materials and machinery, rather than finance, and a well balanced plan can only be drawn up after such considerations have been carefully examined. A beginning with the following measures should be made as early as possible:

(i) Arrangements for the provision of scholarships and studentships, both in India as well as overseas, for the training of scientists, technicians, educationists, doctors, administrators, etc.

(ii) The expansion of existing institutions and the provision of additional institutions for training in all branches of science, engineering, agriculture, veterinary, medical, forestry, etc.

(iii) Survey of the powers resources and industrial production and potentialities of Provinces and States.

(iv) A review of the administrative systems and methods with a view to reform where necessary.

It is not possible to lay down exact priorities for measures immediately following the cessation of hostilities, but such measures as the resettlement of demobilised soldiers, the development of irrigation, electric power and roads, will have to take precedence over others, although such precedence does not mean that the development of other activities like agriculture, industries, education and public health, should not be started simultaneously.

XII. Limiting factors.—(a) Apart from finance there are certain limiting factors which must be faced in planning and preparing for post-war development. The first of these is the need for an efficient administration.

(b) While this is a matter mainly for the Governments concerned, and for public opinion, it must be clearly stated that at a time when both the revenue and capital resources of the Centre are likely to be unequal to demands it will be essential to make these available only to such administrations as are judged capable of utilising them to good advantage.

(c) A specific point that arises is whether Local Bodies should be entrusted with the duty of developing communications, health and education services on a comprehensive scale. With certain notable exceptions, experience in the past has not been encouraging and it is for consideration whether their services cannot in some cases be more usefully employed in an advisory rather than in an executive capacity. There is also the problem of the Municipalities some of which are incapable of providing an efficient administration. It is clear that the whole situation as regards Local Government should be examined and that possibly a Local Government Board and Commissioner should be set up in each Province to supervise their administration, to prepare such Local Government Acts and Model Municipal Acts as are necessary, to draft standard rules and regulations for adoption where necessary by local bodies, to lay down terms and conditions of service and to select and appoint executive staff.

The organisation of local authority services, as for example veterinary, medical, public health and sanitary engineering services, on a provincial basis under the technical supervision and control of the provincial executive heads of departments is also a matter which will require consideration in Provinces where provincialised services are not already in existence. Another important matter requiring examination is that of the "provincialisation" of, or the assumption by the Provincial Government of responsibility for, maintenance and management of institutions such as district hospitals which local authorities are unable to maintain at a high level of efficiency.

(d) Very considerable increases will be necessary as regards both administrative and technical staff and new services or specialised branches may have to be created. Conditions of services must also, where necessary, be revised. It may also be necessary to reinforce the intermediate, and in some cases, the senior grades, possibly on a temporary basis, and where personnel with the necessary qualifications and experience is not available in India it may be desirable to obtain them from overseas.

(e) Special arrangements will also be required for training both administrative and technical staff. The former can no longer be entirely of a general purpose type and, while some interchanges may be desirable, a degree of specialisation and special training, possibly overseas, will also be necessary. This will affect both the Central and Provincial Services and should be the subject of early examination. Similar considerations arise to a greater degree in the case of technical services and it will be desirable to provide special initial and post-graduate educational facilities and also to ensure a degree of interchange between Provinces and between them and the Centre.

(f) It must also be recognised that present administrative methods which have developed over a long period of years may not be suited to modern times or be adequate for carrying out comprehensive development schemes. This is true not only of Government Departments at the Centre and in the Provinces but even of the work of the Patwari in the villages. It is perhaps most marked in the districts.

A comprehensive review of office methods and routine, of reports and returns, in fact of the whole system, is required. A better qualified and better paid subordinate staff should be provided, and when this is done it should be possible to secure a reduction in numbers. To carry out this work specially selected officers are required who have made a study of the subject; they should be

capable of analysing the work done by every individual and be able to distinguish between what is, and what is not, essential and what simplifications of method are possible.

(g) Finally, it is necessary to emphasise the need for a spirit of whole-hearted co-operation not only with the Centre, and between Provinces and States, but also between the various communities and commercial interests. Competition and the desire to further provincial or communal interests are natural and within limits desirable in the general interest. They must not however, prevent each industry so organising itself as to ensure co-operation and rationalisation and the ability to speak with one voice on matters of common concern.

PART II.—Summary of Development Policy in respect of certain main subjects

1. Finance

1. In the speech of the Hon'ble the Finance Member introducing the budget for 1944-45 it was made clear that the Government of India fully recognised that if any effective development was to take place in the post-war period large sums were bound to be involved. The magnitude of war time finance has taught both governments and the public to think in terms of figures which would have frightened an older generation. The main resemblance between war-time and reconstruction finance is that they both necessarily involve a continuously high level of taxation and of borrowing if the objective is to be attained.

2. It is impossible at this stage to work out precisely all the details of the schemes for raising the requisite finance for Governmental schemes. But it may be definitely assumed that the Central Government will explore every possible measure for raising money either by additional taxation or borrowing with a view to financing schemes sponsored by themselves or for assisting schemes sponsored by the Provincial Governments. It may be assumed further that the various Provincial Governments will likewise exploit every available source of fresh finance. Whilst regard must continue to be given to the constitutional allocation of financial responsibilities, it is recognised that the problems of post-war planning will, at certain stages, call for substantial contributions from the centre, if the ends in view are to be achieved. It is not the intention of the Government of India to regard schemes which, under the present constitution, fall within the Central sphere as in anyway competing or conflicting with those which fall within the Provincial sphere, but rather as complementary. The entire planning by the Centre and the Provinces will have to be carefully co-ordinated and harmonised so as to yield the maximum results to the country at large. Although the Government of India will pay special attention to the problem of the finance of post-war development, it is premature to formulate any precise financial plans much less to allocate the funds which may be available to the Centre. These must necessarily depend upon and await the preparation of detailed plans by the Centre and Provincial Governments, suitably divided into 5-year periods. At the same time all the Provincial Governments and the Central Government will have to forecast their financial position for the first quinquennium on the assumption that not only will an era of full employment and production as in war time be maintained, but also that every new source of revenue will be fully exploited. On the expenditure side also the various budgets will have to be adjusted so as to effect economies under headings which do not contribute either directly or indirectly to the new effort of development. It is then that final selection of the Central and Provincial schemes for the first five-year period can be made, and the allocation of the Central Government's own resources made not only for the Central schemes which have secured the necessary priority, but also for the various Provincial schemes in order to supplement the Provincial resources. The financial resources of the Centre are not of course unlimited; on the other hand, planning on a generous scale with reference to definite objectives, even though unattainable to the fullest extent in the first five-year period, will have the advantage of securing that nothing essential has been omitted and also of giving the country at large an idea of the magnitude of what is

ultimately involved and the necessary impetus to Governments and the public to strain every nerve to attain the final objective. It will doubtless be realised that it will be necessary especially in the first few years to ensure that a proportion of the schemes selected will add to the national income and the revenues of the Central and Provincial Governments so as to enable them to embark more vigorously on social services in the later periods of the development plans.

3. It may be found necessary to devise some special machinery to allocate the available resources after all the plans and resources have been impartially and comprehensively surveyed.

4. In the case of certain schemes it may be possible to proceed without waiting for the completion of the plans as a whole, e.g., if there are funds specially earmarked or created for them, as in the case of Railway Development, or if it is found essential to make a beginning with special priority schemes in connection with necessary preparatory measures such as training, or the resettlement of ex-service men.

5. The Government of India have estimated, on the basis of certain fundamental assumptions, that a round figure of Rs. 1,000 crores might be available for the first five year period taking effect from the year 1947-48 and ending in 1951-52. Approximately half of the total will consist of revenue surpluses which would be available for financing such Central development projects as are not financed by loans and for making grants recurring or otherwise. The remainder, that is, about Rs. 500 crores represents the total loans representing new money, which it is felt might be raised by the Centre, and by Provinces, in the five year period. It will be noted that this figure of one thousand crores is exclusive of amounts which could be raised from the market for private investment. This may be of the same order as that estimated for Government borrowings.

6. The fundamental assumptions and conditions on which the foregoing estimate is based are:—

(i) That any constitutional or political changes which, may be introduced will not result in a radical departure from the present economic and financial arrangements;

(ii) That a reasonably speedy rate of demobilisation after the conclusion of hostilities proves possible and corresponding progressive reduction of the defence budget is ensured;

(iii) That world conditions in the early post-war period are such as to permit of full production and employment;

(iv) That in the interests of the future development of the country the Government of the day will be prepared to impose, and the public will be prepared to accept or submit to, full development and exploitation of the taxable capacity of the country. In other words, that a determined effort will be made to secure a sure and sound financial foundation for development and expansion by an all-out taxation policy, by deliberately working the Government commercial departments for profit, etc.;

(v) That Government control over the issue of capital is maintained and the borrowing requirements of Government are taken into consideration in its administration.

2. Re-settlement and Re-employment of ex-servicemen

1. The responsibility for the re-settlement of ex-service personnel is essentially civil as it is only in civil employment that they can be absorbed. It is possible, however, for the Service authorities to do a great deal to assist both the individual men and the civil agencies concerned either at the Centre or in the Provinces and States.

The problem of re-settlement as a whole will be solved only by a comprehensive all-India development policy but meanwhile much can be done by special measures initiated and financed either by Provincial and State Governments, or by the Centre.

It must be emphasised, however, that the success of such schemes will depend largely on the action of Governments of Provinces and States which will

in most cases have to administer them. Similarly the extent to which ex-service personnel are absorbed into employment as a consequence of development generally will depend on the selection of suitable schemes in the first instance, and the administrative measures taken by the Governments concerned to ensure the utilisation of ex-service personnel to the fullest extent possible.

2. Planning for the re-settlement of ex-servicemen must therefore to a great extent wait on the development of more general plans. Meanwhile, preliminary work has the following main objects.

(i) to adjust demobilisation so far as possible to opportunities for re-settlement;

(ii) to provide machinery to assist the ex-serviceman to find employment on his discharge;

(iii) to train him for the various kinds of employment which he may be expected or may wish to take up;

(iv) to promote such resettlement and welfare measures as may be appropriate for ex-servicemen as a special class.

The policy of reserving a percentage of permanent vacancies occurring during the war in the public services for candidates who have offered war service has been accepted by the Central and Provincial Governments.

3. Recruits have been drawn from a wide range of occupations and from almost every section of the people. The main line of division is between those who will look to the countryside for their future livelihood and those who will look for industrial or other employment in the towns. Some ex-servicemen will own or have an interest in land or businesses to which they can return, some will not; some will enter the army with special qualifications, or have acquired them since, while some have none. These are conditions of the re-settlement problem which have to be kept constantly in view.

4. Planning under the various heads mentioned in paragraph 2 is proceeding in the following directions:

(i) (a) The desirability of relating the date and time of demobilisation to opportunities for re-settlement has been borne in mind in preparing demobilisation schemes. Such schemes will be designed to secure that officers and men serving overseas get equal opportunities for re-settlement with those serving in this country.

(b) It is proposed that military units should be made available for productive development work whilst they are awaiting demobilisation. They will be offered to Provincial and State Governments who will only be required to bear costs additional to normal maintenance. It is hoped that if, as is expected, Governments find such assistance useful, they will consider the formation of civil labour and technical units which could absorb ex-servicemen.

(ii) (a) Employment exchanges (see para. 3 below) will give special attention to ex-servicemen, and special military sections will be attached to exchanges if necessary. Details of the qualifications, experience etc. of service personnel are being collected and systematically recorded to this end.

(b) Employers, Government and private, will be asked to reserve a percentage of vacancies for or give preference to ex-servicemen.

(iii) (a) Vocational training schemes are being worked out with the assistance of Provincial and State Governments. These will give training before demobilisation.

(b) It is hoped to secure special educational and training facilities and concessions for officers and men who have had their training interrupted by war service.

(4) As stated above, the ex-servicemen as part of the general population will take part in and benefit from general development schemes. It is however proposed to undertake special measures for his benefit to be financed by the Ser-

vices' Post-war Resettlement Fund and such other resources as may be available. The following indicates the matters to which special attention will be paid:

(a) The organisation of the Indian Sailors, Soldiers' and Airmen's Board and its subsidiary Provincial and District Boards to be developed and strengthened to promote the social welfare of ex-servicemen and assist them in maintaining the higher standards of life to which they have become accustomed during their service.

(b) The education of ex-servicemens' families to be assisted by scholarships and maintenance grants etc.

(c) As regards re-settlement on and development of land, efforts to be made to assist ex-servicemen.

3. Post-War Employment

1. The ultimate aim of Government must be the full employment of all those seeking work. But to ensure full employment in a vast country like India, at its present stage of economic development, must necessarily take a long time. As the Plan develops, industrial expansion will absorb larger numbers than at present. This will particularly be the case with reference to the small scale and cottage industries where the ratio of labour to the volume of capital employed is much larger than in the major industries. A large part of the population will also be absorbed in trade and other services, following increased production. The main problem of unemployment, however, arises in agriculture where the worker on the field has to be idle for long periods in the year. This unemployment will be remedied by the diversification of agricultural pursuits as recommended in the plan for the development of agriculture, such as dairy farming, market gardening, etc. The cultivation of more than one crop in the year with the help of better irrigation and manures and the provision of subsidiary cottage industries will provide work to the agriculturist and the labourer on the land in addition to the work on the farm.

2. Employment is therefore a product of economic and social development, and depends on industrial, agricultural, public works and financial policies. It will be for the Governments and Departments concerned to initiate these policies or to encourage private enterprise to do so. Taken as a whole they involve an efficient utilisation of natural resources and manpower, and the establishment of suitable relations with other countries. The success of these policies will depend largely upon the contentment, health and efficiency of labour. The responsibilities of the Labour Department include not only the establishment of these conditions but also of ensuring that suitable labour is available where required. This necessitates an efficient employment service and must include provision to deal with those now engaged in war-time vocations.

3. A beginning has been made in the setting up of an employment service by the establishment of Employment Exchanges, with Employment Committees attached to them, in some important industrial towns and cities, and by the opening of Labour Depots for unskilled workers. Through the experience gained in running these Employment Exchanges, which have at present been designed to facilitate the placement of skilled and semi-skilled labour, and in running the Labour Depots it is hoped that an efficient post-war employment service will be evolved. This service of Employment Exchanges and Labour Supply Depots will provide a valuable index to unemployment in post-war years, will help to adjust the timing of remedial measures, will facilitate the migration of labour from industry to industry, according to the rising tempo of industrial progress, and will give an index of the possible mobility of unskilled labour and of the areas in which labour is likely to be available if industry is established there.

4. The problem of "conversion" and "reconditioning" of the personnel now engaged in war service or industries, will receive special attention. The policy of readjusting the Technical Training Scheme not only to the needs of war-time industry in the country, but also to the requirements of post-war industry, has already been accepted. An Advisory Committee has been set up, to review the

existing methods and syllabus of training under the Scheme and to make recommendations as to how it should be adjusted to meet the needs of industry. A Committee of representatives of Provincial Governments and States will also be appointed to consider comprehensive plans with a view to fitting the scheme into the existing structure of technical and vocational training in the Provinces and States.

In this manner, the training will be so designed as to facilitate the conversion of demobilised technical personnel to useful technicians for civil industry in post-war years.

4. Disposals.

1. Surpluses for disposal, other than actual armaments which for obvious reasons will require special treatment, will fall broadly into the following classes—land and buildings, plant and machinery, motor transport, timber, textiles, innumerable items of general stores, and the produce of reclaimed salvage. The major part of the war material in India is the property of H. M. G. and will, therefore, have to be disposed of in consultation with that Government. A proportion of the material will be of lease/lend origin and under the terms of lease/lend aid it may be found necessary to return such material to the U. S. A. or to arrange for its disposal in consultation with the American authorities.

2. In order to provide the necessary machinery to dispose of these surpluses and to enable decisions to be taken on questions of policy arising in connection with the disposal of surpluses it has been decided to set up a Disposals Board which would be responsible for the general policy in respect of surpluses and allocations and which would control all disposals operations. The Disposals Board will consist of the Secretaries of the Supply Department, the I. & C. S. Department, the War Department*, the Commerce Department, the Planning and Development Department*, Defence Department* and the Food Department*, as well as the Financial Advisory, Military Finance, and the Director-General of Disposals. Those marked with an asterisk will be required to attend only when matters arise which concern their Departments. The head of the Ministry of Supply Mission in India will also be a member of the Board as the representative of His Majesty's Government in view of their very large interest in the material for disposal. A Joint Secretary of the Supply Department will be the Secretary of the Board.

3. The Disposals Board will be generally responsible for formulating policy on all matters connected with the Disposal of surplus stores in India, subject to the approval of H. M., Supply, on questions of high policy, and a reference by him when he considers it necessary, to the Executive Council, the W.R.C.C., or the proposed Tripartite Council, as the case may be. The Disposals Board will deal with all true surpluses of stores in India available for disposal and will be concerned with the policy governing the disposal of lands and buildings, factories, and foodstuffs. It will not deal with the details of the disposal of lands and buildings, food and livestock. Report of true military surpluses available for disposal in India will be made by the Military Surplus Stores Section of the War Department to the Directorate General of Disposals. Civil Departments of the Central Government and such Provincial Governments and Governments of Indian States and other Public civil undertakings as desire to utilise the services of the Disposals Board will similarly report to the D. G. Disposals their true surpluses of finished goods. The D. G., Disposals, will inform the Disposals Board from time to time of all available surpluses. Surplus stores which the United States Forces decide to make available for disposal in India will be reported direct to the Disposals Board which will convey orders regarding the method and manner of disposals subject to any decisions which may have been taken on high policy.

4. The Disposals Board will decide on the method and manner of disposal—whether to Government Departments or to the civil market etc., and these decisions will be conveyed by the Secretary of the Board to the Directorate General of Disposals who will be the executive agency through which the decisions and

policy of the Disposals Board will be implemented and who will be responsible for taking disposal action in all disposals matters. As a rule, available surpluses will be disposed of to Central Government Departments, Provincial or State Governments or public undertakings and only after their demands are satisfied in full, will surplus stores be released for the civil market. In the case of surpluses reported by Civil Departments these will first be offered to the military authorities before any other manner of disposal is considered. The Disposals Organisation will not be responsible for storage of surplus stores but such surpluses shall be stored by the reporting authorities until they are disposed of in accordance with instructions issued by the Disposals Board or the Directorate General of Disposals.

5. The Executive duties involved in disposal will be carried out by the Directorate General of Disposals who may employ an unofficial agency to assist in the disposal of any particular class of goods or material. The fundamental principle underlying disposals policy will be an orderly disposal of stocks having regard to the need to effect disposal quickly to prevent deterioration and release storage space and also to the equally important need that the economic and industrial life of the country is not unduly disturbed by sudden unloading of stocks. In effecting disposal of surplus stocks to the civil market this should be done so as to dislocate as little as possible the existing economy of the country. Distribution through the usual trade channels should, therefore, be the rule and not the exception. But in using trade channels, care should be taken that unnecessary middlemen are excluded, profiteering prevented and the ultimate consumer assured of supplies at a reasonable price. In order to carry out this policy, continuance of certain war-time controls may be found necessary and recommendations in that regard will be made by the Disposals Board to the Central Government.

6. The disposal of land and buildings and the relinquishment of those that have been requisitioned will be the responsibility of the Defence Department but any question of disposals policy which arises in connection therewith will be referred to the Disposals Board. Subject to any existing undertaking that any particular land or building will be returned to a specific party, all lands and buildings will, in the first instance, be offered to Departments of the Government of India and subsequently to the Provinces concerned. If any such land and buildings are not required by any of these Governments or Administrations they will then be disposed of to the public subject to the condition that the owners of lands and buildings from whom such property was acquired or requisitioned should be given the first option of repurchasing their property.

7. The disposal of surplus textiles and other surplus items for the procurement of which the Industries and Civil Supplies Department is responsible will be effected through the Directorate General of Disposals. Relations between the Directorate General of Disposals and the Industries and Civil Supplies Department will be precisely similar to those between the Directorate General of Disposals and other organisations of the Supply Department except that the Directorate General of Disposals shall invariably consult the Industries and Civil Supplies Department before making proposals to the Board with regard to textiles or other items for the procurement of which the Industries and Civil Supplies Department is responsible.

8. The Quarter Master General will form a separate section for reporting true military surpluses of food-stuffs, and an organisation for disposal will be worked out by the Food Department who will also be responsible for policy decisions in consultation with the War and Industries and Civil Supplies Departments.

9. It is hoped that Provinces and States will not only take a considerable proportion of the material which will be available but will also assist in finding private purchasers for them. The possibility of establishing a credit for each Province and State against which the value of stores, land, etc., acquired by them would be debited, will be examined as also the possibility of extending special credit facilities to industries where necessary.

Contracts

Government is at present the biggest purchaser of items of indigenous production and has been responsible for an extensive change-over from peace-time methods to a war basis of production of articles many of which have no peace-time value. The manner of Government's withdrawal, as the War draws to a close, from these markets, will therefore be of the greatest importance to the national economy. Government's major long-term contracts include a break-clause which will have to be operated at the appropriate time as reductions in demands are communicated to the Supply Department. The nature of the action under this clause will be a matter for individual decision in the light of such factors as Government's financial commitments in view of special raw materials already supplied and the extent of partly completed work, the speed at which a changeover to production for civil requirements can take place, and problems which may arise in connection with demobilization of labour. Meanwhile the Supply Department will undertake an examination of all such contracts with a study of the special problems which will arise on their cancellation so that prompt decisions may be possible when the question of applying the break-clause actually arises.

Utilisation of Ordnance Factories

1. A measure of preliminary investigation as to the future of the Ordnance Factories has already been carried out. This defines the potentialities of each factory, both in terms of production of munitions and of alternative production related to civil industry. We still, however, lack certain essential data, whereby their exact post-war employment can be determined. Nevertheless, much useful action towards this end can and should now be undertaken.

2. Broadly speaking, the problem is two-fold:—

(i) the utilization of the Ordnance Factories during the immediate post-war period—a period which for purposes of argument may be assessed at two to three years;

(ii) the end use of the Ordnance Factories, *i.e.*, the position when a portion of them will be devoted to the needs of the peace time defence services and when a portion can, if necessary, be thrown up for civil needs.

3. It will clearly not be desirable to close down the Ordnance Factories the day hostilities cease. The present purely military production should, however, merge as soon as possible into two major activities:—

(i) breaking down and sorting stores and material and subsequent processing into types of material acceptable by the trade;

(ii) filling the industrial gaps caused by the ravages of war in such directions as cannot conveniently be undertaken by civil industry.

4. There is obvious scope for the Ordnance Factories to contribute usefully to the process of "beating our swords into ploughshares". At this stage it will be possible only to estimate roughly the nature and quantities of stores and equipment which will lend themselves to this process at the end of hostilities. Nevertheless, a detailed examination of what is likely to accrue and how best to utilize Ordnance Factories capacity for the purpose should be undertaken at an early date.

5. The length and intensity of the campaign has led to a world-wide shortage of most commodities. India is no exception in this respect. We must fill these gaps in production as early as possible and at a rate of output far exceeding that subsequently required, when peace conditions have been restored. In short we cannot afford to have lying idle machinery which can contribute usefully to the economic rehabilitation of the world. In this direction the Ordnance Factories can assist. It is a matter for planning and such planning should be initiated at once.

6. The end use of the Ordnance Factories *i.e.*, what proportion of them will eventually be concerned in maintaining our peace time defence services, is not so easy to assess. It must depend on the following factors:—

(i) The size of the peace-time Defence Services and their anticipated expansion in any emergency.

(ii) The share of munitions production on a British Commonwealth basis, which India may be asked to undertake.

(iii) The selection of the Ordnance Factories best suited to meet the requirements of (i) and (ii) above.

7. The size of the peace-time Defence Services to be maintained in India is under active consideration. Neither in this respect nor as to India's share in post-war munitions production can we expect finality for some time. Nevertheless, by making reasonable assumptions, it will be possible to formulate a plan for the post-war employment of the Ordnance Factories, which would readily be capable of modification to the conditions which emerge at the end of the campaign. Unless we undertake such an investigation now we shall again be caught unawares, when the time for action comes.

In this connection, it will be convenient to examine on the same lines the future of other Government controlled installations having at present a purely military identity.

8. A further aspect of the problem is the retention of adequate technical personnel in the factories once the war is over. Unless we take steps to ensure the retention of the present staffs or to find suitable replacements, we shall not be able to utilize our factories to advantage. After the last war the dispersal of the War Factories staffs in the U. K. was a source of real embarrassment.

Our planning must, therefore be directed to the solution of this problem also.

9. Since much of the planning hinges round the examination of our post-war Defence Services requirements, now being undertaken by the General Staff, planning in respect of Ordnance and other Factories should be a War Department responsibility, the actual work being undertaken by the M. G. O. assisted by a suitably representative committee, with the following terms of reference:—

(i) To examine the post-war employment of the Ordnance and other Government owned Factories and plants now concerned with Defence Services production with a view to submitting a plan to cover their use:—

(a) For the peace-time needs of the Defence Services and to meet their expansion in emergency and subsequent maintenance of the war effort.

(b) For reprocessing military stores and equipment into material acceptable to the trade.

(c) For assisting in general rehabilitation by manufacture of items of which there is a general shortage.

(ii) To make proposals for ensuring the retention of adequate technical staffs in the factories.

(iii) To make recommendations as to the responsibility for factories which are ultimately to remain entirely for Defence Services purposes and as to the measure of Government control necessary in factories or plants which will be required for expansion, but which in the meantime can be utilised for civil needs, and to make recommendations as to terms on which utilisation should be permitted.

(iv) To recommend the best method of utilising in the general interest factories and workshops not required for Defence purposes and whether they should be used by private industries or placed under the control of Civil Departments of the Central or Provincial Governments.

5. Trade and Commerce

General.—If industrialisation is to be one of the major aims of economic policy, a steep and even spectacular increase in India's import trade would be inevitable in the post-war era. Although India's capacity to pay for the imports has been greatly strengthened by the growing accumulation of sterling balances and by the reduction of the external debt, the financing of foreign purchases will still entail the maintenance of the export trade at the highest possible level.

Moreover, a higher level of trade and commerce would help to increase the wealth and purchasing power and to reduce the incidence of unemployment. But international trade is not unilateral, and no country can lay down a commercial policy for itself in isolation from others. Although it would not be possible to bring the determination of a post-war trade and commercial policy for India to the stage of finality before the framework of the new order contemplated by the United Nations has been fashioned, an endeavour should be made to determine provisionally what policy is best suited to Indian conditions and interests.

2. *Export policy.*—As far as possible, export of raw materials should be replaced by export of semi or fully manufactured goods. Undue dependence on a particular market for the disposal of a particular class or classes of goods, should be avoided, but increased attention should be paid to the development of eastern markets. Standards of quality for export goods should be laid down and rigorously enforced and encouragement should be given to the formation of larger export units and to action directed towards an improvement in existing trade methods. State-owned organizations should be set up at the appropriate time for the purpose of trading with State-trading countries or in commodities produced or manufactured by State-owned enterprises.

3. *Import policy.*—Subject to what is stated in the succeeding paragraphs, it would be of considerable importance to avoid undue dependence on particular import markets and to consider whether action should not be taken to check the growing tendency for companies domiciled abroad, to establish branches or subsidiaries in India for purposes of both import and internal distribution in preference to employing Indian or other established agency houses.

4. *Future of trade controls.*—Export and import controls owe their origin to war-time conditions which include economic warfare, supply and availability considerations, difficult currency and shipping. These conditions, or secondary manifestations of them, are bound to persist for some period after the war which may be estimated at about three years. During this period, the present controls should be maintained with greater or lesser severity. But, it is clear that the general trend of international opinion is towards the complete abolition of these controls in all countries at the end of this period. To continue the controls when the present abnormal conditions have disappeared, would not be easy and might invite reprisals from other countries; but that should not blind us to the fact that if any comprehensive scheme of industrial development is undertaken in the post-war period, some form of trade control, particularly on imports, will be found inevitable.

It would be necessary to adjust war time controls in sufficient time to ensure that—

(a) orders could be placed for the import of capital and consumer goods from overseas and that the necessary priority of shipping could be obtained for the goods urgently required;

(b) contacts, and possibly contracts, are made with possible purchasers overseas to ensure the retention of pre-war markets and the creation of new ones;

(c) the necessary foreign exchange is made available to finance imports.

5. *Tariff policy—Export duties.*—India's policy in regard to the imposition of export duties should continue to be guided by the following recommendations:

(a) Export duties should not be imposed for the purpose of protecting industries.

(b) Export duties for revenue purposes should be employed sparingly and with great caution; they should be imposed only on articles in which India has a monopoly or a semi-monopoly; and in every case the duties should be moderate.

(c) There is no objection to the imposition of small export cesses, the proceeds of which do not go into general revenues but are devoted solely to the improvement of industries including agriculture on which they are based.

6. *Tariff policy—Import duties.*—The revenue tariff imposes a relatively moderate uniform rate of duties on all commodities subject to the levy of a

much higher duty on particular articles, mainly of the luxury type, and to exemption from duty or admission at low rates of other articles where the national interests require such concessions. This is a policy which has stood the test of time and might well be followed in the post-war period, though the actual content of the tariff schedules should be subject to review from time to time. One of the weaknesses of the fiscal system has been the extent to which Central revenues had been dependent on customs duties. The present trend towards the enlargement of the scope of direct taxation and excise duties is a wholesome development which should be further encouraged in the post-war period.

Protective duties are imposed in pursuance of the accepted policy of protection. The principles and working of this policy must form the subject of a detailed investigation. Meanwhile, the provisional view is that the economic interests of the country would be best served by the continuance of a policy of protection subject, however, to a liberalisation of the principles governing the selection of industries and of the procedure for the initiation and conduct of investigations into claims to protection. The grant of protection would not be confined to existing industries and investigations about the necessity for granting protection to industries yet to be established would be made.

While subsidies and bounties would be unsuitable for countries like India with limited revenue resources and might involve regressive taxation, they may have to be granted as a special measure in some cases.

The resuscitation of the Tariff Board should have first claim on the attention of Government as soon as normal competitive conditions are beginning to be restored, but before that stage is reached provisional decisions should be made as to the status, functions and the period of appointment of the future Board.

7. *Treaty Policy.*—The ultra-cautious and conservative policy of "do not enter into a trade agreement unless you *must*" should give place to a progressive policy actuated by an anxiety to enter into trade agreements whenever there appears a prospect of a commercial advantage being gained for India. In particular, if the proposals sponsored by the leading members of the United Nations, for a multilateral convention covering the principal aspects of commercial policy materialises, we may adhere to such a convention, provided our vital interests are safeguarded. If no such convention is accepted internationally, or, if accepted, to the extent permitted by it, we should endeavour to conclude commercial treaties or bilateral trade agreements on a most favoured nation or other suitable basis with our principal foreign customers or suppliers. At the same time, consideration should be given to the difficulties which have militated against India's adhesion to certain international conventions without awkward reservations, such as the position of Indian States and the treatment of claims to national, or most favoured nation, treatment with respect to internal duties levied for the benefit of local authorities.

6. Industrial Development

Certain fundamental considerations affecting industrial development have been dealt with in Part I and various matters such as employment, disposals, trade and commerce, communications, electricity, mining and geological survey, all of which affect industrial development, are dealt with in the appropriate sections of Part II. There is, it will be noted, practically no form of development, social or economic, which does not have its repercussions on industrial development.

2. The following paragraphs deal with the methods by which it is proposed to foster planned industrial development in India.

3. For the direction of planning an Industrial Adviser to the Government of India has been appointed. He will be assisted by a number of Deputy or Assistant Industrial Advisers. It is intended to set up a representative Industries Committee from among the foremost industrialists in India, together with representatives of Provinces and States. This Committee will be consulted from time to time on questions of policy pertaining to industrial development. For the actual development work, panels consisting of one or two industrialists

concerned with the particular industry, or group of industries, and assisted by experts and an officer from the Planning and Development Department, will be formed. Side by side with this, the Provinces and States are also being advised to set up industries committees of their own so as to see that their own special needs are not lost sight of. The recommendations of the industrial panels would be co-ordinated with those of the Provincial and States Committees before they are considered by the Government of India. This should not prevent the Provinces from going ahead with such schemes of industrial development as may be ready. Such proposals will be examined by the Government of India on their merits from the point of view of any controls that may be required and any assistance that may be desired.

4. In order to promote Indian industrial development and also to provide first-hand up-to-date information of what is happening in other countries it is proposed to arrange visits by leading Indian industrialists to Great Britain and if possible to U. S. A., and to give them all facilities possible under present circumstances to make contacts, exchange ideas and discuss mutual arrangements for implementing post-war plans. Arrangements are under way for the first group of certain well-known industrialists to leave as soon as they are ready.

5. Besides organised industry contemplated above the development of small scale manufactures and of cottage and bazaar industries will also be taken up. Panels for the development of small scale industries, particularly those which have grown up during the war, are also being formed in the Supply Department. The question of marrying cottage production with organised industry, as has been successfully done in Japan, is a possibility, but without the horrors of exploitation that the ruthless capitalist and military creed of that country brought into being. This work is especially the field of Provincial and State Governments and efforts will be made to give them every assistance and to work in the closest co-operation with them.

6. Another form of industry that requires planning is that connected with the processing of natural products and minerals. These may involve only the preliminary processes or be developed so as to carry right through to the finished product. The Agricultural, Forestry and Fisheries Departments, and the Geological Survey, combined with the Board of Scientific and Industrial Research, will be able to render great assistance in promoting development in this direction.

7. As far as it can be seen at present planning for post-war development falls chronologically into two different phases: (i) planning for the conversion from war to peace production and for ensuring the continued operation on peace time work of plants installed for munitions production, and (ii) long-term planning for the industrial development of India.

8. Regarding the first, it is very essential that plans be prepared immediately to turn over from war to peace; otherwise widespread unemployment and unrest will result as well as an unpardonable wastage of industrial potential. With this problem is also involved the question of rehabilitation of industry and the making good of war arrears in plant repairs and replacements. In order to prepare the ground for this work it is necessary to have as complete a picture as possible of Indian industries as they are today and of the position in which they are likely to find themselves at the end of the war. For this purpose a questionnaire was issued to the industry as far back as November last. The response so far has been poor; attempts are, however, being made to expedite the replies to this questionnaire as well as to collect this information by other means.

9. In the same connection, *i.e.* rehabilitation, should be considered the question of any expansion that existing factories may be contemplating immediately on the cessation of hostilities. Some part of such expansion may fall under the purview of the long-term plan but most of it will be the legitimate extension which would have proceeded normally but for the war. There is

bound to be competition for such extensions as soon as hostilities cease and it is necessary to plan with this contingency in view. To this end a questionnaire was issued last October asking Industry to report its capital goods (machinery) requirements. Response here too has been poor.

10. A special problem arises in connection with the Government owned munition, food, clothing and other factories. One alternative would be to hand them over to private industrialists on suitable terms reserving only such as are required for the production of lethal weapons and special equipment. This might involve agreement to the maintenance of certain special machinery that might be required for war production.

Another method would be for Government to convert these factories to civil production under Government management, *e.g.*, for machine tools, radio sets, scientific instruments, aircraft parts and maintenance, etc., whilst retaining their war potential. There is much to be said for this method provided the factories are managed on commercial lines. They might become valuable training grounds for highly skilled technicians and also produce goods which at this stage could hardly be profitably produced by private firms. They might also undertake the production of the more specialised equipment required by the Railways and P. & T. Department.

It may be noted that after the last war Australia procured valuable equipment at a low price from surplus munition factories in the U. K. and thus laid the foundations of her present munitions industry. It is possible that India might do the same especially as it is believed there is likely to be a surplus of machine tools in the U. K. as well as of specialised equipment for making munitions.

11. As regards the second phase, namely long term planning, reference has already been made to the All-India and Provincial Industrial Committees and the Industrial Panels through whom the Plan will be prepared.

12. The question of control has already been dealt with in part I para. VIII. The imposition of controls will require legislation with special reference to the licensing of industries, control of imports of capital goods and a control of capital issues. The question whether agreement can be reached with States as to the application of any of these controls will also have to be reviewed. These measures will have to be considered in conjunction with the Governments of Great Britain and the U. S. A. and it is to be anticipated that if they maintain any control over the manufacture and exports of capital goods, they will be ready to accept the recommendations of the Government of India in respect of priorities. It will also be necessary to take steps to ensure the grading, and guarantee of the quality of Indian products. The building up of India as a great industrial country may be seriously jeopardised by questionable methods, unreliable samples or inferior workmanship on the part of a few manufacturers and it may be necessary to devise machinery to guard against this and to ensure standardization of grades and uniformity of samples and manufactures.

13. The examination and review of industrial development will have to decide the following questions of policy:—

- (a) Whether the development is desirable and in what location
- (b) What assistance, if any, is required from Government in the form of tariffs, finance, etc.
- (c) What agency should undertake it.
- (d) What priority should be given to the import of the capital goods required.
- (e) Whether suitable labour is available and whether suitable arrangements have been made for housing.
- (f) Whether adequate technical staff is available or can be obtained.
- (g) Whether coal and/or electric power are easily available.
- (h) Whether adequate transportation facilities can be provided.
- (i) Proximity to markets or to ports for export.

14. Industrial development cannot proceed according to artificial governmental boundaries; it must depend upon the geography of raw materials, power and markets. Planning will, therefore, have to be regional to a certain extent and the recommendations of Provincial and State authorities will have to be co-ordinated with the practical advice of industry. Development will, therefore, not only be a question of assistance by Government but also of direction, co-ordination and control.

15. The pace of development is likely to be governed more by the availability of imported machinery and technical staff than by considerations of finance. These are both matters in which government assistance may be necessary.

16. The most serious difficulty facing the expansion of industry will be the dearth of technical staff, especially for the higher technical and managerial posts. Efforts are being made to arrange for the despatch of promising young men to the U. K. for this type of training. It may be necessary to obtain a quota for Indian students at the Universities and technical colleges in the U. K. in view of the very large influx of British students expected at the end of the war.

17. The major industries will require examination in detail under the following heads:

- (a) Technical—to determine if the industry can be efficiently established in India in the proposed location, or where it should be located.
- (b) Scope—to decide on the range and variety of articles to be produced.
- (c) Commercial—to decide if markets are available in India or overseas and what competition is to be anticipated.
- (d) Strategic—to settle whether the industry is necessary on Defence grounds or is essential to economic development.

7. Roads and Road Transport

A good system of communications, including road communications, is necessary for the proper development of the country, industrially, commercially and culturally.

In this connection, the following recommendations (paras. 2 to 17) of the Technical Committee on Roads and Road Transport regarding post-war policy are being examined in consultation with Provinces and States and decisions will be taken as early as possible.

2. Apart from the maximum possible co-operation between the Centre and the Provinces, the road and rail transportation systems must be planned and developed as a correlated whole, for which purpose it is desirable that a Central co-ordinating authority should have by consent a controlling interest in framing the policy after full consultation with the Provinces regarding the alignment of both roads and railways and an adequate voice in the development and regulation of roads and road transport.

3. Development of roads and railways should be contemplated and embarked upon as part of the same transport system, if it is to be well-balanced and efficient and in order to secure that each means of transport can play its appropriate part and to prevent over-development of one to the prejudice of the other.

4. So far as roads and road transport are concerned, their development should be phased, regulated and closely co-ordinated by a Central authority, as without the one the other will be useless.

5. The existence of an alternative road is an important consideration in dealing with the question of restoration or dismantlement of branch line railways.

In order to prevent duplication and waste of public money and in the interest of public service, existing railway bridges might be decked to cater for road traffic and new bridges should be combined road and rail bridges wherever required or possible.

6. For uniform and co-ordinated development, roads should be classified as National Highways, Provincial roads, District roads and Village roads. The National Highways should be planned by the Centre in consultation with the Provinces and States, upon national considerations including defence, security and general policy. In broad outline, these roads will link Provincial capitals by the nearest reasonable routes at frontiers. It is important that the Centre, through the Central Road Board proposed, should direct the control over traffic on National Highways and their maintenance and development should be a charge on Central revenues. The other three classes of roads will have to be developed by the Provinces with particular reference to marketing and bringing every village within half a mile of a public road, but such development should be co-ordinated and controlled by the Centre. The Centre should also be responsible for the designing and siting of major bridges and for giving technical advice on the construction of all bridges.

7. For road development, skilled labour and technical personnel from the army might be kept on as complete units on demobilisation and re-employed either as units of the army or otherwise on a co-operative basis. Workshops established for the maintenance of road machinery now being used by the army should be continued after the war to recondition surplus machinery before disposal. The requirements of road-rollers and machinery for road making and maintenance should be standardized and procurement made on an all-India basis.

8. Road-making machinery and plant as well as the materials required for road construction and maintenance should be manufactured in India.

9. All plans and estimates for road development should be ready by the middle of 1945 at the latest. In planning development, the importance of localising and regulating ribbon development and the needs of the future should be borne in mind.

10. So far as motor transport is concerned, the main object should be to get it into the heart of the countryside and to prevent undue overcrowding and competition on the better developed routes. This, as already pointed out, should go hand in hand with road development, on the same lines. Motor transport should also be used to a greater extent than hitherto by the governments in India for administrative and "development" purposes.

11. The principle of maximum amalgamation of road transport operators to form substantial concerns on main routes and controlled monopolies on light traffic routes should be the basis of policy in regard to passenger motor transport. Railways should closely co-operate with road transport and ultimately acquire a commanding interest in it, but there is no advantage in State ownership of motor transport divorced from railways. Minimum fares for both road and rail should be stabilized by agreement. Subject to suitable safeguards, there should be no restriction in the range or number of passenger motor transport.

12. Although there is little prospect of motor transport being used to any appreciable extent for the marketing of crops and supplying village needs, it should be made to assist special forms of agriculture, such as market gardening and fruit-growing. Uneconomical road-rail competition for the long distance goods traffic should be prevented, except where long distance traffic by road is in public interest, by a system of regulation, combining expert judgment of the merits of each case, on the basis of public and economic need, with scientific zoning.

13. Motor vehicle taxation should be uniform and there should be reciprocal arrangements to obviate double taxation.

14. The development of pneumatic tyred carts should be pursued. The tyres and carts can be manufactured in India, a start being made from the salvage which would be available after the war.

15. The development of alternative fuels such as producer gas and alcohol mixed with petrol, should be encouraged. As an aid to petrol economy during and immediately after the war, the Central Government should declare a

moratorium for a reasonably long period during which countervailing tax on producer gas transport vehicles would not be imposed.

16. For the proper study and management of transport matters, reliable statistical information is essential. Steps should be taken to secure this.

17. To plan for the future, to give effect to the items of policy enumerated above and to regulate the development of roads and road transport as part of a general transport system for the country as a whole, it is essential that there should be a strong Central Road Board. Roads and road transport should be dealt with in the same Department and all forms of transport should be under one Member of Council.

8. Railways

Until the post-war plans of the Government in regard to Trade, Commerce, Industrial development, Agriculture, Forestry, Education, Roads and Road Transport, etc., mature, it is not possible to estimate even approximately the full extent of the improvements and general development which would be needed on railways to keep pace with other post-war development. All that can be and is being done is to prepare a plan for reconstruction on a basis which is practical enough to be put into execution without an excessive strain on the finances of the Government, and which would place railways in a position from which the basic plan could be enlarged or adjusted to keep pace with the post-war schemes being planned by the Government. The basic plan of the *Railway Board* provides for the following objectives:—

(a) Rehabilitation, repair and replacement of locomotives, wagons, coaches, track and other equipment which have been subjected to abnormal wear and tear, or whose renewal has fallen into arrears as result of the war.

(b) Establishment of workshops for the manufacture of locomotives, boilers and other railway equipment in India. Plans are in hand for commencing the manufacture of locomotive boilers as soon as possible during the war and of complete locomotives as soon as practicable after the war.

(c) Absorption of demobilised army personnel in railway services.

(d) A programme of annual replacements of engines, wagons, coaches, workshop machinery and other equipment, spread uniformly over a number of years, so as to assist materially the industries established or to be established in the country.

(e) Improved services for goods, parcels and passenger traffic.

(f) Financing the construction of new lines in undeveloped areas, replacement of lines dismantled during the war, and improvement of through communications by gauge conversions of selected portions of existing lines. This would be done in consultation with Provincial and State Governments according to a suitable order of priority fitting in with the road developments in their respective areas. The Railway plan provides for the present for a yearly construction of 500 miles of new railway for a period of 10 years. This programme will be capable of expansion according to requirements as they develop. Proposals will shortly be made to secure special consideration for lines required for the development of the country, even if they are likely to be run at a loss for some time to come.

(g) Regrouping of railways. The existing grouping will be reviewed in the light of State ownership so as to make such adjustments in territorial boundaries as would appear to be desirable and to provide for joint running powers where required.

(h) Extension of activities of railways to other transport services—road, air, etc., either through actual operation or by securing an interest in existing services. Co-ordination between railways and other forms of transport will be attempted with the co-operation of Provinces and States. The question of the use of railway bridges by M.T. or the construction of new combined bridges for road and rail will also be considered on the merits of each case.

(i) Development of staff welfare organisations to improve the conditions of railway employees, particularly in respect of welfare and efficiency. This would

include supply of drinking water, extensions to railway hospitals, additional dispensaries, training schools for staff, railway institutes, improvements to staff quarters and additional staff quarters, disposal of sewage, etc., etc., and also the elimination of corruption and pilfering.

(j) Providing special amenities for third class passengers, both in trains and at stations. This would include improvements to platforms, provision of over-bridges, latrines, additional waiting sheds, improved water supply, improved booking arrangements, provision of improved seating for the third class passenger, improvement in coaches and provision of additional coaches, etc.

(k) Evolution of a new rates structure in keeping with the post-war requirements of the country as a whole.

(l) Reduction in the number of classes on railway trains.

2. Under the basic plan now being worked out, railways will require, as shown in the statement below, an expenditure of Rs. 319 crores in the first seven years of the post-war period, out of which approximately Rs. 125 crores will have to be met out of the depreciation fund, leaving about Rs. 194 crores to be financed out of the additional capital to be raised.

Post-war years	1st	2nd	3rd	4th	5th	6th	7th	Total in crores
A—Rehabilitation	10	15	20	20	20	20	20	125
B—{ Improvements (1) Opera- tive Improvements (2) Staff Welfare.	1 3	4 5	8 8	8 8	8 8	8 8	8 8	45 48
C—3rd class amenities	1	4	8	8	8	8	8	45
D—Construction of new lines	1	5	10	10	10	10	10	56
Total in crores	16	33	54	54	54	54	54	319

3. The programme planned above is for seven years as it is expected that the first year will cover the preparatory stage and that the target will not be reached till the third year of the post-war period. It is also expected that the expenditure out of the Depreciation Fund will not be less but may be considerably more in the succeeding seven or eight years. As the plans have not yet materialised and are only in an embryonic stage, the figures given in the statement above should be regarded as being only very approximate.

9. Post-war Shipping Policy

For a country of its size, the length of its coastline and its strategic position athwart one of the world's main sea routes, India possesses a distressingly small number of deep-sea ships, which at the outbreak of war stood at no more than 30 with a total of less than 150,000 tons gross. India's weakness in this respect has long been recognized, and the Government of India are pledged to a policy of assisting in the development of an Indian mercantile marine. So far, however, the action taken to implement this undertaking has been limited to the establishment of the "Dufferin" for the training of executive officers, the provision of special facilities for the training of marine engineers and to using Government's good offices to promote a settlement between the Indian and British companies operating on the coast with regard to the division of the available trade between them.

2. The vulnerability of India's position has been revealed by the stress of war time conditions, but by no circumstances more glaringly than by her inability to find adequate shipping from her own resources to provide for the transport of the food supplies required by her. The rectification of this state of affairs should be one of the immediate post-war objectives, not only for commercial reasons but also because the development of the Royal Indian Navy necessarily implies the concurrent development of the merchant navy.

3. The acquisition of an adequate share in the world's carrying trade should be the aim of our post-war shipping policy, and to this end steps should be taken to secure for Indian shipping—

(i) an increased share of the coastal trade, including trade with Ceylon and Burma. (The present share is estimated at between 20—30 per cent.);

(ii) a substantial share in the near trades, *e.g.*, Persian Gulf, East Africa, Malaya and Dutch East Indies; and

(iii) a fair share in the Eastern trades, especially those trades of which Japanese shipping will have been dispossessed;

(iv) a fair share also in the trade between India, on the one hand, and the U. K., the Continent of Europe and North America on the other.

(v) In order to give maximum relief to the railways, a number of steps have been taken to ensure the fullest utilization of country craft and to prevent wasteful competition between country craft and steamers. As India may have to look to all forms of transport to sustain her economy in the post-war era, the continued development of country craft will have to be considered. Co-ordination of steamer and country craft services is an essential part of this development, subject to due regard being paid to the different needs served by steamers and country craft.

Ports.

Apart from the major ports, the Kathiawar ports and the Port of Mormugao, practically all the minor ports are open roadsteads where ships have to anchor two miles or more from the coast. These ports were used to a considerable extent in peace time by coastal and other steamers, *e.g.*, steamer routes from Negapatam to Malaya and from Tuticorin to Colombo. To cope with the increase of coastal shipping after the War, it is a matter for investigation whether more harbours should be constructed or whether it would not be a wiser policy to spend money on modernising and developing smaller ports. This is a question which would have to be considered by a body of experts with reference to physical possibilities, railway facilities and hinterland situations. War time developments of major ports will probably be more than ample for India's peace time needs at these ports.

10. Inland Water Transport

The decline in the use of Inland Water Transport during the last century was due partly to competition from the more speedy railways and partly to the deterioration of waterways which in some parts of India was itself a direct result of increased irrigation works. During the war, there has been a revival of various forms of Inland Water Transport, due to congestion on the railways and the consequent need to provide alternative means of conveying goods, but the main obstacle to any considerable development is the condition of the waterways themselves. War time developments of inland waterways, are however, by no means a measure of their economic importance and it would be difficult to base on them any definite conclusions.

2. The following points will have to be considered in connection with the post-war development of Inland Water Transport:—

(i) measures to be undertaken to improve the navigability of rivers and other existing waterways;

(ii) the possible use of the irrigation canals for inland traffic;

(iii) the construction of new artificial waterways;

(iv) the increased use of steamers, tugs and power driven barges;

(v) the development of countrycraft;

(vi) the methods of dealing with competition with other forms of transport and the co-ordination of all means of transport.

3. Inland waterways being a Provincial subject, the role of the Centre will be largely one of co-ordination and initiative wherever it is required.

11. Civil Aviation

1. (i) The policy of Government is to develop civil aviation with Indian capital and under Indian management and to afford training and opportunities for the employment of Indians.

(ii) The internal air services of India are the sole and exclusive concern of India.

(iii) It is recognised that subsidy for certain air transport services may be necessary in the earlier years of development.

(iv) The Government of India recognise their responsibility to ensure the provision of the ground organisation (*e.g.*, aerodrome, radio, meteorological, lighting, etc.) for the air services in and through India, and reserve the right to control the agency through which any such ground organisation is provided.

(v) In the matter of international services India will claim full reciprocal rights with other nations. In the case of India participating in any through international services on a co-operative basis, the policy will be to ensure that such participation shall be not only financial but technical as well as operational.

2. For the initial post-war period plans have been prepared for a system of trunk air services in India, which are considered necessary in modern conditions for the proper development of India as a whole—socially, commercially and industrially. These will link the principal administrative, commercial and industrial centres of the country and connect with the principal neighbouring countries. The services planned involve a route mileage of 10,500 and, with a frequency of at least one return service daily, will involve flying approximately 7.5 million miles a year. The services will carry mails, freight and passengers. It is intended that the air services shall be established on a higher level of technical standard and public service than pre-war air services in India. Stimulated by the existence of these services, there will undoubtedly come into existence, as a result of local or private initiative, a considerable number of feeder air services to serve local needs.

3. No decision has been taken as to the agency by which the air services will be established and operated. But the plans drawn provide for a system of controlled private enterprise; *i.e.*, operation by a limited number of commercial operators under Government control and regulation. The plans also provide for a system of financial assistance where necessary.

4. In order to ensure the rational and orderly development of air transport and to eliminate wasteful and uneconomic competition, it has been decided that no air transport services shall be permitted to operate without a licence issued by an Air Transport Licensing Board which will be set up. Legislation has been passed authorising the Government of India to make rules for the constitution of such a Board and for the licensing of air transport services.

5. Co-ordination between air and other forms of transport would be secured in consultation with Road and Rail interests, the Provinces and Indian States.

6. The system of air services planned will require a large and up-to-date ground organisation. Plans for the aerodrome and air route organisation and the staff necessary to man the organisation have been drawn up. These provide for additional runways, large hangars and workshops, administration and traffic buildings, aerodrome lighting, etc., at most of the existing aerodromes, besides the construction of new airfields. Plans have also been prepared for greatly expanded and modernised wireless and meteorological services.

7. Schemes have also been prepared for the training of technical personnel for aviation, including pilots, navigators, engineers mechanics, radio operators and aerodrome personnel. Trained demobilised personnel will be absorbed to the extent possible in the services and organisations proposed.

8. The air services and the air route and aerodrome organisations have been planned on an all-India basis—including the Indian States; it would be impossible to organise any rational system of air lines in India except on that basis. The representatives of Indian States have participated in discussion of the plans, which it is the intention should always proceed with the full co-operation of the Indian States.

9. In the international field, India has participated in informal and exploratory talks with countries of the British Commonwealth and Empire and with other nations. India will participate in and play her legitimate part in securing a satisfactory international agreement on Air Navigation and Air Transport.

12. Postal and Telegraph Services

1. The policy of the Indian Posts and Telegraphs Department has been to provide the most efficient service practicable and to make it available to as large number of persons as possible, the limiting consideration being whether the Department as a whole would pay for itself over a series of years.

2. The various developments in the post-war period now being planned in the industrial, commercial and educational fields are certain to create an urgent demand for a much expanded postal, telegraph and telephone system. The policy of the Department had been, even in prewar years, to provide for a continuous expansion of its services. The pace of such expansion will have to be accelerated in the post-war period.

3. Under the stress of war conditions the postal, telegraph and telephone services have been expanded considerably, but this has been done with a view to meet war requirements. A considerable amount of redistribution and readjustment of these facilities will have to be undertaken immediately after the war with due regard to the demands arising in post-war conditions.

4. Plans are in preparation to provide for a continuous expansion of the services as well as for an increase in the quality of the services rendered. It is contemplated that the plan should provide for example for a post office in every village with a population of say, 2,000 or more, for a telegraph office in every town with a population of, say, 10,000 or more and for a telephone exchange with trunk connections in every town with a population of 30,000 or more. This would not, however, exclude the provision of post and telegraph offices or of telephone exchanges at other places where special conditions, such as the existence of trade or industry or cultural institutions may make it necessary to provide the facilities. Other planning to be undertaken will relate to the provision of more frequent postal deliveries in urban and rural areas, to the acceleration in the despatch of mails by utilising more trains, more motor transport on roads and more air services and by the opening of more local post offices in the larger towns.

5. The plan will also make provision for amenities to the staff as well as to the public, as for example, providing better buildings to ensure the staff working under hygienic conditions and the public performing their transactions with celerity and comfort. The provision of tiffin rooms, rest rooms and residential quarters in places where they are difficult to get and of recreational institutions for the staff will also form part of the plan.

6. The question will also be considered as to what additional activities the Department with its ubiquitous organisation all over India may suitably undertake for the public benefit, in addition to these services which it has been rendering so far.

13. Development of Electric Power

The policy of Government is to secure the development of electric power on a regional basis, to promote the maximum economic development and utilisation of such power, and to eradicate such factors in the present system as retard the healthy growth of such development. This policy may involve the development of electricity supply in India as a State or quasi-State enterprise.

2. In furtherance of this policy, Government have secured allotment of manufacturing capacity for additional heavy power equipment for several key electricity development undertakings in the country. They have also decided to set up a Central Technical Power Board for the whole of India.

3. The functions of the Central Technical Power Board will be—

(a) to initiate, co-ordinate and put forward schemes for electric power development throughout the country in consultation with Provincial and State Governments concerned;

(b) to set up a well-equipped standardising, testing and research organisation for electricity supply and problems connected therewith; and

(c) to undertake education and propaganda to encourage the accelerated development and utilisation of electricity.

4. Government have also accepted the policy of furthering the industrial use of electricity in the country, e.g., by the manufacture of fertilizers, etc.

5. In order to implement the policy of large-scale development throughout India, schemes for the training of electrical engineers abroad, will be pursued. The scheme will provide not only for training in the commercial and administrative sides of electricity undertakings, but also for further advanced training of selected men in technical subjects.

14. Mining Development

As minerals are a wasting asset, the question of ensuring their maximum utility and minimum waste is most important. Regulation of mines and oil fields and of mineral development has, however, so far remained a predominantly Provincial subject. As a planned and uniform policy will be more and more necessary in future, it is proposed to make in so far as the constitution allows, a beginning in this direction by bringing under Central control all minerals of strategic or key industrial importance. The steps necessary to give effect to this policy are under consideration.

In order that the consolidation and development of unorganized mining industries may proceed on uniform lines, it is proposed to frame model rules for the prospecting of minerals and their subsequent exploitation in consultation with the Provinces and States.

In pursuance of their policy of assisting in the scientific and efficient exploitation of the mineral wealth of the country, the Central Government will be prepared to extend all possible assistance to the Provinces and States by the provision of expert advice and technical help, where such advice and help are needed.

(2) The whole question of the rationalisation of the Coal industry will be taken up, especially as regards production, distribution and use of the various grades of coal with the object of preserving as far as possible the limited supplies of cooking coal. Researches in the better utilization of coal, including the development of economical methods of producing soft coke and the recovery of the many bye-products in its manufacture, have been already initiated in collaboration with the Board of Scientific and Industrial Research. Further encouragement to research in all these directions is fore-shadowed in the schemes now under the consideration of the Central Government.

(3) The utilization of the mineral resources of the country for the production of finished products, in so far as such utilization is consistent with efficient manufacture and marketing, is part of the policy of the Central Government. A beginning in this direction has been made by an enquiry initiated into the possible development of the Indian mica industry. As is well known, the muscovite (high grade) mica has now become a mineral of great commercial and strategic value and India leads the producers of this mica in the world. The Indian industry is, however, in a very unorganized stage and much wasteful exploitation has been taking place within the last few years. A committee of Inquiry has been already set up to examine the conditions prevailing in the mica trade and industry and to recommend steps that should be taken to ensure that India's resources of this mineral are conserved and developed in the most economic manner.

4. The Geological Survey of India has done much work in the collection and dissemination of information regarding the mineral resources of the country and has built up a considerable body of knowledge about their utilisation and during war a Utilisation Branch with duties which carry the Survey somewhat further in the field of prospecting has been set up. The Survey as a whole, mainly owing to paucity of staff, is, however, working too slowly and a great deal of work remains to be done. For this purpose large numbers of geologists will be required and it will be necessary to arrange for suitable training facilities at the Universities. The functions of the Survey must be extended so that its services could be employed more widely by Provincial and State Government and industrialists. The question whether the Survey should be consulted under statutory compulsion before any mining enterprise is started or mining lease granted is under consideration. This would ensure that only the most suitable deposits are worked and investment is not allowed to be made in concerns which are likely to prove unremunerative.

15. Irrigation, Waterways, Drainage, etc.

The planning and execution of the works under this head rest primarily with the Provinces and States. The Central Government will nevertheless afford all possible facilities for the preparation and execution of the projects recommended by the Provincial Governments by arranging for priorities for the supply of the necessary materials and by the provision of technical assistance.

2. The Central Government will also be prepared to co-ordinate Provincial and State projects on a regional basis wherever possible. In certain deserving cases, they may be also prepared to give financial assistance to Provinces to enable them to carry out important schemes or parts of such schemes.

3. In order to assess the requirements of the Provincial Governments and States on these subjects, the Central Government have already addressed a detailed questionnaire to the Provinces and States. Much useful information has been already obtained, but the replies from a few Provinces are still awaited. When all the replies have been received, the Central Government will have the projects scrutinised by their engineering experts. In order to give effect to this policy the Government of India have decided to appoint a Consulting Engineer for Waterways and are now actively considering the question of the appointment of another Consulting Engineer for Irrigation, to work as a Development Officer in connection with the post-war irrigation, waterways and drainage schemes.

4. The question of the reorganisation of the Central Board of Irrigation so that it can function more efficiently not merely as a clearing house of ideas on irrigation, drainage and allied subjects, but also as a Board of Referees on all matters relating to them, is at present engaging the attention of the Government of India.

5. It is clear that in order adequately to increase food supplies and to bring additional areas under cultivation it will be necessary in the post-war period to embark on a number of technically 'unproductive' or marginal schemes of irrigation. It will also be necessary to make a greater use of pumps than hitherto and to increase the supplies available in existing canal systems. Waterlogging and the spread of 'Thur' will also have to be dealt with.

16. Food

There is probably no need to contemplate on a permanent basis such comprehensive measures for the procurement and distribution of food grains as exist at present. It may however be necessary to continue to exercise some degree of control for a suitable period after the war.

2. There are, however, certain important questions connected with food which will require long term planning and the exercise of initiative in the post-war period. These are outlined below :—

3. *Nutritional requirements of the individual.*—The question of the nutritional needs of the individual in India and nutritional education has recently been under review by the Nutritional Advisory Committee which has prepared a report for consideration by the Health Survey and Development Committee.

The drawing up of suitable schedules of requirements has been referred to a sub-committee which is expected to assess province by province the standard which should be adopted for the various important foods in common use, thereby providing data from which both provincial and all-India food requirements can be assessed and food policies considered.

It will be obvious that a great deal of educational propaganda will have to be carried out before the population, even those who can afford it, can be induced to improve their diet to conform to scientific requirements. This is especially necessary in the case of children and much eventually be possible through the medium of the schools where school meals, or milk, combined with instruction to mothers and the work of maternity and child welfare centres may eventually improve conditions. Industrial canteens are also a convenient medium for correcting dietary deficiencies and popularising the use of alternative foods.

4. *Prevention of adulteration and improvement in quality.*—An important aspect of food policy must be the prevention of food adulteration. Adequate legal provisions and effective administrative measures for the prevention of adulteration of foodstuffs have still to be created in India. Much of the necessary exploratory work has been carried out already under the aegis of the Central Advisory Board of Health which has published two reports on food standards and the legislative and administrative control necessary. These reports supply a basis for future action.

Positive action is also necessary to improve quality and maintain standards. This can only be done by grading or testing under Government control, and by the use of protected trade marks for the better quality articles. In this respect India has much to learn from other countries, especially Australia and New Zealand and the U. S. A.

The circumstances under which foodstuffs are exposed for sale also require attention in order that food is not contaminated by flies and filth whilst in the shops or markets.

5. *Calculation of requirements.*—It is clear that there are not, and have not been for many years past, sufficient cereals in the country to provide a meal of 1 lb. of cereals a day for every adult, and this bears out what is, in fact, generally accepted, that a large proportion of the population of India is chronically under-nourished.

It must also be remembered that a ration of 1 lb. of cereals per adult per day is only considered adequate by nutrition authorities when it forms part of a total diet of 2½ lbs. per adult per day consisting of supplementary protective foods such as minor millets, pulses, milk, vegetables, fish, meat. But poverty denies these supplementary foods, except in negligible quantities, to a very great number of people in India. We have no reliable production statistics of these foods, but clearly the gap between national requirements and supplies available of these supplementary protective foods is still enormous. As a long term policy it is clear that this gap must be reduced, but so long as it remains our calculation of cereal requirements should provide for a larger ration than 1 lb. a day.

As a rough idea of the all-India targets of production likely to be required to provide the ingredients of a balanced diet for India's present population, assuming that difficulties of transport, distribution and effective demand from the population did not exist, it has been calculated that the following increases on existing production are the minimum required:—

Cereals . . .	10%
Pulses . . .	20%
Fruits . . .	50%
Vegetables . . .	100%
Fats and oil . . .	250%
Milk . . .	300% and
Fish and eggs . . .	300%

To these must be added adequate supplies of foodstuffs for the animal population necessary for the extra work and the extra milk required to achieve this

aim. In those areas where meat forms a part of the normal diet of the people it is also very necessary that a system of fattening livestock before slaughter should be introduced.

6. *Production of Primary foodstuffs.*—This is dealt with in the Section on Agriculture. It cannot, however, be sufficiently emphasised that positive executive measures are required to increase production on the scale referred to in the previous para. It may be possible to achieve this by enlisting the co-operation of the cultivator and by giving him the assistance that he needs. It is necessary to recognise, however, that the problem is urgent and that if these measures do not succeed, others will have to be tried.

It is also obviously necessary to have some system of crop planning both in order to prevent deficiency in foodstuffs owing to over-production of cash crops and to prevent a serious fall in prices due to over-production of foodstuffs.

Production targets must include an increase in volume to overtake the increase in population, reduce dependence on external sources of supply, and make possible the holding of reserves. Production must be planned to ensure the best use of available resources, and that the product is what is required. The maximum insurance against climatic variations must also be provided.

7. *Statistics.*—No system of food supply can afford reasonable security, and no system of crop planning can be successful, unless adequate statistics are available. These must include acreage and yields and also some estimate of stocks—at any rate of those which are in the hands of the trade.

8. *Procurement.*—This is ordinarily governed by the laws of supply and demand but it has been found in many countries that these laws do not operate in war or at times of severe economic stress such as were experienced in Russia. It is now beginning to be realised that India's non-agricultural population, and many of her agricultural labourers, have lived in the past on that small margin which the cultivator may choose to bring to market to satisfy his needs for cash. There are few farmers in the western sense of the word who produce primarily for sale and retain only a small fraction for their own consumption.

There is, therefore, a fundamentally unstable element which governs the food supply of the non-agricultural population and it is questionable whether it will be safe to rely on a system of unco-ordinated subsistence farming to supply the growing needs of the industrial population.

Possible remedies are:—

- (a) Some means of adjusting land revenue to prices.
- (b) A reversion to the former system by which land revenue was paid in kind, subject to an option to pay in cash at prices notified from time to time. This would have the result that
 - (i) If suitable prices were fixed the bulk of land revenue would continue to be paid in cash;
 - (ii) It would ensure automatic relief for the cultivator when prices were low.

It may be noted that cultivators could be directed to deliver their grain to selected mandis which would pay the equivalent in cash to the Revenue staff and that it would not be necessary for the latter to actually handle the grain themselves.

(c) The gradual establishment of co-operative or collective systems of farming which will ensure that an adequate proportion of the harvest comes into the market under all conditions, subject of course to the actual needs of the cultivator.

These alternatives should be the subject of careful examination in order that a future emergency may not have the same disastrous results as that in 1943.

9. *Production of Processed foodstuffs.*—This is a matter which has been greatly neglected in India but has recently received some impetus as a result

of the war. It is desirable that encouragement should be given to such undertakings as will ensure the production of:—

- (a) canned or dried fruits;
- (b) canned vegetables;
- (c) dairy products including cheese, butter and preserved milk;
- (d) animal and vegetable ghee, and cooking oil of good quality;
- (e) dried and canned fish;
- (f) special foods such as shark liver oil, emulsions, etc.

In addition it is most desirable that refrigerating plant should be available for the storage and transport of both processed and fresh foodstuffs.

10. *Imports*.—For some time it will probably be necessary to import primary foodstuffs and this may well prove to be the most economic way of providing the requirements of certain areas. It is necessary, however, that imports should be controlled in order to prevent undue depression of prices and to ensure adequate supplies. In times when unsettled conditions prevail which may interfere with imports it is most desirable that sufficient stocks should be acquired under Government control to cover the period until agricultural production in India can be adjusted and arrangements made if necessary for rationing.

11. *Reserves and storage*.—The first necessity is to ensure that adequate statistics of stocks are available. It is obviously desirable that there should always be reserves in hand sufficient to tide over a bad harvest and these may have to be under Government control. The provision of reserves by import is dealt with in para. 9 above. The holding of reserves necessitates the provision of adequate storage under proper conditions and this may not be achieved without some form of subvention from Government. The need for storage under suitable conditions is urgent as vast quantities of grain are wasted annually through storage under conditions where the grain may rot or be spoiled by rats.

12. *Prices*.—It will be agreed that a proper relation between prices of agricultural products, consumers goods and the rates of land revenue is essential. This can best be achieved by crop planning and control over imports together with arrangements for holding surpluses off the market when prices are too low. The question of guaranteed prices must also be considered.

17. Agriculture (including kindred subjects such as animal husbandry and anti-erosion measures)

The following are the broad aims of a national policy in regard to agriculture:—

- (a) The securing of adequate nutrition to the country's growing population. India must produce in adequate quantity food of all kinds required for a balanced diet.
- (b) The production of adequate raw material for the growing industries of the country allowing for the fact that industrial expansion would make increasing demands on raw materials such as fibres, sugarcane, etc.
- (c) The production of raw materials for which, with or without processing, there is an export market. This will be needed in order to obtain the foreign exchange necessary for the procurement of capital goods required for the fulfilment of the country's programme of industrialisation.

2. On the basis of the aims explained above the master plan for the country would require the fixation of definite targets for the production of the various commodities for the country as a whole. The targets would be distributed suitably among the regional or provincial plans. They should not be fixed at levels beyond what the technological possibilities of agriculture and animal husbandry in Indian conditions would warrant. They should be modified according to indications available from time to time as the plan progresses. Dr. Burns, till recently Agricultural Commissioner with the Government of India, has made certain suggestions in respect of the targets. They are accepted provisionally as maxima, subject to such modifications as may be found necessary on detailed

examination, but it should be clearly understood that a simultaneous advance at equal pace towards all the maxima is probably neither possible nor desirable. The object of planning will be to secure the necessary advance from time to time in respect of each commodity or each branch of live-stock, as called for by the general condition of the population of India and its nutritional, industrial and economic needs.

3. Once the targets of production have been fixed, it will be necessary to define certain broad lines of policy to be adopted. These may be stated as follows:—

(i) *Price*.—The stabilisation of the price of agricultural commodities at an economic level is essential. (By economic level is meant the level of price which will ensure adequate production.) This will provide the necessary incentive for bringing additional land under cultivation and for the general upgrading of the means and technique of production.

(ii) *Crop planning*.—If the areas that can best produce the commercial crops necessary for India's industrial development and for export are to be free to develop such crops, their inhabitants must be assured of food from neighbouring areas and the latter must therefore produce food and fodder crops beyond their own immediate requirements. It is therefore implicit in any plan of development that crop planning in some form or another must be adopted for the country as a whole. The machinery by which this is to be achieved and the degree to which crop production will be regulated are matters for detailed examination, but the policy has to be accepted as a fundamental implication of planning for the country as a whole.

(iii) *Reform of land tenures*.—The pace and the form of development will depend on the conditions of different areas but it must be accepted as a policy that efforts will be made to secure in an increasing degree stability of tenure and freedom from restriction to the actual user of the land and to secure to him the benefits of his labour and investment in respect of land improvement.

(iv) *Arrangements for rural finance*.—Apart from the facilities and services which the State would provide in order to secure a higher level of production, much of the effort involved must come from the side of the actual user of the land and in order to enable him to secure a higher level of production he must be provided on easy terms with the required financial resources on both the short-term and the long-term basis. Not only must there be adequate provision for credit but it is also necessary that the supply of the credit should be wisely controlled. In this connection the role of money-lenders, Co-operative Societies, State and Commercial banks has to be considered. These are matters for detailed examination but the policy is accepted that adequate arrangements will be made for rural finance.

(v) *The role of the Centre*.—It is implicit in nation-wide planning that the needs and requirements of all co-operating regions should be viewed as a whole and it follows, therefore, that the Centre must have authority to initiate projects and to make arrangements for getting them executed where the interests of several governments are affected, if such projects cannot be taken up by individual governments. For instance in the matter of erosion, action has to be taken at the source of the trouble while the benefit may accrue to an area far removed from the source. In such a case the Centre must initiate action at the source of the trouble while arrangements may be made for the apportionment of the expenditure between the provinces which carry out the work and the beneficiary provinces. Another instance is of measures designed to control the diseases of plants and animals; in order to prevent the spread of diseases, it may be necessary to initiate control measures in one area in order to protect the neighbouring areas. Further instances of a similar nature are large-scale land reclamation schemes or large-scale afforestation schemes and the co-ordination of research.

(vi) *Compulsion in agricultural matters*.—Planning implies the conscious mobilisation of all available resources towards the achievement of the desired objective. It is therefore implicit in planning that where the progressive achievement of an aim is retarded by ignorance or recalcitrance of a small number of

persons and when educative propaganda and assistance both in the matter of advice and resources have failed to convert the recalcitrant element, some form of compulsion should be employed. The degree and the form of compulsion will vary according to local conditions but it may be accepted as a general policy that under certain conditions compulsion might be applied in such agricultural matters as are set out below:—

- (a) compulsion on the minority to use only improved varieties of seeds in areas where the majority are already willing to do so;
- (b) in the control of grazing;
- (c) in the control of erosion and conservation of land resources;
- (d) in the control of breeding, *e.g.* compulsory castration of scrub bulls;
- (e) in compulsory vaccination of animals to control diseases;
- (f) in accelerating the consolidation of holdings;
- (g) in preventing further fragmentation;
- (h) in marketing the produce.

(vii) The Centre must accept responsibility for providing a greatly increased measure of expert advice, equipment and finance to the provinces. Apart from undertaking certain new spheres of activity such as large scale erosion control and large scale land reclamation schemes, large afforestation schemes and the maintenance of central agencies for research, the development work in the provinces must inevitably take the form of an intensification of work on existing lines to which the principal impediment hitherto has been the limitations of provincial finance. The promising lines of advance are well known: the main limiting factor has been lack of finance. Any large-scale development will, therefore, require expenditure on a very considerable scale. *e.g.*, obvious developments such as the multiplication and distribution of improved seed require an enormous outlay and the setting up of great numbers of seed multiplication farms; provision of advisory services will require the setting up of a very large number of experimental farms and so on. If the required expenditure is beyond the resources of the Provinces, the Centre may provide financial assistance on a suitable scale. The means by which funds will be raised and the basis on which financial assistance will be given to provincial governments are matters for detailed examination but the general policy in respect of rendering financial assistance to approved projects is accepted.

(viii) *Machinery for planning.*—Agriculture is a provincial subject and the main function of the Centre would be to help, guide and advise provinces, so as to secure co-ordinated development and production throughout the country. There should be a suitable organisation at the Centre for the purpose of advising provinces and co-ordinating development. This organisation should have experts dealing with every branch of agriculture and animal husbandry and establish close co-operation with Provinces. It would be useful if parallel organisations were set up by Provincial Governments to ensure co-ordinated development in the various regions of the province and to maintain contact with the Central Organisation.

(ix) *Question of trained personnel.*—At all stages of planning, from the preparation of the plans to their execution, very considerable demands will be made for trained personnel. At present there is a very great shortage of such personnel and further development work is bound to be held up unless arrangements are made immediately to take up the question of increasing to a very considerable extent the output of trained personnel. At present there is an embargo on all new expenditure which is not directly connected with the active prosecution of the war. Since it is desirable that the machinery for the preparation of projects should begin to work now and that their execution should be taken up if not now, then as soon as possible after the termination of the war, it is necessary that the question of the procurement and the training of technical personnel should be taken up immediately and the required expenditure should be provided for.

4. The projects relating to reconstruction will fall under the following broad heads:—

(i) *Projects dealing with seed multiplication and distribution.*—For many crops improved varieties of seed are available. Provision will have to be made for their multiplication and development. The aim should be that in 15 to 20 years the entire cropped area should be under improved varieties. Simultaneously research should be undertaken to breed new varieties in respect of those crops in which good varieties are not available. The two aspects of the work should proceed simultaneously.

(ii) *Development of manurial resources.*—This will fall into three groups, viz.—

(a) projects for making artificial fertilisers such as Ammonium Sulphate or Nitrate, Superphosphate, bonemeal, etc.;

(b) development of composting and green manuring; and

(c) conservation of farmyard manure.

The requirements of Indian soils in nitrogenous manures are enormous. The object should be to provide adequate manures at least for all land commanded by irrigation; it is in these that manuring gives the highest result. The aim should be to secure adequate manuring within 15 to 20 years. At the same time experiments should be conducted at farms situated in representative tracts to find out the optimum manurial requirements, as related to soil, crops and water facilities, of the area commanded by each farm.

(iii) *Preparation of plans for erosion control.*—This has two aspects—(a) large-scale erosion in catchment areas and (b) the control of erosion of village lands. The former would require projects of a very large kind while the latter would require remedial measures like bunding and contour ridging which may also be on a large scale. In each there will be 3 stages of work, i.e., preliminary survey, preparation of specific projects and their execution.

(iv) *Preparation of plans for land reclamation.*—These plans will be drawn up on the same lines as (iii).

(v) *Preparation of plans for developing.*—(a) fuel and fruit plantations,

(b) vegetable cultivation,

(c) grazing areas,

(d) animal husbandry including pisciculture, poultry, goat and sheep breeding,

(e) dairy industry—this will involve on the one hand the upgrading of village cattle by breeding with superior bulls, better feeding and better management and in the other of setting up an organisation for the better distribution of milk and milk products in village and towns through co-operative organisations if possible.

(vi) *Minor irrigation projects—e.g.,* construction of tanks, wells and tube-wells, bunding and drainage.

(vii) *Development of Crop Advisory Service.*—This will involve the employment of highly trained personnel and the provision of a farm for each representative tract. The experiments conducted at the farms would indicate the best practices which the cultivator should adopt and the trained personnel will advise the cultivators in respect of these practices. Some work in this respect can be taken up even in the earlier stages of the plan.

(viii) Projects for the expansion of agricultural education in rural areas.

(ix) Projects for the production of improved implements.

(x) *Projects for the use of mechanised traction*—in certain areas enough bullock power is not available. Mechanised traction will be needed in those areas.

(xi) Projects for the development of consolidated farming.

(xii) Projects for the expansion of the co-operative movement.

(xiii) The provision of a preventive service against insects and pests both in the field and in storage.

(xiv) Development of the marketing of the produce and the distribution thereof among consumers.

(xv) Development of small handicrafts and industries auxiliary to agriculture and animal husbandry, e.g., oil crushing, spinning and weaving, beekeeping, fruit and vegetable products, etc.

The list given above is not exhaustive. It is merely intended to indicate the type of reconstruction projects which will be prepared.

5. A special Committee of the I.C.A.R. has drawn up a Plan for the development of agriculture and animal husbandry with the object of increasing production by 50 per cent. in the next ten years and ultimately by about 100 per cent. in 15 years. The capital expenditure envisaged is Rs. 1,000 crores over the latter period with a recurring annual expenditure of Rs. 25 crores. The Plan deals with the improvements necessary for developing agriculture and lays down the general policy to be adopted on each subject of development or improvement. The Plan has been approved by the Advisory Board of the I.C.A.R. and is under examination by Provincial Governments.

18. Forests

Figures published by the Economic Committee of the League of Nations in 1932 show that at that time the percentage of the total land area of the Great Powers of the Continent of Europe maintained under forest, either Government, corporation or privately owned, was 44 per cent in the case of Russia in Europe, 24 per cent in Germany, 20 per cent in Italy and 19 per cent in France. Among the lesser Powers the percentage of forest rose to 74 per cent in Finland, 55 per cent in Sweden, 38 per cent in Austria and 34 per cent in Czechoslovakia. The average of all the European powers including flat countries like the Netherlands (8 per cent), Denmark (9 per cent) and including also Great Britain (6 per cent), was 26 per cent, with very varying distribution as between Government corporation and private ownership. Though British India is shown as having 175,000 sq. miles (20 per cent of her total area) under forests, Government or private, out of this area only 122,000 sq. miles (14 per cent. of the whole of British India) is Government forest and less than 100,000 sq. miles is under regular Forest Department management. Hardly less important, the distribution of forests in British India is far from ideal. Except for the Central Provinces, Bombay and Madras,—that is to say, roughly speaking north of a line from the Gulf of Cambay to Calcutta,—the forests under the Forest Department consist of a narrow strip in the north, in and along the foot of the Himalayas, the forests of Eastern Assam, the Sunderbans and some detached blocks down the Indus, in the south of the U. P. and in Orissa and Bihar.

2. The forests along the Himalayas are vital to India for many reasons, especially for the protection of the Ganges valley against the related dangers of erosion and flood: but the Ganges valley itself and indeed much of northern India plains are almost destitute of forests from which the villagers can draw fuel and small timber, while over much of Rajputana and Sind and part of the Punjab the absence of forests is leading to a gradual desiccation of the country.

3. Considering the Indian climate and the general demands of the agricultural villagers, the minimum area of properly managed forests in India, properly distributed for protective purposes and to supply the general consumer and the village consumer, should be between 20 and 25 per cent of the total area of the country, as against a nominal 20 per cent under forests of all kinds at present and 14 per cent for forests under Government control.

4. In the interest of the greatest good of the greatest number—a principle enshrined in the existing forest policy—Governments, Central and Provincial, will in future have to take a greater share in regulating the distribution, the management and the exploitation of India's forest wealth. A forest is a slowly maturing asset: there is little early return on the investment and the extension of the area under forest cannot with any confidence be left to private enterprise. Similarly

as regards exploitation: not every owner, incorporated or individual, can resist the temptation to exploit this asset for a temporary gain at the risk of its early extinction, a result from which not only the owner but the countryside is the poorer in many ways. Private forests were steadily disappearing in India even before the war. Under the pressure of war needs and high prices private forests have in some instances been so over-felled as virtually to have disappeared. It will not be possible for Government to take up as forest all the land that is ideally necessary, in quantity and in distribution, to give India an adequate and properly distributed system of forests: nor will it be possible to interfere to the extent which a purely forest point of view would render desirable in the management of private forests: but to the extent that the general well-being of the country is involved, the time has come for an extension of the land under forests of one kind or another and for an extension of Government control over private forest management and exploitation.

5. With this background, the general correctness of which will probably not be disputed, the Government of India are examining a post-war Forest Policy based on the following salient points,—the rehabilitation of Government managed forests to compensate for advance fellings during the war: the campaign against erosion: and the extension of afforestation, for its own sake and to make available fuel and small timber to the ordinary village agriculturist. The first of these is largely a technical matter and will presumably be taken up by Provinces and States as a matter of course. Of the matters calling for policy decisions, the most important aspect of post-war forest policy is correct land management to minimise run off, floods and erosion both inside and outside forest land and the afforestation, naturally or artificially, of the dry belt below the 30" rainfall line. The second, but almost equally important, problem is the provision of small timber and fuel for the "ordinary village agriculturist", free or at low rates, both to provide for his direct wants and to release cow-dung for manure. These problems are largely inter-dependent: to a large extent what solves the first helps to solve the second: to an even larger extent the solution of the second will help to solve the first. To these general ends a policy on the following lines is recommended,—

(a) Provinces should endorse and implement the existing forest policy as laid down in Circular No. 22-F of the 19th October 1894, with an addition, the need for which has become more fully obvious of late, that one aim of policy ought to be to increase the area under forest (and preferably under Government forest) up to the minimum requirements of the country.

(b) In particular the principle of a sustained and equal annual yield from forests, which has actuated the Indian Forest Department since its inception in 1865, should be endorsed. To uphold this, the working plan position should be carefully examined immediately after the war to rectify any overfelling. The possibility of introducing a special working plans circle, where such does not already exist, should be examined.

(c) The land in each Province necessary for the preservation of the general climatic and physical conditions (*e.g.*, land subject to, or necessary for the control of, run off, floods, erosion or desiccation) should be defined and placed under proper management,—probably in many cases forest management.

(d) It should be laid down as the aim of each province to have 20 per cent—25 per cent of its area under forest and so distributed that the agricultural villager can obtain his needs for agricultural timber and fuel within a reasonable distance of his home.

(e) To attain this ideal, control of private forests will be necessary in most provinces. A Private Forest Act to legalise such control should be drafted. The act should legislate for various degrees of control depending on local conditions, but where necessary it should permit full management of the forests by Government. The present powers under Chapter V of the Indian Forest Act XVI of 1927 are insufficient.

(f) In most Provinces the area of forest under Government control is less than the safe minimum of 20 per cent. In some provinces large areas are devoid of any properly managed forest land, and there the majority of the village population cannot obtain their requirements of small timber and fuel and, perforce, burn cowdung. But in all these provinces there appears to be plenty of scope for increasing the forest area up to 20 per cent or 25 per cent and land for this exists properly distributed for the wants of the agricultural villager.

The basis of all this work is a classification of the land on the lines of the tables for cultivated and uncultivated areas in the agricultural statistics of India. That classification, however, is not made from the forest point of view and there is no doubt that much of the land classed as "not available for cultivation" could in fact grow trees and, properly regulated, could provide for better grazing. The classification should show:—

Total area.

Cultivated area.

- (i) Area actually sown.
- (ii) Current fallow.

Forest land—

- (i) Under the forest department.
- (ii) Under other Government departments.
- (iii) Private forest.
- (iv) Mango groves, etc.

Uncultivated land (other than fallow) capable of growing fuel and small timber forests.

Uncultivated land not capable of growing fuel and small timber forests

- (i) Urban areas.
- (ii) Roads.
- (iii) Completely barren areas.
- (iv) Railways, etc., etc.

Fuel and small timber can be grown on many areas often unproductive at present, like roadside land, canal banks, mango groves, railway land, etc., under quite short rotations of 15 years.

The above classification need not be particularly accurate for a start.

(g) The land management schemes decided upon must include the proper regulation of grazing. Excessive grazing is the cause of much land deterioration. Proper regulation increases the total available fodder and does not decrease it.

(h) The definition of the forest land recommended under (a) above, where land management must be such as to prevent floods and erosion, should be done for all other land in addition to forest land. It can be done concurrently with the classification of land recommended in (f) above. It is for consideration whether all Government land, the management of which is governed by the need to prevent run off and erosion, should be under the forest department. The answer to much of the flood and erosion problem in India is afforestation where possible together with proper control of grazing, or, at any rate control of grazing, where afforestation is impossible or undesirable.

(i) It is especially important to grow forests on a percentage of the desert or low rainfall areas where irrigation is available, and to extend proper forest management wherever possible throughout the low rainfall areas even where there is no irrigation. Forests can probably be grown without irrigation down to somewhere within the 10" to 15" rainfall belt.

(j) It is recommended that a soil conservation circle be formed in each province to deal with general land management and growing of trees in rural areas, whether it be to prevent run off, floods, erosion or desiccation or to supply the agriculturist with small timber and fuel. It is emphasised that, though it may take years before the full schemes are complete, the first results will be rapid. The full rotation of these minor forests will often be only 15-20 years and after

5 years the villagers will begin to get their first yield of fuel and grazing will be much improved. Where there is no serious frost, *Acacia arabica* (*babul* or *kikar*), is one of the most suitable trees except in very dry areas.

(k) It is recommended that the Central Government should appoint at once a Central Anti-Erosion Officer to investigate directly the problem of floods and erosion. He should be a forest officer working under the Inspector General of Forests. It may later be necessary to expand this to a full Central Soil Conservation service.

(l) The Central Government is taking up more actively the general research in regard to valuable Minor Forest Products, but it is recommended that provinces should themselves investigate the needs of all industries depending on Minor forest products within the province. The Burma Government has already sent an officer to the Forest Research Institute, Dehra Dun, to be trained for this work.

(m) It is recommended that each province set up a local forest committee to draw up a post-war forest plan and that representatives of these committees then meet to correlate those details of their separate plans which apply throughout India.

(n) It is recommended that provinces send their gazetted officers trained at Dehra Dun for a continental tour in Europe between their 2nd and 5th year of service. This recommendation is only a liberalization of a policy already existing in regard to selected forest officers.

(o) It is recommended that a commission be appointed as soon as possible to enquire into the best organisation of the Forest Research Institute and that someone familiar with the internal working of the Institute and of the forest department in general be a member of this commission. The attention of this commission should be called to the present anomalous organisation of the Utilisation branch and to the need for a small central statistical branch to advise all branches on the design of experiments and to analyse the data recorded.

(p) The importance of training the Forester grade is emphasised and the Inspector General of Forests should enquire into the existing position though it appears to be generally satisfactory.

(q) The present training of rangers is satisfactory and should continue as at present. It would be preferable, immediately it is possible to move the Ranger College out to New Forest but the old Ranger College should not be disposed of till the exact demands after post-war expansion are known.

(r) The Forest Research Institute should expedite investigation into the very valuable Minor Forest Products.

(s) It is recommended that the Central Government see that the release of Defence Department timber stocks after the war is controlled by the Disposal Board and that the forest department is adequately represented in any planning for such disposal. In connection with this it is also recommended that in consultation with railways, steps should be taken to stabilise sleeper prices after the war.

6. The foregoing, though written primarily from the viewpoint of British India, is applicable almost in its entirety to the Indian States.

19. Fisheries

Fish is an important article of diet, but at present only an insignificant proportion of the country's food supply is contributed by her fisheries. Indian fisheries can be developed to a very considerable extent if the main restrictive factors are removed. Broadly speaking these are:—

(i) Lack of detailed knowledge about Indian fisheries. On the basis of available knowledge it is possible to prepare small schemes for their development but large scale development must wait until the necessary knowledge has been obtained by survey and research.

(ii) Lack of trained personnel. Only a few Governments possess Fisheries Departments and those that are in existence are inadequately staffed. Large-scale development of fisheries resources would involve a large demand for trained personnel for organising the various aspects of fisheries development.

(iii) Both inland and marine fisheries have to depend on most primitive types of equipment and the men handling them do not possess the training required for handling more efficient but more complex kinds of equipment. Large-scale development of fisheries, whether inland or marine, postulates the provision of equipment of various kinds and of facilities for imparting training in its handling.

2. It is necessary that a Central Institute should be established as early as possible. This institute should have two sections—one for inland and the other for marine fisheries. Each section should have sub-stations situated at appropriate places. Apart from research and experimental work on the problems of fisheries and in addition to the surveys which must be undertaken with a view to collecting information on the basis of which large-scale projects for development can be prepared, the Central Institute will also have the duty of providing facilities for the training of personnel in the various branches of work.

3. At the same time arrangements should be made for the progressive development of the Fisheries Departments in the provinces so that by working in close co-operation with the Central Institute these departments can carry out complementary research and surveys, prepare plans of development and execute them.

4. Simultaneously with the action indicated above, small projects for development should be prepared. The preparation and the execution of these small projects will by themselves provide useful information for undertaking further development. They would fall under the following main heads:—

(a) Development of the supply of fry for stocking fresh-water ponds, canals, tanks, etc.

(b) Location of breeding areas for the various types of fresh water fish and the protection thereof.

(c) Development of the practice of breeding fish in impounded water (whether used for irrigation or otherwise) and for the distribution and sale of the produce in markets within easy reach.

(d) Development of cold storage accommodation at the collecting and consuming centres and of cold storage transport from collecting centres to consuming centres.

(e) Development of air-transport or other means of quick transport for fish from collecting centres to consuming centres.

(f) Development of the industry related to the preservation of fish by canning, pickling, smoking, dehydrating, etc.

(g) Experiments with different designs of fishing craft and equipment in respect of both inland and marine fisheries.

(h) Development of the fish oil industry.

(i) Schemes for the protection of fish from excessive or improper exploitation.

20. Co-operative Societies

The co-operative movement has hitherto been a predominantly credit structure designed to relieve rural indebtedness and provide the agriculturist with cheap and timely finance. It has however only touched the fringe of the problem of agricultural credit and it is necessary to link it up more actively with production, marketing, distribution and consumption. The societies should also take steps to encourage thrift and savings amongst its members.

The Co-operative Society should in addition be a social organisation which will tend to promote better living and minor improvements in village conditions, and to eliminate feuds, litigation and friction. In this work, the ex-soldier should be trained so that he may be able to play a prominent part.

2. The credit given by co-operative societies should be controlled. Loans should be given primarily for productive purposes and in kind *e.g.*, in the form of improved seed, manure, implements etc. It should be a condition of the loan that the surplus produce is sold through the local marketing society.

3. The village society should teach its members to clean and grade their produce, so that it can be sold in bulk. This should then be sold to or through a marketing society. There should be such a society at each important trade centre, to which the village societies in the surrounding area should be affiliated. It should have the necessary godown accommodation and competent inspecting staff. The marketing societies should be grouped into regional federated societies on which in turn should be superimposed wherever possible, a provincial marketing organisation and also an all-India organisation at the top. These might be on a commodity basis.

4. Alongside this chain of marketing societies, there should be consumers' stores operating in all important urban areas and large rural centres. These stores should be banded together under district wholesale stores, which should deal with the regional producing and marketing societies on a wholesale basis. This linking of production and consumption through marketing of agricultural produce lends itself peculiarly to treatment by co-operative means.

5. In urban areas,

(a) Urban Banks should cater for the needs not merely of the local middle class but also of the local artisans and small industrialists;

(b) Housing societies and building societies should deal more and more with the problem of replacement of slums by cheap model houses of a modern type;

(c) Co-operative dairies and creameries for the collection of milk from rural areas and its processing and distribution should be fully developed.

6. Handloom weaving has already taken on a largely co-operative aspect. This should be developed (as in Madras) so as to become a live force federated under a provincial weavers' organisation. These societies should concentrate on scientific and adequate marketing though every effort should be made to improve quality and ensure the production of the goods for which there is most demand.

7. Areas brought under fresh irrigation, and all new colonies generally, should be laid out on a co-operative basis, wherever feasible.

8. Co-operative education should be properly developed and fostered by the State. It is not enough to have the mere repetition of a few platitudinous statements on the benefits of self-help, mutual goodwill, etc., by poorly-qualified men with little training. There should be trained workers in the various fields of specialised co-operative activity, including marketing. This should be carried out by the Provinces, though the Centre should give all the assistance and guidance in its power. Co-operative education should be given a distinctly realistic and "business" bias.

9. There is a great need for a well-trained high grade co-operative service sufficiently well paid and pensioned to ensure absolute integrity. The personnel must be trained in the finance and marketing aspects of farming and also in agriculture; a proportion should receive industrial training.

Administrative officers of Government, particularly in the Revenue Department, should have some practical acquaintance with co-operative activity in all its aspects as a part of their training.

10. As regards the necessity for statutory State control and inspection of co-operative societies, and power to intervene where advisable, expert opinion is by no means unanimous. It will be agreed, however, that unless an organisation is sufficiently strong and well-managed to enable its stability to be guaranteed, some supervision is desirable. At any rate, it will be recognised that for a number of years the average cultivator will need some protection and guidance if his interests are to be properly protected.

11. The feasibility of applying compulsion in co-operative societies or making the decisions of a society binding not only on members but also on a minority of non-members needs careful consideration.

12. Provincial Co-operative Departments should work in close liaison with the Departments of Agriculture and Marketing.

21. Instructional Propaganda and Rural Uplift

This is a subject that lacks a suitable name and is not specifically allocated to any Department of Government. The experience of the war in India, and of other countries before the war, has shown the enormous power for good, and evil, that is inherent in well-organised propaganda under Government control.

Directed towards good ends it is capable of completely changing the outlook of either an educated or illiterate population in the space of a few years. It is perhaps most important in the case of the latter which cannot be reached by the written word and is incapable of selecting the good from the bad amongst the contrary currents of public opinion and casual information.

2. The object of such propaganda must be to prepare the ground for social and economic development, to educate the public in the broadest sense of the word and more especially to awake a desire for better things. It should include everything that comes under the heading of rural uplift or better living, hygiene, health, cleanliness, education both of boys and girls, improvement in agriculture, co-operation, the avoidance of litigation and debt, thrift and in fact all the public and private virtues. It can be utilised to give a degree of education, in the wider sense, to those who are illiterate and to give some knowledge, both of India and the world at large, to those whose horizon is normally that of their own village or district. It can also be utilised to combat communal feeling and dissension. A feature of all educational propaganda should be to foster a sense of national unity and common interest, the value of the connection with the British Commonwealth, and the advantages of international co-operation.

3. The technique of educational propaganda is now well understood and considerable experience has been gained by the Information Departments or staffs of the various governments. The methods include:—

(a) Broadcasting.—In addition to All-India and regional programmes, a village Radio system is required. This will be expensive and must be built up gradually but a considerable proportion of the cost can be met out of local contributions collected through District Boards. Such contributions should, however, be directly related to the provision of facilities for the people paying the tax.

(b) The cinema and loud speaker.—Here there is scope for all-India films, records and programmes and also for those of especial local interest, prepared in conjunction with the Provinces.

(c) The exhibition.—These should be of several different types:—

(i) The big scale exhibition to visit Provincial capitals and large towns in rotation.

(ii) The small exhibitions to visit Taluka towns and thus reach individual cultivators. These must be on a Provincial basis.

(iii) The exhibition train to visit towns and villages served by rail.

(iv) The exhibition van, bullock cart or camel to reach the outlying villages.

(d) The poster and pamphlet.—These also should be on an all-India as well as on a Provincial basis.

(e) Song Publicity and Plays.—As for (d) above.

(f) The demonstrator.—These can be combined with the exhibition van but should remain long enough in villages to ensure that lessons learnt are taken to heart and applied in practice. Some follow-up organisation for this purpose is also essential.

(g) The local leader.—These require organisation on imaginative lines. Village Guides, boys scouts, school masters, zaildars, Honorary Development

Officers, etc., can all be pressed into service. The exact system adopted will depend on local conditions but a definite organisation with local leadership is essential if the propaganda is to be effective and produce results.

(h) The 'shock troops' method.—This has been tried in the form of agricultural Project schemes with some measure of success. (A project is a planned system of land use, involving the simultaneous or co-ordinated application of a variety of measures of proved value and is carried out on the land of a farmer, and often by him with the help or guidance of Government technicians.) Temporary Rural Developmental Headquarters have also been set up in selected areas and have achieved valuable results. The system adopted will depend on local conditions and if organised on suitable lines and carried out with enthusiasm and judgment, is capable of achieving remarkable results.

4. The responsibility for these measures is at present divided between the Centre and Provinces in accordance with the allocation of subjects, and between the various Departments according to the subject on which propaganda or education is desired. The results are not likely therefore to be very satisfactory unless suitable co-ordination of functions can be obtained. Furthermore, it is desirable that experience, expert knowledge and to some extent the apparatus of propaganda should be pooled.

5. It is suggested therefore that the Central and Provincial Governments should each set up Educational Propaganda and Information Departments and that attached to these should be selected officers of the expert Departments to assist in the organisation of propaganda on their own subjects. A certain proportion of the work can be undertaken by the Centre such as:—

- (a) Broadcasts on suitable subjects,
- (b) The preparation of films and gramophone records,
- (c) The organisation of the larger exhibitions,
- (d) The preparation of song publicity and plays,
- (e) The production of literature and posters.

There is much however that is better carried out by the provinces themselves than by the Centre to meet their special needs. In order to assist the Centre in the determination of the objectives, the planning of propaganda campaigns on suitable lines, and in co-ordinating the activities of the various propaganda organisations, both at the Centre and in the provinces, there should be an all-India board on which, besides the representatives of all interested Departments at the Centre such as Agriculture, Education, Health, Roads, etc., should sit representatives of the provinces and such States as wish to cooperate in this work.

6. A similar board should be constituted in each province which would not only advise the Central Board on the propaganda needs of the province but would also be responsible for determining and coordinating the propaganda objectives and activities of the provincial propaganda organisation.

7. In order that the organisations now in existence for war publicity and Propaganda may not be disbanded and their experience and equipment lost, and also to ensure suitable preparation for post-war development, it is desirable that the necessary changes in organisation should take place as early as possible. The propaganda plan should at the same time be gradually modified so that the requirements of post-war development find a place in its programmes and the necessary experience is obtained and staff trained.

8. A special feature of educational propaganda should be the dissemination of information as to what social and economic developments are in progress in different parts of India. At present the ignorance even of officials as to what is happening in other Provinces than their own, and in the States, is very striking. A serious and critical journal containing articles on such subjects is required as also popular articles in the Press or local journals combined with Broadcast talks on the more interesting developments. A very energetic editorial staff will be necessary but much of the information will have to be obtained through Provinces and States.

9. A Special Branch should be formed for organising the production of suitable literature for the villages and small towns both in the vernacular and in English. This will include simple books on farming, handicrafts, health, etc. It is no use educating people if there is nothing for them to read, and libraries should be attached to every village school.

22. Education

For the last five or six years the Central Advisory Board of Education has been examining the question of developing educational facilities to suit Indian conditions and has laid down the following minimum requirements of the country in respect of public instruction:—

- (1) Universal compulsory and free education between the ages of 5 or 6 to 14.
- (2) Reasonable provision of education before the compulsory age in the form of nursery schools and classes.
- (3) Efficient medical school service including regular medical inspection of scholars and provision of proper nutrition in needy cases.
- (4) Secondary or High School education for those who are likely to benefit from it.
- (5) University education for picked students—probably 10 per cent of the high school students.
- (6) Technical, commercial and arts education.
- (7) Adult vocational and non-vocational education for those who were not educated in boyhood.
- (8) Special schools for children suffering from mental or physical handicaps.
- (9) Recreational facility of all kinds to inculcate the spirit of corporate activity and for amusement.
- (10) Employment Bureaux for finding suitable employment.
- (11) Suitable facilities for training teachers in adequate numbers and on proper lines.
- (12) An efficient administrative system.

2. The Board has also estimated that the system proposed by them will cost Rs. 312 crores gross or Rs. 277 crores net per year when it has come into full operation after about 40 years. This figure does not include the capital cost of buildings and sites but only interest and depreciation. The approximate incidence of increased costs involved in the proposals will be as follows:—

	Rs. Crores
In the 5th year	10·0
In the 10th year	23·8
In the 15th year	37·4
In the 20th year	61·45
In the 25th year	106·00
In the 30th year	165·0
In the 40th year	312·0

3. How far the present system of education in India is from complying with these minimum requirements may be seen from a few simple facts. 85 per cent. of the present population is illiterate. Of the children who actually enter the doors of a school, less than 1 in 4 remain long enough to reach the earliest stage (class IV) at which permanent literacy is likely to be attained. Since the average pay of a primary teacher in Government Schools in India is about Rs. 27 p. m., and in private schools is actually much lower—in one of the largest Provinces the average is below Rs. 10 p. m.,—it can hardly be said that the teaching service in India is likely to attract at the moment the sort of people who ought to be in charge of the nation's most valuable asset, namely, its children, during its most malleable stage. In the higher stages of education there is practically no selection, the main criterion for admission to high schools being ability to pay fees rather than intellectual promise, and apart from the passing of an admittedly easy matriculation, the same largely applies to University education. The provision of technical, commercial and

arts education is entirely inadequate to meet the expected requirements of a more highly industrialised India. In regard to the other main branches referred to in para. 1, the present provision is either non-existent or in such an embryonic stage that it can hardly be said to touch the fringe of the problem.

4. The plan prepared by the Central Advisory Board deals with all branches of education and endeavours to present an integrated scheme covering the entire field. As its central feature it prescribes universal compulsory and free education for all boys and girls from the age of 6 to the age of 14,—the shortest period and the lowest age within which an education can be provided that can be regarded as giving a minimum preparation for life or livelihood. It contemplates the provision of ten lakhs of places in nursery schools and classes for children below the age of 6. It sets out the basis upon which an efficient school medical service should be provided. In high schools, it aims at the provision of schools of various types, with, for example, an academic, a technical or an agricultural bias, suited to the aptitudes of the pupils. High Schools will provide for at least a fifth of the boys and girls in each age-group. It also emphasises the necessity of providing liberal financial assistance in the form of free places, scholarships and stipends so that no boy or girl of outstanding ability need be debarred by poverty from further education after the compulsory stage. It aims therefore at a very large increase in the provision of education at its higher stages, whether in universities or in technical institutions of university level. It also foresees the necessity for enlarging and making more practical the present provision for technical, commercial and arts instruction at all levels in order to provide India with the research workers, executives and skilled craftsmen which the expansion of her industrial, economic and agricultural resources will inevitably demand. It does not neglect the purely cultural and recreational side of education, as it attaches particular importance to the provision of the widest facilities for encouraging boys and girls, men and women, to fulfil themselves as individuals and to make a profitable use of their leisure.

5. Finally the Board makes suggestions for removing the obstacles in the existing administrative system which have militated against its success in the past and may be expected to put still graver obstacles in the way of any comprehensive development. The Board has made it clear that it will be for Provincial and State Governments to work out in detail the best way of applying in their own areas the general principles which have been laid down by it. It has also emphasised that the training of character must at all stages of education be regarded as not less important than the training of intellect and that physical, mental and moral instruction must proceed side by side. It has also stressed the importance of accelerating the provision of educational facilities for girls and women in view of the extent to which their claims have been ignored in the past. In fact, it has stated its conviction that whatever may be provided for boys and men, not less should be provided for girls and women.

6. Although for reasons explicit in the Board's Report and implicit in this statement it is of the first importance that any national system of education should be built on a broad and sound foundation in order that its higher stages may be supplied with students of proved capacity and with a good preliminary training and that for this purpose the structure in each successive area to which the plan is extended should be as complete as possible, the over-riding necessities of the post-war situation may require that special attention should be devoted in the first instance and in the near future to those branches of education which can make an essential contribution to immediate national needs. There can be little doubt that India's economic development, in both the agricultural and the industrial fields, will depend on a supply of skilled personnel in all grades, including research workers, which it is altogether beyond the powers of the existing educational system to produce. An immediate and important contribution in this respect may be expected from the skilled men now in the Defence Forces or engaged on war production. Plans are in hand,

in the Departments primarily concerned, for "reconditioning" these men, where necessary, for absorption in civil industry: but to maintain and enlarge the supply will remain a direct responsibility of the educational authorities. It is therefore urged that the National Council for Technical Education, proposed in the Board's plan, should be established without delay in order that, in consultation with Provincial Governments, which are to remain responsible for the lower stages of technical instruction, it may prepare plans as quickly as possible for developing higher technical education on a national scale. Special attention to the technical branch of education must not, however, be allowed to interfere unduly with the carrying out of the development programme as a whole: otherwise the sources from which suitable technicians may be drawn, so far from expanding, will tend to dry up.

7. It will be obvious that it will now be necessary for each Province and State to prepare a phased programme for the first stage of five years. This must include capital expenditure on buildings and must have regard to the practical limits of this programme and the availability of staff. The training facilities for teachers must be such as will allow of a yearly increase in recruitment and must be determined in relation to the expansion considered feasible in the second five year period.

However desirable the programme laid down by the Central Advisory Board may be considered to be, it is nevertheless possible that at some stage or other it may be necessary to slow up development on financial grounds. It is desirable, therefore that the stages should be logically devised and should be as far as possible complete in themselves. This is also necessary to ensure that each generation gets a reasonable share of the facilities available and that as far as possible those that so desire should be able to obtain education for their children.

8. In order to enable the benefits of education to be shared in an equal measure by all classes of the population, it is necessary that a strenuous attempt should be made by the Governments concerned, through special concessions, scholarships and other means, to improve the standards of education of all backward communities; otherwise the handicaps from which they are suffering at present will be perpetuated and may even be accentuated. For instance, in the selection of students for high school, university and technical education, it may happen that boys and girls of the advanced classes will secure a much larger share than is justified by their numbers, unless the standard of education of the backward communities is rapidly improved by means of concessions as suggested above.

9. The question of finance is discussed in Part I and it is only necessary to stress here the importance of a bold and comprehensive policy and the desirability of ensuring wherever possible contributions from local taxation towards the cost of these services. Such contributions should where possible be in direct relation to the services actually provided.

23. Public Health and Medical Services

The state of public health in India is reflected in the mortality and morbidity figures, a recorded death rate of 22 per thousand, and infantile mortality rate of 162 per thousand live births. an average annual mortality of 145,000 from Cholera, of 70,000 from small-pox, of 31,000 from plague, of 290,000 from dysentery and diarrhoea, of 500,000 from tuberculosis and of 3,667,000 from "fevers". Much has been done since the Plague Commission's report of 1904 to improve sanitary conditions in the larger towns, to establish a skeleton medical service for the people and to restrict outbreaks of epidemic disease. But it is true to say that the problem of raising the general standard of health is still largely unsolved. Moreover the health services available for the people over the greater part of the country are far below the minimum standard necessary for the relief of suffering and the maintenance of health and the development of these services in the past has been largely piecemeal and spasmodic. War conditions have brought into prominence the weakness and inadequacy of the present health organisation. Apart from the need for relief of

human suffering, the immense economic loss to the community resulting from premature death and disabling sickness makes a determined and co-ordinated attack on disease and ill-health long overdue. A programme of health development must therefore form an essential part of the wider programme of reconstruction and development for raising the standard of living.

2. A rational health policy must be comprehensive in scope. It must have as its objective nothing less than to secure the maximum attainable health of every member of the community. It follows that a health programme must provide not only for the treatment of the sick but for the prevention of disease and the promotion of health. It must have regard to all those aspects of administration which have a direct bearing on the promotion of health. It will be concerned with the fundamental conditions of environment which are essential for health, such as effective sanitary measures, a pure water-supply, good housing, and the protection of the food-supply, with the application of preventive measures against infectious and other disease, with the provision of an adequate medical service for every member of the community according to his need, with diet and nutrition, with the industrial environment of the worker, with the care of the mother, infant and child, with the provision of a school medical service, with the education and training of the medical practitioner and the public health official and of the auxiliary staff required for medical and public health organisations, with the health education of the members of the community, with research. A comprehensive programme for the promotion of health must necessarily deal with all these aspects of health administration. It must also ensure co-ordination of activities in the health field and provide against the loss of effectiveness and the waste of effort and resources which inevitably follow overlapping of services and lack of co-ordination. Plans for development must also be related to past experience and the present position and to the ultimate organisation contemplated. They should also take some account of priorities.

3. Executive and legislative powers in regard to public health and medical relief rest with the Provinces and the completion and implementing of detailed plans for post-war development in this field must be undertaken by Provincial Governments. The Government of India, however, consider that an all-India survey of the whole field of health organisation is necessary in order to provide Provincial Governments with the information and guidance which they require for carrying out an effective health programme. They accordingly appointed in October 1943 the Health Survey and Development Committee under the chairmanship of Sir Joseph Bhore to make a broad survey of the present position in regard to health conditions and health organisation in British India and to make recommendations for future development. This Committee has appointed advisory committees to consider questions relating to public health, medical relief, medical education, industrial health and research and sub-committees have set out on tours in the Provinces to elicit information and opinions.

4. The measures to be taken will be decided when the Committee's recommendations have been received.

24. Housing and Town Planning

The urban population has been increasing at a rapid rate and there has been a constant drift of rural workers into the cities and towns. In most of the towns, the problems of housing and town planning have assumed serious dimensions and a large proportion of the urban population is now living in insanitary and unhealthy conditions. On the other hand, the experience of some of the planned towns like New Delhi and Jamshedpur and of the Improvement Trusts in some of the older cities shows that much of the evil of congestion and overcrowding can be avoided if the authorities concerned exercised a rigid control over housing conditions and if they were alive to the danger of lop-sided and haphazard development. Town Planning Acts and Regulations are in force in a number of towns, but have been evaded in many cases.

2. The actual execution and administration of town planning, slum clearance and housing reforms must necessarily be the function of the municipalities concerned and little progress can be achieved unless municipal administration is improved both financially and in respect of expert personnel to deal with the question. The Local Self Government Boards proposed in para. XII of Part I might be able to strengthen the existing administration, but it will also be necessary to have at the Provincial Headquarters, as is the case in some of the Provinces, a small body of experts to help and advise municipalities, to draw up standard plans, to supervise local activities and to suggest new lines of development. It will be the duty of the Provincial Governments to see that the recommendations of this body are carried out, that the town planning regulations are actually followed and to afford financial and other assistance where required. Town planning schemes could in most cases be made self-supporting.
3. The measures required to secure an improvement in present conditions in respect of housing and town planning are too well known to need description in detail. Some of the principal directions in which an approach could be made to the solution of the problem however deserve mention and these have been indicated in the succeeding paragraphs.
4. The authorities concerned should remember that they are now planning and building not only for the present conditions but for those which will obtain fifty or more years hence. Inadequate planning and building may save a little money now but those concerned will be responsible for a repetition of present conditions and retrogression in coming years. It will be better to aim at the highest possible improvement town by town rather than attempt inadequate and ineffective progress in all of them.
5. The evil of ribbon development should be constantly borne in mind and guarded against. Experience in other countries has shown that this is often the precursor of chaos and squalor.
6. When new large scale industries are started, it would be better to locate them away from congested localities and build a new town around them. It would be much easier to start afresh than to attempt to fit in industrial expansion in congested localities and make a half-hearted attempt to improve living conditions. It will therefore be necessary to exercise very strict control over industrial expansion in crowded cities or their vicinity and if extensions are inevitable, to permit them only on condition that the promoters satisfy the local authorities and the Government that adequate housing facilities can and will be provided for the additional labour.
7. Slum clearance should be pursued with vigour and the cleared localities provided with suitable dwellings. Provincial Governments and municipalities should set the example and construct model dwellings for the working classes and let them at reasonable rates.
8. Government or municipal loans, recoverable in easy instalments, should be made on a wide scale, for the construction of model dwellings of approved design, to suit every purse, both in towns and villages. The question of making outright grants to meet the cost of modern dwellings, either in whole or in part, may also be considered in deserving cases.
9. Co-operative building and housing societies, which have been a success in some places in India, should be instituted and encouraged wherever possible. These societies will furnish credit for building model houses, but they cannot be a success unless they are strongly backed by the Governments and local authorities.
10. "Better living societies" would also be of immense use in the campaign against congestion, filth and insanitary surroundings.
11. A minimum percentage of each area should be set apart for parks and recreational facilities. This should be insisted on in all town planning and improvement schemes.

12. Finally, adequate provision should be made for drainage and the disposal of rubbish. In fact, the disposal of sewage and rubbish and the manufacture of compost and other manures from them could be made a source of profit to the authorities concerned.

25. Labour Conditions

Increased attention is already being paid to labour matters, and there must in the post-war period be a quickening-up of progress throughout the labour field. Labour policy must produce conditions in which labour can feel that it is a partner in industry and in the undertakings in which it works and which ensure to labour fair conditions both of work and relaxation.

2. There will be an increasing need for contact and co-ordination between Central and Provincial Governments, employers and workers and plans for a fuller utilisation of the newly created tripartite Labour Conference are already being made. It is only by the pooling of experience, by mutual discussion of proposals and by a direct common approach (in which in the words of the I.L.O. —“representatives of workers and employers enjoying equal status with those of Governments join with them in free discussion”) progress of labour policy on sound and uniform lines will be secured.

3. The matters to which attention will have to be devoted are briefly:—

(i) *Improvement in employment services.*—Not only will this be necessary during the transition period between War and Peace but also continuously in post-war India. A start has already been made. Employment Exchanges for technical personnel and labour depots for unskilled workers are already functioning, and showing the way to the establishment of a sound and knowledgeable employment service which is essential if a country is to be sure of making the best use of its manpower and of the opportunity for industrial development.

(ii) *Social Security Schemes.*—Though it may not be possible to frame schemes covering the whole population, consideration must be given to the subject and in particular to the requirements of the industrial population. A fact-finding Committee has already been appointed and as soon as their report is ready a Planning Committee will be appointed. A scheme of Sickness Insurance for industrial workers has just been prepared, and the possibility of implementing that scheme will be closely and quickly examined. But this by itself is not enough. Every aspect of Social Security needs careful consideration to see to what extent conditions in this country enable us to follow the lead of more advanced countries.

(iii) *Health of labour during working hours.*—There is scope for improvement in workshop and factory conditions together with improvement in health by regulation of hours and increase in and regulation of the number of holidays. Little has so far been done except possibly in the cotton textile industry in regard to scientific research on industrial health and much must necessarily be done and done quickly in this respect. Propaganda on health subjects must also be given its due place.

(iv) *Welfare.*—Improvement in welfare matters is essential. An Ordinance has been passed imposing a cess for the purpose of welfare in the coal mines areas and steps are already being taken to ensure efficient expenditure of the money so secured for improvement in the welfare of coal mine labour. Plans for improved housing must be considered; also setting up of canteens and all the various measures included in industrial welfare. The setting up of industrial canteens, if initial prejudices against them can be overcome, must lead to an improvement in nutritional standards.

Development of a housing policy is essential. Some employers have already done much to provide adequate and healthy housing, but taken as a whole the housing of industrial labour is deficient and unsatisfactory. A comprehensive policy is necessary, a policy fostered by the State which will ensure, at the expense of the employer, local authority and possibly of the State adequate and healthy industrial housing for all workers. Housing, health and happiness must be the key-words of our welfare policy.

(v) Improvement in industrial relations between workers and employers must be secured. The encouragement of sound trade unionism is an accepted policy of Government, and its continued development must be assured so as to provide for adequate collective bargaining. But however good arrangements for contact between employers and workers may be, disputes will still arise and there is need for more widespread machinery for conciliation and arbitration. An improvement of the provisions of the Trade Disputes Act for this purpose is necessary at as early a date as possible.

(vi) A thorough overhaul of our labour code is necessary to ensure that labour throughout the country has fair conditions of work, minimum wages reasonable in the conditions of the country, and a fair chance of having its point of view discussed with those in authority.

(vii) *Statistics and Administrative machinery.*—Improvement is undoubtedly necessary. Something is already being done to improve collection of statistics and to increase the available staff, but much more is necessary and much more must be done.

4. The above programme outlined in very general terms means a large field of work—a large programme—considerable increase in staff and the co-operation of all.

26. Scientific and Industrial Research

Although there is no clear cut distinction between the several subjects of research and although a certain amount of overlapping is inevitable, they fall under five main categories affecting the welfare of the country:—

- (i) medicine and public health;
- (ii) agriculture, animal husbandry and forestry;
- (iii) industry;
- (iv) requirements of Defence Services;
- (v) surveys of national resources.

2. The Council of Scientific and Industrial Research established in 1940 has already done much valuable work and under its aegis and with assistance from both Government and Industry, the following national research laboratories will be set up:—

- (i) a national physical laboratory;
- (ii) a national chemical laboratory;
- (iii) a national metallurgical laboratory;
- (iv) a fuel research station;
- (v) a glass research institute.

The first three institutions can be established only after the war but work will commence immediately on the other two. The Council has also appointed a Committee of scientists and industrialists to survey the existing facilities for research in India, to recommend measures for the promotion of research by research organisations and private firms, and to suggest steps for the furtherance of industrial and scientific research after the war.

3. There are also a number of other research organisations under the various Departments of the Government of India, such as the Imperial Council of Agricultural Research, the Forest Research Institute, the Imperial Veterinary Research Institute, the Indian Research Fund Association (for medical and public health research), the Nutrition Research Laboratories, the Botanical and Zoological Surveys, the Geological Survey of India, etc. In addition, there are organisations under Provincial Governments, Indian States, Universities, industry and private enterprise. It is proposed to set up a consultative Scientific Committee at the Centre to deal with all matters common to science as a whole and to co-ordinate research. It will maintain close contact with official as well as non-official scientific institutions.

4. It is essential that the scientists in the various institutions run by Government, Industries and Universities should work in close collaboration with each other. Facilities should be provided for them to meet in periodical scientific conferences for a mutual exchange of views. These conferences might also

suggest methods of co-ordination between the various institutions dealing with similar problems and ensure that there is no duplication and overlapping of activities. Facilities should also be provided for the collection and distribution of foreign scientific literature through some central organisation maintained for the purpose and steps should be taken to encourage Indian scientists to go abroad for higher research and for establishing personal contact with overseas scientists and institutions.

5. It has been suggested by Professor A. V. Hill that Development Boards should be constituted, where they do not already exist, to deal with the five categories referred to in para. 2 above. They would consist largely of scientists in the employment of Government and distinguished non-officials working in private institutions. The Boards would periodically survey the organisation of research, in order to ensure that the "user" departments develop and popularise the results of original research through their own scientific and publicity organisations.

6. The planned development of national resources would need a large expansion of scientific personnel of all kinds. Much excellent material is available in India itself, but it would be necessary to provide advanced or specialised training facilities both in India and abroad, importing experts, where required, for the preliminary work.

7. As regards finance, some estimates of expenditure on research in the U. K. and the U. S. A. may be of interest. The amount spent by 566 British firms on research and development in 1938 was £5.44 millions (about Rs. 7 crores). The pre-war research expenditure in the British universities was £7 millions and that in the American universities was £70 millions (or Rs. 93 crores). In addition, Government Departments in both these countries were directly responsible for the conduct and subsidy of research on behalf of their governments. Compared with these figures, the expenditure of India on research and development is very small. Although it will not be possible for India to spend money on the scale of the more advanced countries, it is obvious that very large sums will have to be made available for such research and development as are considered essential for post-war development.

TABLE OF CONTENTS

	PARAS.	PAGES.
SUMMARY . . . . .	..	1
PART I.—Review of present conditions		
INTRODUCTION	1—2	12
CHAPTER I. The Government in relation to forestry	3—10	12—14
CHAPTER II. Existing forest policy	11—28	16—21
CHAPTER III. Existing demands on and supplies of forest resources	29—53	21—27
CHAPTER IV. Floods, erosion and desiccation	54—70	27—31
CHAPTER V. Forest research	71—90	32—35
CHAPTER VI. Forest education	91—100	35—38
CHAPTER VII. Creation of a Federal Forest Service	101—105	38
CHAPTER VIII. Minor forest produce	106—109	38—39
PART II.—Suggestions		
INTRODUCTION	110	40
GENERAL	111—113	40
CHAPTERS II & III. Government in relation to forestry and existing forest policy	114—118	40—41
CHAPTER III. Existing demands on and supplies of forest resources	119—132	41—46
CHAPTER IV. Floods, erosion and desiccation	133—136	46—48
CHAPTER V. Forest research	137	48
CHAPTER VI. Forest education	138—140	48—49
CHAPTER VII. Creation of a Federal Forest Service	141	49
CHAPTER VIII. Minor forest products	142	49





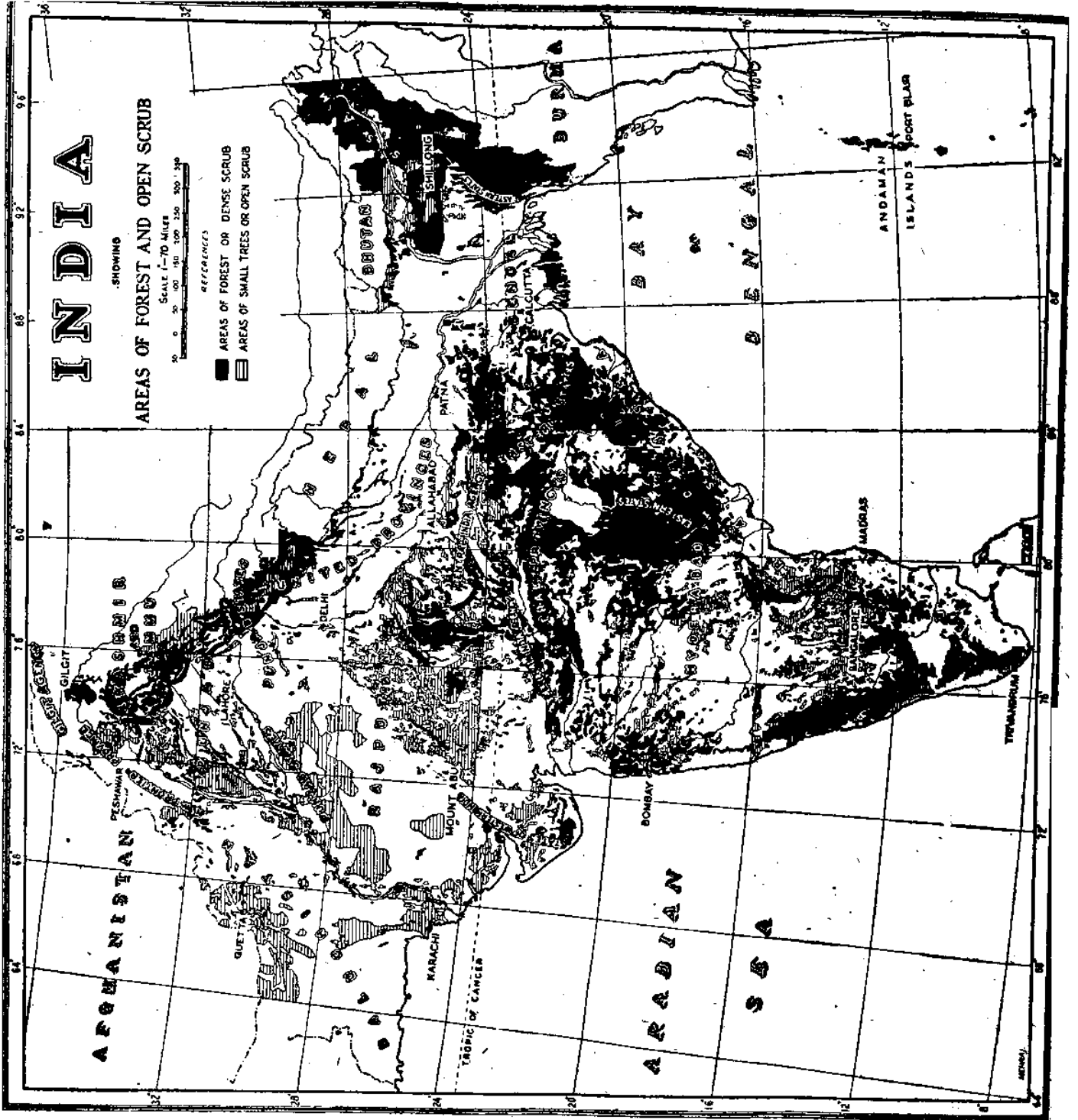
INDIA

SHOWING
AREAS OF FOREST AND OPEN SCRUB

Scale 1"=70 Miles
0 50 100 150 200 250 300 Miles

REFERENCES

- AREAS OF FOREST OR DENSE SCRUB
- ▨ AREAS OF SMALL TREES OR OPEN SCRUB



Summary

Part I.—REVIEW OF PRESENT CONDITIONS

INTRODUCTION

Paras. 1 and 2.—The accuracy of the figures given cannot be guaranteed, but they are sufficiently accurate correctly to illustrate the problems. The note is written for British India but much of it also applies to Indian States.

Chapter I

THE GOVERNMENT IN RELATION TO FORESTRY

Paras. 3 and 4.—Governments must necessarily limit individual freedom in order to govern. The principle of the greatest good to the greatest number is laid down as a principle of the existing forest policy of India. The long rotations necessary in forestry make forests an unsuitable investment for the individual. This has been the experience in India, Europe and America. In all three private forests have tended to disappear.

Para. 5.—Ideally, Government should take over all forests which must be preserved for climatic or physical reasons and such further quantity as may be necessary to supply the general needs of the community. But this procedure would often interfere more with individual rights than any Government would wish.

Paras 6 and 7.—The above principles should be applied to India, the Forest Act being amended accordingly and a measure of control introduced over private forests. It should not be forgotten that the important needs of the agricultural villager must be supplied from forests near at hand, as the value of the produce cannot support long transport.

Para. 8.—The main problem in India is to supply the ordinary agricultural villagers with the forest produce they need largely to prevent the burning of cowdung, the most easily obtainable manure.

Para. 9.—Possibly too little land is directly available and properly distributed for this purpose and it may mean acquisition and compulsory management by the Forest Department.

Para. 10.—Various methods of control of private ownership of forests have been found necessary in Europe and are :

- (i) Prevention of mere destruction only. This is the minimum of control.
- (ii) Prevention of trade in woodlands.
- (iii) Compulsory regeneration of felled areas usually within a specified number of years.
- (iv) Compulsory management on the method of sustained yield.
- (v) Restriction on the rotation of felled trees.
- (vi) Control of actual silvicultural operations. This begins to approach proper forest management.
- (vii) Compulsory proper forest management. This may involve great restrictions on the private owner but is the best for the general well-being of the country and is the minimum that should be enforced in any area falling under class (a) protection forests (see Chapter II).
- (viii) The ultimate stage of control of taking over the management and managing it on the owner's behalf.

Chapter II

EXISTING FOREST POLICY*

Para. 11.—The existing forest policy of India evolved in 1894, nearly 50 years ago, only reduced to writing the aims of the Indian Forest Department since its foundation in 1865, nearly 80 years ago. The principles laid down are excellent and a detailed study of the policy is necessary for anyone dealing with forest matters. Its contents are summarized paragraph by paragraph in paragraph 11 of this note. It classifies Government forests into :

- (a) Those necessary on climatic and physical grounds (prevention of floods, erosion or desiccation, i.e., Protection forests).
- (b) Timber forests (principally for timber supply and revenue).
- (c) Minor forests (principally to supply local needs).
- (d) Pasture forests.

This classification gives the function of the forests and has nothing to do with the legal classification of forest under the Forest Act as *Reserved, Protected, etc.* The classification indicates a policy of management for each class. A given forest may easily fall under more than one class and in fact many forests falling under classes (b), (c) and (d) ought also to be classified as falling under class (a) which is often their most important function.

Para. 12.—The outstanding principles of the above policy are :

- (a) that first and foremost the preservation of the climatic and physical conditions of the country comes before everything else;
 - (b) that the preservation of the minimum amount of forest necessary for the general well-being of the country is second only to (a) above.
- But provided the above two conditions are fulfilled, then :
- (c) cultivation comes before forestry.
 - (d) the satisfaction of the wants of the local population free or at non-competitive rates comes before revenue; and

(e) after all the above are satisfied the realization of revenue to the greatest possible extent is permitted.

Comments on the existing forest policy

Paras. 13 and 14.—The general principles are excellent, but as stated before, the classes of the policy are not exclusive and have nothing to do with the legal classification under the Forest Act.

Para. 15.—The above policy does not specifically mention the principle of sustained yield but with the concurrence of the Government of India the Forest Department since its inception has managed its forests under this principle. Sustained yield ensures that forest produce does not decrease from year to year, that the yearly yield is equal or gradually rises till the maximum yield is obtained. The reasons for adopting the principle of sustained yield are, among others :

- (a) a stable industry cannot exist with excessive fluctuations;
- (b) so many are dependent on forests for their livelihood that large fluctuations would upset social conditions;
- (c) Government budgets necessitate approximately equal revenue.

Paras. 16 to 20.—The above policy nowhere lays down the percentage of the country which should be under forest. *Para. 16* analyses the area of Government forests in India. They occupy only 14 per cent of the total area and that classed as merchantable only 9.3 per cent. *Para. 18* gives a classification by ownership in the various provinces, and it will be seen that 20 per cent of British India is covered with forest of a sort but only 12 per cent is occupied by what is classed as merchantable. As the private forests are fast disappearing, only 122,000 square miles of State forests or 14 per cent of the total area can be considered as the real area of forest land in India and even of this there are 24,000 square miles not under the control of the Forest Department, much of which is also disappearing. As already stated only 9.3 per cent of the total area of British India is classed as merchantable.

Paras. 21 and 22.—Taking an average of European countries, it appears that about 26 per cent of the area is the normal ordinary area of forest.

Para. 23.—As a rough minimum guide for India, 20 to 25 per cent might be adopted, and this must be properly distributed over provinces.

Paras. 24 and 25.—Many individual provinces have less forest land than would ordinarily be considered necessary. Roughly speaking, south of a line from Cambay to Calcutta, the distribution of forests is fairly adequate; but north of that line the forests under the Forest Department consist of a narrow strip in the north, the forests in the east of Assam, the Sunderbans and a few odd patches down the Indus, the south of the United Provinces and in Bihar and Orissa. The distribution is clearly shown on Map I, but that unfortunately omits the forests of Indian States. On Map II, an attempt has been made to insert those forests of Indian States which are under proper forest management.

Para. 26.—The existing forest policy does not include any indication that it aims at increasing the forest area up to the minimum requirements of the country. It would be an advantage to aim at increasing to a minimum, more especially for forests falling under class (a) Protection forests.

Paras. 27 and 28.—There are three methods of increasing the forest area :

- (a) bringing more Government waste lands under forest;
- (b) bringing more private area under forest; and
- (c) legal control of private forests.

The Forest Act legislates for the control of private forests in Chapter V, but in practice this has been largely ineffective. Certain provinces in India have already taken steps to draft legislation to control the destruction of private forests even though these draft bills have not yet become law. Attention may be called to the following :

- (i) The Chota Nagpur Private Forests Bill of 1939.
- (ii) The United Provinces Rural Development Bill of 1939.
- (iii) The Report of the West Bengal Forest Committee containing the Bengal Private Forests Bill of 1939.

It is understood that the North-West Frontier Province is also contemplating the revision of the rules for Guzara forests, under the Hazara Forest Regulation.

Chapter III

EXISTING DEMANDS ON AND SUPPLIES OF FOREST RESOURCES

Para. 29.—Forest produce consists of major forest produce, timber and fuel, and minor forest produce, which includes everything else like resin, drugs, grazing, etc. In this chapter minor forest produce is excluded, except grazing.

Para. 30.—It is convenient to divide the consumers of forest produce into

- (a) General consumers whose wants are supplied by the timber trader. They are mostly urban population.
- (b) Local village consumers, that is villagers living near forests.
- (c) Ordinary village consumers who live far distant from any source of supply of forest produce.

Para. 31.—The general consumers, in addition to a demand for fuel, need large timber valuable enough to bear the cost of transport. The village consumers, on the other hand, are mostly agriculturists, and they need small timber and fuel, neither of which are sufficiently valuable to bear the cost of transport.

Para. 32.—War fellings have temporarily upset the orderly plans of forest management.

Paras. 33 and 34.—Before the war the position in the reserved forests of India was favourable. Working plans legislated for periodic stock-taking and, although the forests of India were not yet fully productive, they had progressed as nearly as could be expected in the course of 80 years. The Forest Department 80 years ago took over a depleted and often ruined forest estate, and full production cannot be attained in less than a full rotation.

Para. 35.—All the more valuable forests of India before the war were covered by adequate and up-to-date working plans. There were some arrears in Bombay and Bengal, while in Assam the plans were sometimes based on rather insufficient data and in Bihar plans were sometimes lacking for those private forests recently taken under control. But the former favourable position has been partly upset by war fellings.

Paras. 36 and 37.—A table in *para. 36* attempts to compare the fellings during the war with pre-war fellings. It appears that for timber an excess of about 162 per cent has been felled or in other words about $1\frac{1}{2}$ years advance felling on the average.

Para. 38.—The United Provinces, the Punjab, the Central Provinces, Bombay and Sind have largely increased fellings in 1942-43 and by the end of 1943-44 might easily be four to five years in advance. It is difficult to give a general picture but by the end of 1943-44 the United Provinces will have felled about nine years yield during the five years of war. Unfortunately this has often been felled on the best trees in the most accessible areas. It is difficult to make any accurate calculation but it would appear that a 40 or 50 per cent reduction over the pre-war yield for a period of between five and ten years would bring the position approximately back to normal. That is about the worst to be faced. If 20 years were taken, the reduction would be much less. In Madras the fellings of teak are probably five years in advance and in Bombay in some teak areas as much as ten years in advance.

Para. 39.—This excess, however, has come partly from valueless species having become valuable and from thinnings which silviculturally were necessary and which could not otherwise have been made.

Para. 40.—These over-fellings have not hurt the climatic and physical function of the reserved forests and are of no real importance in comparison with the total rotations of the forests of India.

Para. 41.—But the over-felling has, of course, upset the working plans position and rapid revision of most working plans will be immediately necessary after the war.

(a) *The general consumer*

In normal times the outturn of timber and fuel from forests under the control of the Forest Department is a little under 6 million tons. There are no records of the outturn from private forests, but it may be guessed as perhaps 50 per cent. of the above.

Paras. 42 & 43.—*Para. 42* gives a table of imports and it will be seen that the normal imports are only about 185,000 tons of timber, or say 3 per cent of the total timber from the Forest Department areas or not more than 2 per cent, if private forests are included. Even of this 2 per cent a large quantity was teak from Burma which will ultimately be replaced by teak grown in India. There is some import from province to province. Generally speaking, it can be said that under pre-war conditions, except for teak, Indian forests generally supplied the wants of the general consumer. It is true that the forests outside the control of the Forest Department are deteriorating and the demands of the general consumer are rising, but, even so, taking a long-term view, there is no serious problem for the supply of timber for the general consumer.

(b) *The local village consumer*

Para. 44.—Here again, with the exception of Sind and Assam, it appears that as a whole the wants for forest produce of these local village consumers are adequately supplied and there is no serious problem.

(c) *The general village consumer*

Para. 45.—In the Central Provinces and to a certain extent in Madras, the distribution of the forests is such that there is no great problem even for the general village consumer.

Para. 46.—In the rest of British India, the demands of the general village consumer are not supplied or most insufficiently supplied. This is true over large parts of the Punjab and the North-West Frontier Province, for probably 90 per cent of the plains villages of the United Provinces, for probably half of Bombay, for all the centre and west of Bengal, and for much of Bihar and the coast lands of Orissa. Even if it were possible to transport the forest produce demanded by these populations from the existing forests, the forests would be unable to supply.

Para. 47.—The crux of the whole problem is to supply this population with small house-building timber, agricultural timber and fuel so as to raise its general standard of life and save the cowdung for manure.

Paras. 48 and 49.—It has not been possible to get any figures for the cowdung burnt in India. At a guess assuming that there are 300 million cattle in India and that the cowdung is burnt only from 150 million, then, if the dry weight of cowdung produced per head per day is 10 lbs., it gives 250 million tons of cowdung per year. These figures do not exactly agree with figures from the Imperial Council of Agricultural Research. Their estimate is about 560 million tons of cowdung is burnt per annum. The important point, however, is that whichever figure is correct, it makes the saving of this cowdung for manure a vital problem in the agricultural economy of India.

Para. 50.—Agricultural evidence shows that about $3\frac{1}{2}$ tons of manure per acre roughly doubles the crop, so that the 250 million tons of cowdung could manure 72 million acres out of the 226 million acres of cultivated land in India, that is to say about 30 per cent. of the whole of India's cultivation.

Para. 51.—Loss of production is not the only evil in burning cowdung. The fields deprived of manure decrease in fertility, the produce gets less and less, the soil is more liable to erosion and a vicious circle of general poverty is created.

Para. 52.—To supply these wants is the main problem and it more especially concerns the northern two-thirds of India. The general prosperity of India depends largely on the prosperity of the peasants and this in turn is very largely dependent on having fuel and small timber available in the immediate neighbourhood.

Para. 53.—The question of grazing is mixed up with this. But these minor forests, managed to supply the wants of the agriculturist, will all be short-rotation forests, so that for a large portion of each rotation they would provide good grazing and for the rest of the rotation would provide general exercise grounds for the cattle.

Chapter IV ✓

FLOODS, EROSION, AND DESICCATION ✓

Para. 54.—The importance of the problem may be illustrated by the following accounts in *The Statesman* on two consecutive days, August 20 and 21, 1943.

- (a) Jumna floods affecting 30 villages, hundreds of people and thousands of cattle.
- (b) Ajmer-Merwara floods with 1,500 people drowned.
- (c) Damodar river floods on 45 square miles, affecting 27,000 people with a request for Rs. 90,000 for relief and Rs. 100,000 for agricultural loans.
- (d) Orissa floods affecting 400 square miles.

Para. 55.—Erosion rubs away the surface soil, forms finger gullies, and soluble chemicals and micro-organisms are lost. This is sheet erosion and though most important, is not obvious to the casual observer.

Para. 56.—Eventually, the gullies extend right through the top soil to the sub-soil, produce excessive drainage and lower the level of underground water. Such erosion is obvious to everybody.

Para. 57.—Floods and erosion are intimately connected with class (a) Protection forests, and classes (c) and (d) Minor Forests and Pastures.

✓ *Para. 58.*—Correct land management has far and away the most important influence in preventing floods and erosion. The management of fields is important, but it does not concern the Forest Department. But much of the land is not agricultural land and should be placed in class (a) Protection forests, and properly managed by the Forest Department. High forest cover is one of the best forms of land management to prevent erosion in hilly country.

Paras. 59 & 60.—There are large areas along the Himalayas and in other parts of India bare of tree growth, open to unlimited grazing and often burnt yearly. The erosion problem is often intimately connected with (c) and (d) class forests, namely Minor forests and Pastures which should also often be put under class (a) Protection forests.

Para. 61.—Forests under the Forest Department usually control adequately the erosion and flood problems within their actual boundaries. In the Minor forests of the Central Provinces, in the United Provinces in certain areas with excessive grazing rights, and in Madras in the mismanaged panchayat forests, the run-off and erosion problem is not sufficiently controlled even within the forest boundaries. Some of the reserves in Bombay are so scattered and broken that it is not properly controlled there. On the whole, however, within the forest boundaries the problem is controlled.

Para. 62.—But the trouble is that the forest areas under the Forest Department are usually so badly distributed throughout the province that the general flood and erosion problem is not controlled. Except in the Central Provinces where the problems are only local, there are serious flood and erosion problems in the Punjab, the North-West Frontier Province, the United Provinces, in Orissa, Bihar, Bengal (particularly in Western Bengal), Assam (especially in the hills), and even Madras despite the rather large proportion of the total area under the Forest Department.

Paras. 63 to 65.—The percentage of the precipitation that is lost is in the following proportion :

Forest with normal ground cover	1
Forest burnt annually and litter removed (or grazed heavily)	3
Well-managed pasture	3
Grass land	10
Completely bare ground	25

The loss of soil per acre per year under the different soil covers is :

Forest with normal ground covering	1
Forest burnt annually and litter removed (or heavily grazed)	20
Well-managed pasture	14
Grass land	130
Completely bare ground	3,250

Para. 66.—In the above two tables it is interesting to note that although forest with its normal ground cover is better than any other form of land management to prevent run-off and erosion and although forest soil burnt annually with the litter removed or heavily grazed is still quite good at preventing run-off and is as good as well-managed pasture, the removal of the litter has minimised its capacity for preventing erosion. If the forest litter is completely removed the figure for erosion rises to about 190 so that the complete removal of litter under forest cover turns the best preventive of erosion into a poor preventive.

Para. 67.—Agricultural crops appear to have a greater run-off and erosion than bare land.

Para. 68.—It is single heavy storms rather than the average rainfall which does the damage. The following figures give the general proportions of run-off and soil loss in single heavy storms for three different kinds of soil cover.

Cover	Run-off	Soil loss
Forest	1	1
Grass	27	32
Bare land	125	800

Para. 69.—West of a line running roughly from Ambala *via* Etawah to Ratlam and across to Mt. Abu, the rainfall is below 30 in. and only tropical dry thorn forest will grow. West of a line from Lahore to Rohtak and then through Ajmer to Nawanagar, the rainfall is below 20 in. and the forest is even more scrubby and scanty, though down to that rainfall forest of a sort can still be grown perfectly well without irrigation and the species are useful for the small timber and fuel so necessary for the agriculturist. Such species as *babul* (*kikar*) if there is no frost, *shisham*, *khair* could all be grown. West of a line roughly from Lyallpur through Bikaner, about 50 miles west of Jodhpur and then down to a point about 100 miles south-east of Karachi, the rainfall sinks below 10 in. and from that line westward the rainfall gets less and less till complete desert conditions are met. Even here, however, over much of the area, forest of a sort could be grown if water could be provided for the first two or three years. Needless to say, with proper irrigation forests could be easily grown over much of this area provided suitable species were chosen.

Para. 70.—It has been stated that this dry belt is advancing eastwards into the Gangetic plain. Its afforestation, therefore, would not only be a great adjunct to agricultural dry farming but would increase the general fertility and improve the climate of the tract itself in addition to acting as a barrier against the spread of desert conditions into the Gangetic plain to the east of the 30 in. rainfall line.

Chapter V

FOREST RESEARCH

Para. 71.—Forest research is centralized in Dehra Dun, though there are certain provincial research officers.

Para. 72.—At the Forest Research Institute the administrative head is the President who is a forest officer. There are branches of Botany, Silviculture, Entomology, Chemistry and Minor Forest Products and Utilization, each with a branch officer. There is a Timber Development branch virtually in abeyance. The President has a personal assistant.

Paras. 73 to 75.—*Paras. 73 and 74* deal with the work of the branches other than Utilization and their staff. *Para. 75* deals with the staff of the Utilization branch.

Para. 76.—The general account omits certain variations caused by the war.

Para. 77.—The Inspector General of Forests is also the President. Although there had been a great increase in the President's work between 1920 and 1925, it was decided to combine the posts of the President and the Inspector General of Forests in 1926 on the ground that the Inspector General's direct work had decreased as a result of the forests becoming a transferred subject. This was actually incorrect even at the time, but since that date a large increase in his work has taken place in that he is now permitted to tour and advise in Indian States in the same way as in provinces. In fact both the Inspector General's and President's work has largely increased and not decreased.

Para. 78.—The combination of the two posts has not led to efficiency. The Mehta Commission was appointed in 1929 to enquire into the workings of the Institute, Sir Shanti Swarup Bhatnagar came and reported in 1938 on certain aspects of the Institute work, the Central Advisory Board on Forest Utilization was formed in 1940 and in 1941 a proposal was made for a further general enquiry committee. A succession of such enquiries does not indicate that everything is satisfactory.

Para. 79.—The Inspector General's advisory work to the Government of India (and his more recent work in the States) necessitates a man qualified from extensive experience of general forestry with high administrative experience in a province. He must be a senior officer and should ideally hold his post for five years.

Para. 80.—The President's work is completely different. While he must have had extensive experience of ordinary forest conditions, it is an advantage if he is a scientist. The management of the Research Institute is, however, different from any ordinary post in the Forest Department and, having learnt the job, within reason the longer he holds it the better.

Para. 81.—There is an anomaly in the Institute. All branches, except the Utilization branch, deal with a single science or a series of closely related sciences and the branch officer is a technical expert in his work. But in the Utilization branch the various sections are as widely different as the branches in the rest of the Institute and demand completely different qualifications. The Utilization Officer is not and could not be a technical expert in all these various branches and so has become an administrative head with his own budget and his own centralized office. It thus becomes an Institute within an Institute, which naturally leads to various difficulties.

Para. 82.—In my opinion the present combination of Inspector General and President has never been efficient and never will be. A Vice-President has been sanctioned now for two years, who will virtually control the Institute, and the experience gained will enable a final decision to be taken whether this organization should be perpetuated.

Para. 83.—I advise that the commission proposed in 1941, but postponed owing to the war, should be appointed immediately after the war. On the commission, as a member of the commission and not merely as a witness, should be someone with intimate knowledge of the internal workings of the Institute.

Paras. 84 to 90.—In my opinion no great change in the organization is necessary except in the anomalous position of the Utilization branch. There are two possible solutions to this. The whole Utilization branch, together with the Chemistry and Minor Forest Products branch, both of which deal with the raw material for trade, could be separated off as a separate Institute, preferably in a trade centre. This Utilization Institute would not necessarily need a forest officer at its head but would need an experienced forest officer somewhere on the staff to act as a liaison officer with the Forest Department. I do not recommend this reorganization which I think would bring more evil than good. The other solution is to split the present Utilization branch into two branches. One perhaps might consist of the present Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing Sections, with an engineer as head of the branch who should, if possible, have experience in extraction and logging problems and in the designing of wooden structures, buildings, bridges, etc., and the other three existing sections of Wood Preservation, Wood Seasoning and Paper Pulp could also be combined into a second branch with a Chemical Engineer as head of it. The existing sections would thus be combined into branches under technical branch officers. If it is impossible to get a man experienced in logging problems and designs for wooden structures, then two men will be necessary. The next step would be to combine the office of the present Utilization branch with the central office and to combine the budget with that of the rest of the Institute, thus completing the general aim underlying the Mehta Commission Report of 1929 which, however, only carried out the centralization of the rest of the Institute and not of the Utilization branch. The present administrative Utilization Officer would cease to exist.

Chapter VI

FOREST EDUCATION

Para. 91.—The Forest education necessary in India is for the training of (a) Foresters; (b) Rangers; and (c) gazetted officers.

(a) Foresters

Para. 92.—The arrangements are made by the provinces themselves and are satisfactory.

(b) Rangers

Para. 93.—Rangers have been trained at Dehra Dun since 1878. There was a school at Coimbatore and one at Poona, but the present position is that all provinces train their Rangers at Dehra Dun. Most officers consider that one centre of training is desirable. The course is a two-year course.

Para. 94.—There has been a most gratifying increase in the interest in proper forest management by the Indian States in the last few years. The forecasted demand for the Rangers seats for the next five years is an average total of about 65 students of which 30 are from provinces and 24 from States. The total capacity of the existing Indian Forest Ranger College at Dehra Dun is a yearly intake of 39 students making a total of 78 students in residence at any one time. Actually a class of 39 students is already too large for the maximum efficiency of teaching. If this demand of 65 students per year were a normal perpetual demand, it would be necessary to expand the college. But it is calculated in paragraph 94 that the normal direct recruits of Rangers for provinces is not more than

21 to 24 students per year leaving a possible maximum for States of about 15 to 18. It appears therefore unwise to embark on any scheme for expanding the college at the moment.

Para. 95.—The Ranger College is now five miles away from the present New Forest. This is inconvenient. With a certain rearrangement the full class of Rangers could be accommodated in the existing Forest Research Institute building with adequate lecture rooms, laboratories, etc. It would need the building of hostels to accommodate some 80 students, two more bungalows of the type to accommodate Class II officers and two more bungalows of the Class I type. The cost should be less than the value of the site and the buildings to be disposed of in Dehra Dun. I would not, however, advise the immediate disposal of these buildings in case the very excessive demand for Rangers seats in the immediate future necessitates special Ranger classes for a few years.

(c) *Gazetted officers class*

Paras. 96 to 99.—A brief history of this training is given in *paras. 95 and 97*. The maximum accommodation is 32. There is some difficulty about living accommodation which has only been obtained by taking over and adapting certain Class II officers' bungalows. Probably a demand of 20 to 24 including the present demand of Indian States is about the normal for this class. The arrangements are adequate except that proper hostels for these students should be erected and the Class II officers' bungalows reverted to their proper use.

Para. 100.—Circular No. 4-F, dated 13 February 1892, gives rules for special continental tours for members of the Indian Forest Service when on leave in order to keep them up to date in the various problems of forestry and to encourage professional efficiency. The young gazetted officers trained at Dehra Dun would benefit by these tours at least as much as the former members of the old Indian Forest Service. It is recommended that such tours be made a normal part of training for either a selected number of, or preferably for all, gazetted officers to be made within the first five years of service but after leaving Dehra Dun and after some experience of actual forestry and forest conditions in India. Such a tour would only last for six to eight months. Facilities already exist to provide the necessary instruction, and the total expense of such a tour, including fees to the university, living expenses, touring expenses on the continent, living on tour, etc., would come to between Rs. 4,000 and 4,300 exclusive of passages from India to Europe. Government would only need to bear a proportion of this cost.

Chapter VII

CREATION OF A FEDERAL FOREST SERVICE

Paras. 101 to 105.—The Hon'ble Member, Sir Jogendra Singh, has suggested the creation of a Federal Forest Service to fill central Government posts. Work for such a service would exist at the Forest Research Institute at Dehra Dun. There is no doubt that under present conditions in times of stress the needs of the Institute take a very second place with the needs of provinces. Other work possible for such a service would be the staffing of certain forests like the Andaman Islands, Coorg, etc., which are directly under the central Government, and there should be an increasing demand for forest advisers, working plans officers and seconded officers to certain Indian States, which such a service could also supply. Such separate Federal Services already exist in Australia, Canada and in the United States of America. South Africa has a federal service only which works throughout the Union and has no forest service for the separate provinces.

Chapter VIII

MINOR FOREST PRODUCTS

Para. 106.—The development of minor forest products has been neglected in the past. They have often been collected haphazardly by petty contractors and markets have been lost through adulterated, dirty or badly graded material. After much delay the necessary staff to deal with this very valuable and important branch of work has been sanctioned for the Forest Research Institute and, although a Minor Forest Products officer has not yet been appointed at the time of writing, one is expected shortly. His first work will be to compile the large amount of material already available at the Institute, then to draw up a definite programme of work to fill the gaps in the data.

Para. 107.—There are two types of minor forest products. Those derived from more or less mature trees (and therefore taking a long time to produce) like, for instance, Kapok, Kutch, Katha Myrabolam, etc., and those derived from annual and perennial herbs which take a short time to produce like Pyrethrum, Ephedrine, Santonin, Bhabar grass, etc., or from young trees like quinine from Cinchona bark, rubber from Hevea, etc.

Para. 108.—The first type will usually remain as forest industries because few private individuals are prepared to grow crops which would not give a yield for 30 or 40 years. They will always be collected from the scattered trees in a forest or, if crops are grown, then they will also yield timber or fuel.

Para. 109.—But the second type, which give comparatively quick returns, are better grown as crops and not collected from the scattered trees of a forest. These offer possibilities for the individual cultivator once the preliminary research stage is finished just as it is individuals who now grow rubber, cinchona, tea, pyrethrum plantations, etc. At that stage these products pass over to the Agricultural Department.

Part II—SUGGESTIONS

Introduction

Para. 110.—Just as Part I largely applies to Indian States so do the suggestions in Part II. It is suggested that States might combine by agencies to employ a properly qualified forest adviser and possibly a joint cadre.

General

Para. 111.—The general lines of suggestions will be evident from Part I but, to make Part II complete, any suggestions already made have been repeated. It has been arranged under the same chapter headings as Part I so that each subject can be read complete by itself. Unfortunately, there must be a certain amount of overlap.

Para. 112.—The order of the chapters is logical as far as possible and not in the order of the importance of the problem. It is therefore repeated and emphasized here that the most important forest problems of India are :

(a) Proper land management to control floods, erosion and the afforestation of the dry belt in the west. Connected with this is the defining of those areas where correct land management is necessary for the physical well-being of the country. This may affect private ownership.

(b) Second only to the above is the provision of small timber and fuel for the general agricultural village consumer in India both to provide for his direct wants and at the same time to release cowdung for manure and the correct distribution of this forest throughout India.

Para. 113.—A small reconstruction forest policy committee should be set up in each province to draw up the provincial programmes. The heads of these committees should then meet to make a combined programme for those items which coincide.

Chapters II and III. Government in relation to Forestry and Existing Forest Policy

Para. 114.—The principles which govern the existing forest policy of India should be endorsed. These are :

(a) The areas necessary for the preservation of the general climatic and physical conditions of the country must be kept as forest.

(b) The minimum amount of forest necessary for the general well-being of the country must be preserved or created.

Subject to (a) and (b) above :

(c) Cultivation is more important than forests.

(d) The satisfaction of the wants of the local population free or at non-competitive rates is more important than revenue.

(e) After the above have been satisfied, the object of management is the realization of the greatest possible revenue consistent with the principles of forest management, that is to say on the principle of sustained annual yield.

Para. 115.—The existing forest policy does not legislate for the allocation of land to fulfil (a) above, nor does it lay down the percentage either for India or for any province to fulfil condition (b) above. These omissions might be rectified.

Para. 116.—Land necessary for the preservation or improvement of the general climatic and physical conditions in each province should be classified and allotted to class (a) Protection forests and properly managed. The majority will be under some form of forest management. It should be allotted to class (a) even though it may also be allotted to classes (b), (c) and (d).

Para. 117.—The minimum area of forest land for India, and as far as possible for each province, should be laid down as between 20 and 25 per cent.

Control of private forests

Para. 118.—A Private Forest Act should be drafted to prevent the devastation of forests falling under class (a) Protection forests. It should legislate for all stages of control depending on local circumstances and for the actual acquisition of land when necessary in the general interest.

Chapter III. Existing demands and supplies of forest resources*Management of reserved forests*

Para. 119.—There is nothing to suggest except the continuance of the present forest policy which has actuated Indian forest management since its inception, that is to grow those species most suited to the locality and which are in general demand on the principle of the sustained yield, and with the object of attaining a normal increment in the shortest possible time.

Para. 120.—But owing to over-fellings on account of the war demand, the working plan position should be examined immediately after the war and either fresh working plans or temporary rough working schemes prepared immediately.

Para. 121.—The possibility of creating special working plans circles either in a province or in combination with a neighbouring province should be examined. The minimum number of working plans to make such a circle worth while is ten plans revised on a ten-year cycle, and anything over that makes it even more worth while.

Para. 122.—The disposal of the Defence Department stocks after the war must be controlled. The Board of Forestry in 1942 had already passed this resolution:

(a) The release of Defence Department stocks after the war must be controlled by a disposal board or some such agency and the Board of Forestry emphasizes that the Forest Department must be adequately represented in any planning for such disposal.

(b) The Board of Forestry further advises that, in consultation with railways, steps should be taken to stabilize sleeper prices after the war.

Ordinary agricultural village consumers

Para. 123.—The provision for their wants for small timber and fuel is most important. Map I shows the existing areas under the Forest Department which, under existing conditions, are likely soon to be the only forests left in British India. Map II also includes as far as possible properly managed forests in both British India and in Indian States, so that this may show the total forests likely to remain in India in the near future under the present conditions. It will be seen that there are vast areas devoid of forests where the wants of the ordinary agricultural villager are entirely unsatisfied. The question arises whether land is available which is either covered with forest of a sort though not under the Forest Department and not at present properly managed.

Para. 124.—In *para. 124* the land both in British India and the States is classified as cultivated, uncultivated and forest. Although the figures may not be quite accurate, it will be seen that there are 106,000 square miles of land classified as forest which is about 13 per cent. of the total area of British India. A further 144,000 square miles is classified as cultivable waste and another 144,000 square miles as not available for cultivation. Out of this it is probably possible to find somewhere between 50,000 to 100,000 square miles of properly distributed forest which would solve most of the problem.

Para. 125.—Map III bears this out compared with Map II. The cross-hatched areas do show where some sort of forest exists and, if taken over by the Forest Department and properly managed, it would go a long way towards solving this pressing problem for the ordinary village consumers.

Para. 126.—But even Map III shows a large area blank of any type of forest from Bengal through Bihar, the United Provinces and the Punjab and down through Rajputana, parts of Bombay and Hyderabad. But the table in *para. 122* shows that Bengal has 9,000 square miles of cultivable waste and 15,000 square miles not available for cultivation compared with the forest area of only 7,000 square miles; Bihar has 8,000 square miles of cultivable waste and nearly 10,000 square miles not available for cultivation compared with 10,000 square miles of forest; the United Provinces has over 15,000 square miles of cultivable waste and another 15,000 square miles not available for cultivation compared with 15,000 square miles of forest; the Punjab has 22,000 square miles of cultivable waste and 20,000 square miles not available for cultivation compared with 3,000 square miles of forest; the North-West Frontier Province has 4,500 square miles of cultivable waste and 4,600 square miles not available for cultivation as against 550 square miles of forest; Bombay has 1,400 square miles of cultivable waste and nearly 9,000 square miles not available for cultivation compared with its 13,000 square miles of forest. There are therefore in these provinces great possibilities of increasing the area under forests to supply these particular wants of the general agricultural villager.

Para. 127.—Moreover, in these same provinces, in Bengal there are possibilities of properly managing the private forests (see the report of the West Bengal Committee), in the United Provinces, there are opportunities for the control of private forests, of mango groves, etc., (nearly 1,100 square miles) of canal banks, roadsides, railway lands, village wastes, etc. Properly managing the mango groves alone would go far towards solving the problem. The United Provinces had sanctioned such a scheme and formed a Forest Development division in 1938. It had already extended to 12 out of the 48 districts in the province with something like 3,500 acres of successful plantations. It was intended to form a new unit or division every two or three years till there were four or five divisions covering all the districts in the plains, though the war has held up expansion. It has been estimated that approximately 10,000 square miles of forest could be created in this way, forming a separate Forest Development circle rather like the Erosion circle of the Punjab. In Bihar, there are at least 3,000 square miles capable of being used for this particular supply and some 7,500 square miles of private forests which, if properly managed, would help considerably. In the Punjab the Rawalpindi *guzaras* could again be taken up by the Forest Department. A policy for the development of village forests exists in Kangra, Hoshiarpur and Ambala and the Soil Conservation circle is doing what it can. In Bombay, there are something like 2,000 square miles under the Revenue Department and there are something like 4,000 square miles of what is called 'unassessed uncultivable land', all of which could be used to help in solving this problem.

Para. 128.—There seems plenty of scope for bringing the forests up to the necessary percentage and properly distributed to supply the wants of these general agricultural village consumers.

Para. 129.—In each province the land should be classified from the forest crop point of view rather than from the agricultural crop point of view showing the 'waste other than fallow on which minor forest could be grown' and 'land not available for forest cultivation'. Each head should be divided into more detail showing private forests, village waste, groves, etc., while that given as 'land not available for forest cultivation' should also be classified as roads, buildings, water, barren lands (ravines, *usar*, sand dunes, rocks, etc.). This classification is a necessary basis for all this planning. It need not be particularly accurate nor need it have a special agency to collect it. The agency which collected the statistics in *para. 124* could be used to collect this data if it does not already exist. Forest officers could then examine the classification and pick out the area needed. The final result would not be large blocks of forest but small scattered areas which is exactly what is needed.

Para. 130.—The question of grazing has not been mentioned. The cattle problem, though not directly part of the Forest Department's work, is so mixed up with forests that it must be mentioned. Excessive grazing is the cause of much of the destruction of forests in India. If the schemes outlined above are to succeed, such grazing must be prevented while the crops are being established. Protection will, however, give better grazing than formerly, and one experiment in the United Provinces on *usar* land increased the dry hay production from 2½ maunds per annum under continuous grazing to about 17 maunds per annum under proper regulation. Moreover, these minor forests will in fact give good grazing for a large portion of their short rotations of 15 to 20 years.

Para. 131.—A large quantity of uncultivable land under this scheme would be classified as the fourth type of forests (d) Pasture. In the United Provinces alone there are some 14,000 square miles of this type. The uncontrolled grazing on this area, which is extremely poor in quality, must be controlled if the country is to become prosperous. This part of the programme depends on propaganda and is a slow process.

Para. 132.—This proposal for a largely expanded area under forests is the first proposal made to cost much money. No total figure of cost can be given but is unnecessary because the staff does not exist to carry it out at once. The Punjab Soil Conservation circle costs about Rs. 5½ lakhs per year. Roughly Rs. 1½ lakhs are spent on conservancy and works and Rs. 4 lakhs on establishment. The establishment consists of a Conservator, 11 gazetted officers, 19 Forest Rangers, 52 Deputy Rangers and Foresters and 370 Forest Guards. A great deal could be done if each province employed a similar staff and the most that any province could employ to begin with would be about double that staff. An approximate figure therefore can be put as between Rs. 5 and 10 lakhs per annum.

Chapter IV.—Floods, erosion and desiccation

Para. 133.—The proposals already made will go far towards solving this problem. *Para. 116* has already recommended a classification of the forests and especially its allotment where necessary to class (a) Protection forest. Land at present not under the Forest Department should be classified in the same way and again it can be done by the same organization which obtained the figures given in *para. 124*. At the same time it should be recorded whether the existing land management is suitable for the prevention of erosion or not. If not suitable, it should be made suitable. *Para. 64* shows that forest land with normal ground covering is probably the best land management to prevent erosion and floods while well-managed pasture is good. Grass land is moderately good to prevent run-off, but is distinctly bad for the prevention of erosion. After such classification it will probably be found that much of the land is either forest, pasture, grass land or bare land and such land would probably be better put under the management of the Forest Department. Much of it will coincide with the land to be managed under *paras. 123 to 129* for the production of minor forests, and much of it would fall under the portion mentioned in *paras. 130 to 132* where grazing must be controlled, not only for the sake of the grazing but also for erosion. It is not for me to suggest a solution for land which falls under agricultural crops, but there is no doubt that most of the problem of India is (a) afforestation where possible, and (b) proper control of grazing where afforestation is impossible. Proper control of grazing will in fact convert much of the area into forest naturally.

Para. 134.—In *paras. 59 and 70* it was stated that desiccation was probably advancing eastward from the dry belt of less than 30 in. rainfall. The creation of the minor forests under *paras. 123 to 129* to a large extent would automatically solve this desiccation problem (please see the cross-hatched areas of Map III). Much of it falls within the boundaries of Indian States. Below 15 in. rainfall forests will be difficult or impossible to start without any irrigation, though some very dry species can be started without irrigation down to 10 in. rainfall. Below that rainfall trees cannot be started without irrigation in their early years.

Para. 135.—An officer should be appointed at the centre to go into this whole question of floods, erosion and desiccation. Such officers are also wanted in each province. A special Soil Conservation Department has been suggested, but I do not agree with that view. If the projects suggested in this note are carried out, it will be found that much of the land would fall under the Forest Department, and much of the flood and erosion control part of it will automatically become merely one of the objects of management of this greatly expanded forest area in exactly the same way as it is the first object of manage-

ment of any area under the Forest Department today. I consider the whole of this work should be under the Forest Department, though it would consult and possibly employ agricultural and irrigation officers as well. In Chapter VII the creation of a Federal Forest Service was discussed. If this were created much of this flood, erosion and desiccation control would automatically come under it. It could in fact be used to report on the problems in provinces and advise.

Para. 136.—There are few problems inside the reserved forests under the Forest Department, though the area under them is often too small to affect sufficiently the whole problem. The allocation of land mentioned in *para. 116* above will probably show that much of the land falls under the proposed expanded Forest Department. Certain provinces are already taking steps about this. A Soil Conservation circle exists in the Punjab, an erosion range is proposed in the North-West Frontier Province, an anti-erosion officer is proposed in Orissa, Madras is considering the question of control of private forests, and Bengal has made recommendations in the Report of the West Bengal Forest Committee of 1939.

Chapter V. Forest Research

Para. 137.—The proposals have already been made in Part I, Chapter V. They are:

(i) Separate the Inspector General of Forests from the President, Forest Research Institute. The Inspector General would then work at the headquarters of the Government of India like all other heads of departments. The Inspector General should be made more use of by the Political Department for advice on all the forest problems of Indian States. If a Federal Forest Service were created, these officers would also be available for this purpose.

(ii) The appointment of a commission as soon after the war as possible to enquire into the best organization for the Forest Research Institute.

(iii) Either the complete separation of the Utilization branch together with the Chemistry and Minor Forest Products branch as a separate Institute, or, in my opinion better, the division of the present Utilization branch into two branches, each with a technical expert at its head, and the centralization of its office and budget with the rest of the Forest Research Institute under the direct administrative control of the President. Suggested grouping of the Utilization branch might be one branch consisting of Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing and the other consisting of Wood Preservation, Wood Seasoning and Paper Pulp. There must also be in the Institute one officer capable of dealing with structural designs in timber and one to deal with problems connected with sawmills, transport, logging, etc. He might possibly be the head of the branch mentioned above consisting of the Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing.

Chapter VI: Forest Education

Para. 138.—Again this is merely a repetition of what has already been given in Part I, Chapter VI, Forest Education. The Foresters' education should remain with the provinces as at present.

Para. 139.—The training of Rangers should be centralized at Dehra Dun as at present, but the Dehra Dun class should be moved out to New Forest. The only extra buildings necessary will be hostels for about 80 students, two Class II officers' bungalows and two Class I officers' bungalows, the cost of which would be more than covered by the value of the present site and buildings in Dehra Dun. I would advise, however, that this site be kept on for a few years in case extra classes are needed immediately after the war for the training of Rangers for the expanded areas indicated in these proposals.

Para. 140.—The training of gazetted officers is satisfactory but it is suggested that the continental tours for forest officers be extended sufficiently to allow a selected number of gazetted officers, or preferably all gazetted officers, to proceed to Europe some time during the first five years of their service.

Chapter VII. Creation of a Federal Forest Service

Para. 141.—If created there would be certainly work for this service. This would be work at the Dehra Dun Forest Research Institute, the staffing of areas under the Central Government, as advisers and seconded officers to Indian States and agencies and as the Central Soil Conservation Department.

Chapter VIII. Minor Forest Products

Para. 142.—As the branch has not yet obtained the staff recommended for this research, there is little to recommend except to stress the importance of both research and development of these very valuable and important products. Information in existence must be compiled and blanks in it filled. For the second type of quick-return minor forest products, special research is necessary on methods of growth, cultivation, etc. Provinces should also themselves investigate and record all the industries connected with minor forest products. It should be a definite problem for their research officer or utilization officer whichever they may happen to possess. Burma has already sent one of its officers to the Research Institute to learn as much as possible about the problems of these minor forest products for the reconstruction of Burma.

POST-WAR FOREST POLICY FOR INDIA

Part I.—Review of Present Conditions

INTRODUCTION

1. This note on the post-war forest policy for India has had to be written in whatever time I could find during the last three months in addition to other work. It has therefore been impossible to do real justice to this vast and important subject. The note only gives certain principles and perforce avoids all detailed solutions.

The figures given are as accurate as I could make them, but they have been hurriedly compiled from whatever sources were readily available and I cannot therefore guarantee their accuracy. I believe, however, they are approximately correct, correct enough at any rate to illustrate the forest problems which India has to solve.

2. In dealing with this forest policy for post-war reconstruction, I have confined myself to British India. I would point out, however, that much of what I have written is in fact applicable to the forests of Indian States. Some of these manage their forests on as high a standard as the management in British India, but in others forest management is backward. Although there are plenty of areas in British India where erosion is as bad as anywhere and where vast numbers of villagers are unable to supply their wants for forest produce, these conditions apply with at least equal force to a very large area of Indian States. I suggest that much of this reconstruction policy could with advantage be adopted by Indian States.

Chapter J

THE GOVERNMENT IN RELATION TO FORESTRY

3. To enable a community to live together it is necessary for every Government to make laws. Freedom is a relative term and under most civilized Governments it is largely only freedom to do what you are told. Governments try to give the individual sufficient freedom for personal development and activity, but at the same time only in so far as that freedom of individual action does not encroach upon the rights of his neighbours and their equivalent freedom of action. Nor can Governments permit acts of individuals in a community which harm the general well-being. This principle of the greatest good to the greatest number is specifically laid down as a principle of the existing forest policy of the Government of India.

4. Government, moreover, must frequently manage various institutions for the benefit of the people as a whole, where it would obviously be impossible for an individual, or even a small community of individuals, to undertake the necessary work. Examples are the postal service, the army, the navy, etc. Even though a joint stock company might provide the large capital involved in certain undertakings, such a company is formed with the definite idea of making the maximum profit and not for the general welfare of the community.

5. Forestry, which grows a crop taking normally anything from 50 to 150 years to mature, keeps an enormous capital locked up in the growing stock, quite apart from the considerable amount which may be required for development on roads, buildings, sawmills, etc. In addition, there are many occasions when not only has an enormous capital to be invested, but when no return can be expected from that capital for many years and a full return, as I have said, not for 50 to 150 years. A private owner, and even a company or a commune, is most unlikely to invest capital under those circumstances. A private owner (and in this is included the ordinary timber company), and to a lesser degree a commune or corporation, is concerned with direct individual benefit. As a rule he aims at realizing the greatest profit from the forests and this results more often than not in felling everything saleable in a comparatively short period, resulting in the more or less complete devastation of

the forest. Even private owners with family traditions to uphold may deliberately realize the whole capital invested in the growing stock (which is devastation so far as forestry is concerned) because other investments offer an apparent and immediate better return on the capital than forestry. Even the most enlightened private owner, at some time of particular expense or stress, finds his private interests so opposed to the interests of the forest that the forest is sacrificed to a greater or lesser extent. This has been the experience in the vast majority of forests of every country in Europe and there has been virtually a breakdown of private forest ownership in the United States of America. It has also been the experience in India where individual trading concerns devastated and ruined many forest tracts in India before Government took control. Moreover, during this war reports from everywhere show that private forests are being so over-felled that many have virtually disappeared. Private forests in India had been steadily disappearing for years before the war. Ideally a Government should take over all the land and forest necessary as Protection forests [class (a) of India's present forest policy to be described later], whether they are forests in fact or only 'legal' forests consisting of Pastures [class (d) of India's present forest policy], and, in addition, land or forests to produce timber or agricultural timber [classes (b) and (c) of India's present forest policy], to make up the minimum estimated forest needs of a country. But such a procedure would often interfere more with the rights of the individual owner than any Government would wish. Privately-owned (and communal or corporation) forests should be subjected to certain forms of Government control in so far as is necessary for the general needs of the community at any rate up to the minimum area required, just as the rights of user granted at the time of settlement in reserved forests are never so excessive that the rest of the nation is deprived of its legitimate rights.

6. The above principles should be applied to conditions in India. Government should interfere as little with private or communal ownership as is consistent with the general well-being of the country, but as soon as that is threatened private ownership should be controlled. The most important forests for the general well-being of the community are those which fall under class (a) Protection, and of these, the most important are the areas situated in mountainous or hilly country, for example the Himalayas, the Central Indian hills, etc. 'Forests' in such areas of course often include class (d) Pastures, which may in fact be forests only in name, but which, for these climatic and physical reasons, are better under the management of the Forest Department. The Indian Forest Act legislates for Government control over private lands falling under this class (a), but the power has not been sufficiently used and the legislation itself needs revising to enable Government to take control of an area before it is already ruined.

7. The next step should be to exercise control over other private forest land at least up to some fixed minimum percentage of the total area of a province and of India as a whole. For the sake of consistency it would at first be better to exercise the necessary control over all private forest land. Even then the total percentage of forest land is likely to be insufficient. It should not be forgotten that while the needs of the 'general consumer' (see Chapter III) can be supplied by forests a considerable distance from the centre of consumption, the equally, if not more, important needs of the local agriculturist for small timber and fuel can only be supplied by material growing more or less in his immediate neighbourhood. Such produce is not valuable enough, and the local agriculturist is too poor, to bear the cost of transport over any but very short distances.

8. The main difficulty over a large portion of India is to fulfil the legitimate wants of those villagers whom I have called 'ordinary village consumers' (see Chapter III), that is to say, those who at present have no forest land anywhere near them to fulfil their wants. It is this vast number of ordinary villagers who cannot get sufficient forest produce for their minimum needs and of necessity use cowdung as fuel, the whole of which ought to be available for its more legitimate use as manure, which constitutes the most pressing problem.

in the future forest policy of India. It is sometimes argued that for certain domestic purposes cowdung is a more efficient fuel than wood. Even if this were true, which I take leave to doubt, it is still certain that very large quantities of cowdung are burnt which could very easily be replaced by fuel if it were available, and in fact even for those slow-burning domestic purposes for which cowdung is sometimes considered the only suitable fuel, wood first reduced to charcoal dust and then made locally into briquettes serves the purpose equally well.

9. This small timber and fuel part of the problem will be the most difficult of solution. Even after a survey and a classification of all possible land available for this purpose, it may be found that there is still insufficient land available for forestry to fulfil the minimum legitimate needs of the agricultural villager, and even if the area is sufficient, it will be found that much of it at present contains no trees, is over-grazed and is under no management at all. This will mean either the acquisition of much of the area and its afforestation and management by the Forest Department, or by propaganda, compulsion and then advice and help to get it properly managed either by a communal body (like a panchayat) or by the local private owner.

10. As I have already said, some sort of control of private ownership has been found necessary in most European countries and in many other parts of the world. This control naturally varies, but the following may be mentioned as forms of control which have been exercised:

(i) *Prevention of mere destruction* but without any provision for good management. This is the minimum compulsion necessary for all areas of land falling under class (a) Protection forests.

(ii) *Prevention of trade in woodlands*.—This is to prevent an owner selling forest land to others who will destroy it for immediate profit. Fellings are usually forbidden for a certain number of years after such a property is sold.

(iii) *Compulsory regeneration of felled areas* usually within a specified number of years. This is a step further than mere prevention of devastation but does not of itself mean good forest management.

(iv) *Compulsory management on the method of sustained yield*.—This is again a further stage and at least ensures that forest of a kind will be maintained in perpetuity.

(v) *Restriction on the rotation of felled trees*.—This, while it does not ensure the best management, does at least mean that the forest cannot be cut over rapidly at short intervals. Cutting over at short intervals decreases soil fertility and is really only devastation but in a very modified form.

(vi) *Control of actual silvicultural operations*.—This begins to approach proper forest management. It might easily cover, for instance, the prevention of a system of clear felling in any areas falling under (a) Protection forests.

(vii) *Compulsory proper forest management*.—This means the maximum restrictions on the private owner but is undoubtedly the best for the general well-being of the country and is the minimum that should be enforced in any area falling under (a) Protection forests. It is probably also what ought to be done for all the forests of class (c) Minor forests, necessary for the supply of the ordinary agricultural villager, although naturally the object of management would be very different from that in either (a) Protection forests or (b) Timber forests and, as a consequence, would in practice mean far less restriction on the wishes of the owner. Thus, in class (a) forests rotations would almost always be long and silvicultural systems might not be those giving the greatest profit, but in class (c) forest rotations would be very much shorter and systems very simple.

(viii) *The ultimate stage* of control, while not destroying private ownership, would be for the Forest Department to take over and manage the estate on behalf of the owner on various financial terms.

EXISTING FOREST POLICY*

11. The existing forest policy for India, evolved in 1894, nearly 50 years ago, only reduced to writing what had been the underlying aims of the Indian Forest Department more or less from its foundation in 1865 nearly 80 years ago. The principles laid down in that forest policy can hardly be bettered, and a detailed study of the resolution is essential for anyone dealing with forest matters. Its contents are summarized below, using for ready reference the same paragraph numbers as in the original. This forest policy, however, applies only to Government lands, usually, though not necessarily, under the Forest Department. In making this summary the term 'Government forests' is used instead of the 'State forests' of the original, because the term 'State forests' now usually means those belonging to Indian States. What follows then is merely a condensed statement by paragraphs numbered as in the original, of the existing forest policy of the Government of India, which, as late as 1937, was accepted by all provinces and by several Indian States. Where additional remarks are inserted, they are in brackets.

Para. 2.—Government forests are administered solely for the public benefit both local and general. This usually means restricting rights either for the 'right-holders' own benefit or for *the general benefit of the greatest number.*

Para. 3.—Government forests are classified as:

- (a) Those necessary on climatic or physical grounds (prevention of floods, erosion or desiccation, *i.e.* Protection forests).
- (b) Timber forests (principally for timber supply and revenue).
- (c) Minor forests (principally to supply local needs).
- (d) Pasture forests.

(The above classification indicates the function of the forest and has nothing to do with the legal classification of forest under the Forest Act as Reserved, Protected, etc. The classification is really to indicate a policy for the management of each class. A given forest may easily fall into more than one class above and, so far as I know, no attempt has ever been made to allot Indian forests to the above classes though it is the guiding principle underlying working plans.)

Para. 4.—(a) *Protection forests:* These are usually situated in hilly country and often contain the headwaters of rivers. The interests to be protected by these forests are beyond comparison more important than any rights which may be restricted. (The population in the whole Gangetic plain, for example, is affected by the management of the Himalayan forests or that of the Punjab by the forest management of Kashmir, Chamba, etc.)

Para. 5.—(b) *Timber forests:* These are usually large tracts of forest land with few rights and are to be managed as sources of revenue to Government. But even in these forests revenue has to be subordinated to the reasonable satisfaction of the wants of the local people free or at low and not competitive rates. Small timber for the local agricultural population is more important than revenue.

Para. 6.—Except under certain conditions enumerated below, agriculture is more important than forestry, and, where necessary, even these timber forests should be given up for agriculture where necessary and then disforested. This even applies to land already declared Reserved forest under the Forest Act.

Para. 7.—*The exceptions to the above are all based on the principle of the greatest good to the greatest number:* Cultivation must not reduce the forest land below the minimum requirements of the country. It must be genuine

* Cir. No. 22. F., dated 19 October 1894.

cultivation and not an excuse for creating pastoral villages. It must be permanent cultivation and shifting cultivation will not usually be permitted. A forest must not be honeycombed with patches of cultivation. Cultivation must not be allowed when the resultant deforestation would endanger climatic or physical conditions, nor must it destroy the forest when its own existence depends on it. (Destruction has happened in vast tracts in India where all forest has been completely destroyed to the detriment of agriculture.)

Para. 8.—Although Timber forests are usually fairly free from rights, rights come before revenue where they exist. Rights must be restricted where necessary to prevent the destruction of the forest but not merely to increase revenue.

Para. 9.—(c) *Minor forests:* These are real forest lands but contain only inferior growth. Still they are sometimes important enough to be managed for revenue and therefore fall partly under the class (b) Timber forests. (Also of course a Minor forest might be artificially converted into Timber forest). But real Minor forests are chiefly useful to supply fuel, fodder and grazing for the local population and should be managed with those objects. The first object of management, however, is to preserve the forest, the second object is to supply the necessary produce to the people and any revenue is subordinate to both objects.

Para. 10.—There is no idea of forgoing all revenue from the Minor forests. The wants of the local people come first when necessary, but when these Government lands only supplement other pastures, then revenue is justifiable. Even then produce should be supplied to the local villagers at low rates.

Para. 11.—Fuel and fodder reserves are recommended. The supply from such reserves is entirely for the people and for the local people rather than more distant people, but it is no use increasing a supply in such a form that the people will not use it. These Minor forests, even when made Reserved forests, need not necessarily be managed by the Forest Department.

Para. 12.—(d) *Pastures:* These are often forests only in name. These may be made Reserved forests under the Forest Act for convenience but are not for that reason to be preserved as forests or to be put under the Forest Department. The agency which manages them is for convenience only.

The following remarks apply to pasture lands under the Forest Act whether under the Forest Department or not, and also to all Crown waste land whether under the Forest Act or not. Local interests are paramount and any consideration of revenue very small.

Para. 13.—With a *ryotwari* settlement unoccupied fields belonging to Government, where trespass is forbidden, are often scattered among occupied fields and are often the only source of grazing. Under such circumstances they are usually better not under the Forest Department.

Para. 14.—Grazing is not primarily a source of income from these lands but all grazing revenue need not necessarily be relinquished. Such lands are often better managed by the local community taking the grazing at a moderate price.

Para. 15.—Class (b) Timber forests, should usually be 'reserved' forests. Class (c) Minor forests and class (d) Pastures are often made 'protected' forests and rights properly recorded. In Reserved forests no new rights can arise as they can in Protected forests. Rights recorded under Chapter II of the Forest Act for 'reserved' forests are conclusive, those under Chapter IV for 'protected' forests are only presumptive. The chief difference between 'reserved' and 'protected' forests is that in reserved forests everything is an offence which is not permitted while in a protected forest nothing is an offence which is not prohibited. Land should be created protected forest rather than reserved forest unless public interests are sufficient to justify the creation of reserved forest.

For class (c) Minor forests and class (d) Pastures, each separate area should be considered whether it need be under the Forest Act at all and then whether it might not be Protected forest rather than Reserved forest. (This may have been unwise. Not putting such areas under the Forest Act undoubtedly explains the ruin of quite large areas.)

Para. 16.—This paragraph reiterates the need for satisfying the requirements of the local population and lays down that forest working plans must provide for the satisfaction of rights.

12. The outstanding principles of the above policy are:

(a) that first and foremost the preservation of the climatic and physical conditions of the country comes before everything else;

(b) that the preservation of the minimum amount of forest necessary for the general well-being of the country is second only to (a) above.

But provided the above two conditions are fulfilled, then

(c) cultivation comes before forestry;

(d) the satisfaction of the wants of the local population free or at non-competitive rates comes before revenue, and

(e) after all the above are satisfied the realization of revenue to the greatest possible extent is permitted.

Comments on the existing forest policy

13. As a policy for Government forests it is still an excellent exposition of general principles. It should be emphasized that the classification of forests into (a) Protection, (b) Timber, (c) Minor forests, and (d) Pastures has nothing to do with the legal classification under the Act of Reserved, Village and Protected forests. In actual fact there are Reserved forests falling under all four heads of the above classification and the legal status of the forest is for convenience and not a classification of function.

14. Moreover, the above classes are not exclusive. A very large proportion of the forests falling under classes (b), (c) and (d) also fall under class (a), or in other words, if they ceased to be forest land, they would affect the physical well-being of the country at large. Usually, however, the objects of management of a forest under class (a) are automatically fulfilled by proper management to fulfil the objects under classes (b), (c) and (d). The net result of this is that in any plan of management for forests of classes (b), (c) and (d) under the heading 'Objects of Management' the first is usually recorded as 'preservation and regulation of water supply', thus automatically fulfilling the objects of forests of class (a).

15. The above forest policy does not mention the principle of sustained yield. Actually, however, with the concurrence of the Government of India (see for instance as recently as F.56-3/35-F., dated 8th January 1936; 'it is inadvisable to permit a departure from the principle of sustained annual yield which has been the fundamental principle of Indian forestry since the foundation of the Forest Department in India'), the Forest Department in India has since its inception managed all forests under its control under the principle of sustained yield, that is to say, to ensure that the annual amount of forest produce does not decrease from year to year, that it is approximately equal each year and that the yearly amount rises gradually till the maximum possible yield from the soil is obtained. The reasons for this principle are many and obvious but only three need be mentioned here, namely:

(a) a stable industry cannot be established with excessive fluctuations;

(b) the number of people dependent on forests for their livelihood, directly or indirectly, is so great that social conditions would be upset with large fluctuations;

(c) Government budgets necessitate approximately equal revenue.

16. The above policy nowhere states the percentage of forest area necessary for the well-being of the country. The following table gives the area of Government forest (including unclassified forests) in the various provinces:

Area of forests under Government control during 1940-41

Province	Forest area in square miles					Percentage of forests to whole area of Province
	Name	Area in sq. miles	Reserved	Protected	Unclassified State		Total
1	2	3	4	5	6	7
Ajmer-Merwara	2,367	73	..	..	73	3
Andamans & Nicobars.	2,508	1,498	..	691	2,189	87
Assam	55,445	6,655	70	16,116	22,841	41
Baluchistan	52,925	1,745	..	473	2,218	4
Bengal	78,708	6,339	877	5	12,293	16
Bihar	69,348	1,355	662 312	2 1	2,332	3
Bombay	76,026	10,560 1,608	160 594	..	12,920	17
C. P. & Berar	98,573	19,432	..	3,642	23,074	23
Coorg	1,582	517	26	292	835	53
Madras	125,163	15,330	304	3,174	18,808	15
N.-W. F. P.	13,099	266	..	12 182	460	4
Orissa	32,398	1,395	871	1	2,267	7
Punjab	96,830	1,487 505	3,209 63	823 214	6,301	7
Sind	47,155	1,043	92	..	1,135	2
United Provinces	106,248	5,241	527 8,075	432	14,275	13
Total	858,375	75,047	15,842	31,132	122,021	14
In round figures	858,000	75,000	16,000	31,000	122,000	14

(Out of the total Government forests, viz., 122,021 sq. miles, 23,763 sq. miles are not under the control of the Forest Department, but are managed by the Revenue Department yots, panchayats, municipalities, etc. Roughly, half of this is 'Protected forest' and the other half 'Unclassified' forest most of which is mismanaged and is disappearing.)

17. It will be seen that these forests only occupy 14 per cent of the total area, but only 9.3 per cent of the total area is classed as merchantable, although the figures are not very reliable. If private forests are included, the figures are even more unreliable. There is no doubt that many private forests have been depleted during the war. Even if these private forests are included as supplying a percentage of the forest needs of the country, the area before the war was estimated at 53,000 square miles of which only some 26,000 square miles was merchantable.

18. The following table classifies all forests in British India so far as information is available:

Forest area by ownership (in square miles).

Province	Total area	Type of Forests.	THE STATE				Private individuals	Total	Percentage of total forest area (col. 9) to area of province (col. 2).	Remarks.
			Dedicat- ed to timber production	Other forests	Total	Cor- porate bodies				
1	2	3	4	5	6	7	8	9	10	11
Ajmer-Merwara	2,367	1. Merchantable.	...	73	73	...	...	73	3	
Andamans and Nicobars	2,508	2. Unprofitable or inaccessible.	1,498	691	2,189	...	...	2,189	87	
Assam	55,445	1. ...	22,841*	...	22,841	...	...	22,841	41	
Baluchistan	52,925	1. ...	...	...	...	...	...	...	...
Bengal	78,708	1. ...	6,339	2,218	2,218	...	...	2,218	4	
Bihar	69,348	1. ...	1,276	5,077	5,077	...	1,596	6,673	9	
Bombay	76,026	1. ...	425	521	1,386	...	2,856	4,242	6	
C. P. & Berar	98,573	1. ...	6,554	1,061	946	...	4,729	5,675	6	
Coorg	1,582	1. ...	...	1,061	7,615	...	...	7,615	10	
Madras	125,163	1. ...	12,403	5,305	5,305	...	15,268	33,497	7	
N.-W.F.P.	13,090	1. ...	2,040	2,805	4,845	...	9,044	13,889	34	
Orissa	32,398	1. ...	371	186	557	...	203	760	14	
Punjab	96,830	1. ...	146	132	278	...	144	422	48	
Sind	47,155	1. ...	4,201	7,302	11,503	...	5,482	16,985	27	
United Provinces	106,248	1. ...	2,338	4,967	7,305	...	9,389	16,694	14	
		2. ...	146	18	164	...	35	199	13	
		1. ...	...	296	296	...	98	394	2	
		2. ...	268	813	1,081	...	452	1,526	3	
		1. ...	1,186	...	1,186	...	1,226	2,412	6	
		2. ...	844	725	1,569	...	202	1,771	7	
		1. ...	1,133	3,599	4,732	...	...	4,732	2	
		2. ...	1,135	...	1,135	...	...	1,135	2	
		1. ...	3,491	700	4,191	...	1,221	5,412	5	
		2. ...	...	10,084	10,084	...	1,876	11,960	11	
	Total	1. ...	61,367	18,382	79,749	...	25,719	105,468	12	
	Total	2. ...	...	...	...	...	...	...	...
	Total	1. ...	7,268	35,004	42,272	...	28,102	70,374	8	
	Total	2. ...	...	...	...	...	...	...	...
	858,375	GRAND TOTAL	68,635	53,386	122,021	...	53,821	175,842	20	

*Actually, Assam has not classified its area. (The figures for Assam were not classified. It has been assumed that it is all merchantable, though this will almost certainly give too big a figure.)

19. Summing up, it would appear that about 20 per cent of British India is covered with forest land of a sort including both private and Government forests and, for merchantable forest only, the percentage is 12 per cent.

Inaccurate though these figures may be, it is certain that 12 per cent of forest land, other than unprofitable or inaccessible, is too little.

But almost all the private forest is mismanaged, is disappearing or has disappeared. Unless steps are taken to preserve these private forests compulsorily, they cannot be reckoned as part of the forests of India.

20. Taking the State forests alone, there are 122,000 square miles or 14 per cent of the total. This area is far too small even as a total. But even this is not a final figure. Of this, nearly 24,000 square miles are not under the control of the Forest Department, but are under the Revenue Department, ryots, panchayats and municipalities. Of this 24,000 square miles, 2,100 square miles are Reserved forest, 9,000 square miles are Protected forest and 13,000 square miles are unclassified forest. Almost the whole of the 13,000 square miles of the unclassified forest is disappearing and a good deal of the Protected and Reserved forest.

Of the 122,000 square miles, only 80,000 square miles or 9.3 per cent of the total area of British India is covered with forest classed as merchantable and even this assumes that the huge area of 16,000 square miles of unclassified forest in Assam is merchantable—a most unlikely assumption.

21. It is extremely difficult to give any figure of what the percentage of forest land in a country should be. The following table gives the actual percentages in certain European countries and incidentally shows the percentage of forest under various types of ownership.

European countries. Percentage of total land area under Forest, and classification of forest areas according to ownership

(Chiefly from figures published by the Economic Committee of the League of Nations, 1932)

Country	Forest area as percentage of total land area	Classification of forest areas according to ownership		
		State or Crown forests	Communal or public corporation forests	Private and company forests
Austria	38	24	9	67
Belgium	18	6	32	62
Czechoslovakia	34	11	25	64
Denmark	9	24	29	47
Finland	74	40	2	58
France	19	14	21	68
German Reich (excluding Austria)	24	33	20	47
Great Britain	6	12	1	87
Greece	19	..	..	..
Hungary	13	..	..	..
Italy	20	3	32	65
Latvia	27	84	2	14
Netherlands	8	31	..	69
Norway	21	15	7	78
Poland	23	32	1	67
Portugal	22	..	..	..
Rumania	24	29	31	40
Russia (European)	44	100	..	..
Spain	14	..	..	..
Sweden	55	38	2	60
Switzerland	23	5	70	25
Yugoslavia	..	47	19	34

Copied from page 5 of *Forestry and State Control* by R. S. Troup.

22. An average of all these gives 26 per cent. This may not be a scientific method of arriving at the correct percentage of a country which ought to be covered in forest, but it is at least a figure. It will be seen that certain countries with far less than that percentage are heavy importers of timber and are essentially flat or gently undulating countries over all or much of their area, with an even and gentle rainfall, *viz.*, Great Britain, Denmark and the Netherlands; others which are mountainous, like Italy, Spain and Greece, are notorious for floods and erosion over much of the country.

23. Considering the Indian climate and the general demands of the agricultural villagers, it is likely that this figure might be taken at any rate as a rough minimum guide—say 20 to 25 per cent. This should be considered as the minimum area of properly managed forest, properly distributed for protective purposes and to supply the general consumer and the village consumers, the majority of whom would then become 'local' village consumers (see Chapter III).

24. It will also be seen from the table in *para. 18* that even taking the total of both private and Government forests and including both merchantable and unproductive areas, many individual provinces have far less forest land than one would ordinarily consider necessary.

25. Nor is the distribution of the forests good. Except for the Central Provinces, Bombay and Madras, roughly speaking south of a line from the Gulf of Cambay to Calcutta, the forests under the Forest Department consist of a narrow strip in the north in and along the foot of the Himalayas, the forests in the east of Assam, the Sunderbans and a few odd patches down the Indus, in the south of the United Provinces and in Bihar and Orissa. Map I shows this distribution clearly. It does not unfortunately tell the full truth because it omits the forests of Indian States which, when properly managed, do help the general forest question in India. Map II tries to include these forests of Indian States under proper management.

26. The present forest policy gives no indication that one aim of policy should be to increase the forest area, and preferably the Government forest area, up to the minimum requirements of the country. All it says in *para. 7* of the policy is that agriculture should not be allowed to encroach on Reserved forests sufficiently to reduce them below the minimum for the well-being of the country. It would be to the advantage of India to aim at increasing the forest area up to this minimum of 20 to 25 per cent more especially for forests falling under class (a) Protection forests. The erosion and floods caused by the bareness of much of the Himalayas is too well known to need emphasis and a far larger area should be under proper forest management, though much of it would only fall under class (d) Pasture.

27. There are three methods of increasing the forest area :

- (a) bringing more Government waste lands under forest;
- (b) bringing more available private area or communal land under forest by means of propaganda, help in management, etc.;
- (c) by legal control of the management of private and communal forest to stop deforestation.

The Forest Act legislates for such control of private forests in Chapter V, but in practice the sections are not ideal and have not been greatly used. Large areas of private forests have in fact disappeared. The Act lays down that Government should only take control for certain definite protective reasons, but does not mention the very important reason of keeping a certain percentage of forest land for the general well-being of the agricultural community. Even when lands have been taken over by Government under sections 36 and 37 they have usually only come under Government control when they had already been ruined as forests.

28. Certain provinces in India, having foreseen the danger to the country at large from the mismanagement and destruction of the private forests, have already taken steps to draft legislation to control such destruction and, even if these have not become law, they are a step in the right direction. Attention is called to the following draft bills; the Chota Nagpur Private Forests Bill of 1939, the United Provinces Rural Development Bill of 1939, and the Report of the West Bengal Forest Committee containing the Bengal Private Forests Bill of 1939. It is understood that the N.-W. F. P. is also contemplating the revision of the rules for Gurzara forests under the Hazara Forest Regulation and that it is creating a special forest division for their better management.

Chapter III

EXISTING DEMANDS ON AND SUPPLIES OF FOREST RESOURCES

29. Forest produce is commonly divided into major forest produce, which consists of timber and fuel, and minor forest produce, which includes everything else obtained from forests like resin, drugs, essential oils, honey, wax, grazing, etc. For the moment I am excluding all minor forest produce except grazing and considering only timber, fuel and grazing.

30. To understand the position, the consumers of forest produce can conveniently be divided into

- (a) 'General consumers', by which is meant the consumers whose wants are supplied by the timber trader and merchant. They consist largely of the urban population.
- (b) 'Local village consumers', by which I mean the villagers living close to the source of supply of forest produce; and
- (c) 'Ordinary village consumers' who live far distant from any source of supply of forest produce.

31. Their demands are very different. The 'general consumer', in addition to a demand for fuel, needs large timber, which is comparatively valuable and which can bear the cost of conversion and transport, for example railway sleepers, large building timber, general manufactured timber for furniture, boxes, etc. The village consumers, on the other hand, who are almost entirely agriculturists, need mostly small timber for house-building, agricultural implements, etc., and also fuel. These articles are not valuable and cannot bear any great costs of conversion and transport. Unless therefore the villagers have

access to forest produce more or less in their immediate neighbourhood, that is to say, are of class (b), local village consumers, their wants for forest produce must go unsupplied.

32. Fellings to supply war demands have undoubtedly temporarily upset the orderly plans of forest management. The policy of the Government of India for forest management is a policy of the sustained and equal or rising annual yield. The preliminary object of all forest management for those forests which are looked upon as class (b) Timber forests is to obtain what the forester calls 'normal increment per acre in the shortest possible time', that is to say, to ensure that each acre of forest is producing the maximum amount of timber of which it is capable. A deficient increment may be caused by many things among which may be mentioned an unnecessary admixture of valueless species, a general under-stocking of the forests, poor quality trees, lack of regeneration holding up fellings, excessive age leading to decreased growth, poor silvicultural treatment with congestion and thereby decreased growth, etc.

33. For the reserved forests of India, the position before the war was very favourable. To attempt to make a complete survey of the stocking of all Indian reserved forests by species would be such a costly undertaking and so much of the money would be wasted on enumerating valueless species that no Government could afford to undertake it. Therefore the estimate of stock of a given species is only made when a demand for that species has begun to arise. The provision for the revision of working plans, that is to say the document laying down the management of a forest for a period of years, automatically legislates for the enumeration, or at least the estimating, of all the stocks of species within a few years of a demand arising. The Forest Department cannot always supply information of quantities available for some new demand of a species perhaps for five or on rare occasions for even ten years. This five or ten years, long in the business life of a trader, is nothing at all in a forest rotation and the reverse process in India of enumerating *all* species would have meant an enormous expenditure, perhaps 70 or 80 years ago, on species for which even at present there is no demand at all, even though the war has given a great impetus to the demand for hitherto unused species.

34. Taking India as a whole, the forests, though not yet fully productive, were on the whole as productive as could be expected considering that the Forest Department only 80 years ago took over a depleted and often ruined forest estate, and were all tending towards full production. In certain areas, for instance, the west coast of Madras, the evergreens of Bombay, the areas of inferior species of Assam and the miscellaneous forests in other parts of India, the full productive capacity of the soil had not been attained, but even there, there was steady progress at every revision of a working plan.

35. The general working plan position was also satisfactory throughout India before the war, all the more valuable forests being covered by adequate and up-to-date working plans. Only in Bombay and Bengal was the revision of working plans seriously in arrears, while in Assam the plans were sometimes based on rather insufficient data and in Bihar plans had not always been prepared for those private forests, the management of which had only been recently taken over.

But the fellings necessary to supply the enormously increased military demand for timber have naturally meant overfelling and have necessitated the departure from the normal permissible yields from Indian forests.

36. The following table shows for timber and fuel, province by province, an average of the quantities extracted from the forests during the years 1935-36 to 1938-39 and the amounts extracted during the years 1939-40, 1940-41, 1941-42 and 1942-43. The assumption has been made that the average extraction for the years 1935-36 to 1938-39, that is to say the four years preceding the war, may be taken as the true average permissible yield of Indian forests at the moment. The year 1938-39 has been included because, up to the end of that year, war fellings had been practically negligible.

Yield of Timber & Fuel in 1939-40 to 1942-43 compared to the average yield of 1935-36 to 1938-39 (4 years)

Province.	Average of 1935-36 to 1938-39.			Yield of 1939-40.			Yield of 1940-41.			Yield of 1941-42.			Yield of 1942-43.		
	Timber Lakhs of C. ft.	Fuel Lakhs of C. ft.	Total Lakhs of C. ft.	Timber Lakhs of C. ft.	Fuel Lakhs of C. ft.	Total Lakhs of C. ft.	Timber Lakhs of C. ft.	Fuel Lakhs of C. ft.	Total Lakhs of C. ft.	Timber Lakhs of C. ft.	Fuel Lakhs of C. ft.	Total Lakhs of C. ft.	Timber Lakhs of C. ft.	Fuel Lakhs of C. ft.	Total Lakhs of C. ft.
Bengal	91	166	257	104	170½	274½	102	158	260	111	183½	294½	...	...	...
United Provinces	97	329	426	108	485½	593½	147	505½	652½	154	504	658	226½	510½	737
Punjab	57	277	334	66	289	355	107½	279	386½	...	...	...	170	246	416
Bihar & Orissa	89½	80	119½	53	80½	133½	63	81	144	...	...	...	...	...	...
Assam	69	74	143	69	76	145	91	85	176	90	82	172	79	100	179
Central Provinces	115	347	462	123	332	455	137	313	450	154	284	438	189½	286	425½
Coorg	4	2	6	5	3½	8½	5	3	8	6	3	9	5½	3	8½
N. W. F. P.	18½	17	35½	19½	17	36½	29	17½	46½	25½	19	44½	17½	19	36½
Ajmer	...	5	6	...	5	3	...	3	3	3	...	3½	...	3½	3½
Baluchistan	...	8	8	...	10	10	...	21	21	21	...	...	...	...	...
Andamans	20	9	29	22	7	29	27	6	33	...	...	...	...	...	...
Madras	36	178½	214½	31½	181	212½	35	193	228	33	196	229	52	298	350
Bombay & Sind	69½	628	697½	66	580	646	76½	578½	655	92	628	720	136½	628	763½
Average total of all provinces for 1935-36 to 1938-39 (4 years).	616½	2120½	2737	667	2235	2902	820	2243½	3063½	...	...	...	...	...	...
Average total of 9 provinces of 1941-42.	500	1746½	2246½	...	...	...	...	...	...	665½	1903	2568½	...	...	...
Average total of 9 provinces of 1942-43.	466	1857½	2323½	...	...	...	...	...	...	...	...	...	875½	2044	2919½
Excess over the averages	...	...	...	50½	114½	165	203½	123	320½	165½	156½	322	409½	189½	596
Excess over the averages in percentages	...	...	...	8	5	0	33	6	12	33	9	14	88	10	26

37. These figures show up to the end of the financial year 1943 an excess felling of timber of 162 per cent for all India over the normal annual pre-war figure. Taken as a total this means $1\frac{1}{2}$ years advance fellings and is really an infinitesimal over-draft on the forest capital of India—far less than the advance fellings of most other countries.

38. The United Provinces, the Punjab, the Central Provinces, Bombay and Sind, all very large contributors to India's total timber supply, have very largely increased their fellings in 1942-43, so that for those provinces the excess felling may already be two years in advance, and if the same is continued during 1943-44, might easily be four to five years in advance. But although the effect of excess felling must be considered according to the special features of each forest, it is possible to give some sort of general picture assuming that as much is felled in 1943-44 as was felled in 1942-43. Up to the end of 1943-44 approximately the United Provinces will have felled about nine years yield during the five years of war. Unfortunately this will have been felled on the best trees in the most accessible areas. But this nine years yield will partly have been made up by excess but still beneficial thinnings. As I have no data of these or of what their effect will be on increment, it makes it impossible to give any accurate calculation. However, it would appear that a 40 or 50 per cent reduction over the pre-war yield for a period of between five and ten years would bring the position back approximately to normal. That is about the worst to be faced. If 20 years were taken to bring the position back to normal then the reduction would be very much less and the end of 20 years would run into the period when the first crops started in the eighteen seventies will attain maturity. In Madras the fellings of teak are probably five years in advance, in Bombay in some teak areas they are as much as ten years in advance.

39. In some ways the picture is brighter than this figure would show, because quite a large amount of increased volume which has been felled has come from species which before the war were not considered valuable and which, having now proved their worth, will contribute to the perpetual wealth of Indian forests. A further bright side of this picture of overfelling is that it has enabled a large amount of material to be removed in thinnings which was formerly unsaleable and has thereby done a great deal of silvicultural good. It has necessitated sometimes felling the best poles instead of the worst, but that small evil is not nearly so great as the evil of leaving the forest entirely unthinned, as had had to be done in many areas till the war demand arose.

40. Serious though these individual over-fellings may be, and though they will cause a diminution of timber supply and revenue for a few years immediately following the war, they are not of real importance taking into consideration the normal rotations of forests in India and the enormous amount of growing stock capital. The war fellings have in no way hurt the reserved forests of India from the climatic and physical aspect. Provincial Governments may feel the loss of revenue, but if any form of sinking fund has been created, as it should have been created, to distribute the excess revenue of the war years over the lean years which are bound to follow, then no material harm will have accrued. In fact the obtaining of the ready money when needed will have been all to the good. The management of finances, however, does not directly concern a forest officer.

41. This war felling has, however, completely upset the normal course of fellings according to working plans. Most working plans have been departed from to a greater or lesser extent, and almost everywhere this will lead to problems of forest management, even where the actual fellings may have done silvicultural good, which will need the rapid revision of most working plans and in some provinces of all working plans.

(a) *The general consumer*

42. In normal times, that is to say, not in wartime, the outturn of timber and fuel in India from areas under the control of the Forest Department is a little under 6 million tons, of which about $1\frac{1}{2}$ million tons is classed as

timber and the rest as fuel. There are no records of the outturn from private forests, but it may be guessed as perhaps 50 per cent of that from areas under the Forest Department. The following table gives the imports and exports of foreign timber for the year 1938-39.

Statement of import and export of foreign timber for the year 1938-39

Province	Timber imported			Timber exported		
	Teak	Other timber	Total	Teak	Other timber	Total
	cu. tons	cu. tons	cu. tons	cu. tons	cu. tons	cu. tons
Bengal	52,086	7,571	59,667	81	7	88
Orissa	2	2	2	..	..	..
Bombay	56,737	14,154	70,891	2,648	372	2,420
Sind	12,998	3,131	16,129	3	1	4
Madras	33,062	671	33,733	249	269	518
Burma . . . . .	..	8	8	..	..	..
Total	159,895	25,535	185,430	2,381	649	3,030

(Extracted from information given in the Annual Statement of the Seaborne trade of British India for the Fiscal year ending 31 March 1940, Volume I. The Andamans are obviously excluded and the accuracy of the figures may, therefore, be doubted.)

The normal imports into India are only about 185,000 tons of timber with a negligible export. Taking the timber from Forest Department areas alone, imports are only about 3 per cent of the total, and if produce from private forests is included, not more than 2 per cent. Even of this 2 per cent a very large quantity consists of teak from Burma, which will ultimately be replaced by the development of teak plantations in the reserved forests of India. The figures seem of doubtful accuracy but may at least show the order of magnitude. Towns like Calcutta may import a certain quantity of timber for the manufacture of plywood boxes, but compared with the total consumption of timber, it is not very great. There is some import of softwood railway sleepers because it is cheaper to import them than to transport them from the remote Himalayan forests where the indigenous material occurs.

There is some import from province to province. For example, the Punjab imports timber from various Indian States and firewood from Sind, the North-West Frontier Province imports firewood, Madras imports a certain amount of material from Coorg and the Central Provinces, Bihar imports timber from the United Provinces and Nepal, and so on. But taking India as a whole, except for teak, the imports of timber are negligible. It can be said that under pre-war conditions Indian forests already generally supplied the wants of the general consumer.

43. It is not so certain that this will apply in future. The forests outside the control of the Forest Department are deteriorating and often actually disappearing, while at the same time the demands of the general consumer are rising. Proposals, however, will be made for the control of the forests outside the Forest Department and where possible for raising the area of timber-producing forest in those provinces where the percentage is too small. *As a whole however, on a long-term view there is no serious problem of the supply of timber for the general consumer.*

(b) *The local village consumer*

44. Here again, taking India as a whole, there is no serious problem. The demand for forest produce of those villagers living close to properly managed forests under the Forest Department are adequately supplied either free or at rates well within their capacity to pay. Satisfactory though this is, however, it is not as satisfactory as it sounds as will be obvious from the next paragraphs.

There is some exception in Sind and Assam. In Sind a very large proportion of local villagers are supplied not from Government forests but from private forests. If such forests disappear, those villagers will lack the forest produce they need, but private forestry is being encouraged in Sind and reserves are being increased. In Assam the local villager takes his wants from the enormous area (16,000 square miles) of unclassed forests. A difficulty exists in the Surma valley where there are no unclassed forests, but there the villagers are mostly supplied from reserves. As a whole, however, it may be said that the wants for forest produce of these 'local village consumers' are adequately supplied and there is no serious problem.

(c) *The ordinary village consumer*

45. In the Central Provinces, because of the total area of forests in the province and the general distribution of those forests throughout the province, practically all the villagers fall under the class of 'local village consumers' whose wants are fairly generally and economically supplied. To a certain extent the same applies to the Madras Province, though there are parts of Madras where the ordinary village consumers are not supplied.

46. But throughout the rest of British India there are large numbers of these ordinary village consumers whose demands for forest produce are almost wholly unsupplied or at any rate most insufficiently supplied. Large parts of the Punjab and the North-West Frontier Province, probably 90 per cent of the plains villages of the United Provinces, probably half of Bombay, all the centre and west of Bengal, and much of Bihar and the coast lands of Orissa contain populations with an almost completely unsupplied demand for forest produce. The small timber and fuel demanded by these enormous populations is of too low a value to be imported from the distant forests and to import material to these villages would cost far more in transport alone than the material is worth and far more than any of the villagers could afford to pay. Moreover, even if the produce could bear the cost of transport to these village communities, the demand would then be far more than the existing forests of India could possibly supply.

47. Here then is the crux of the whole problem.—As this vast population is unable to obtain its wants in small house-building timber, agricultural timber and fuel, its general standard of living is reduced and, greatest evil of all, it is forced to burn cowdung instead of fuel.

48. It has not been possible to get any figures for the quantity of cowdung burnt in India. With no figures available, however, it is quite permissible to guess, provided there is no pretence that it is anything more than an intelligent guess. The 1935 cattle census estimated the number of cattle in India as 300 million. If it is assumed that only half the cowdung is burnt, it means that India burns the cowdung of about 150 million cattle a year. I understand that the average dry weight of cowdung produced per head per day is 10 lb. or for 150 million cattle, about 250 million tons per year.

49. The above figures do not agree with certain figures recently received from the Imperial Council of Agricultural Research. They seem to give a total manure production of about 840 million tons per annum instead of about 500 million tons as given above and calculate the amount burnt as about 560 million tons as compared with 250 million tons above. My figure was admittedly a very rough calculation but at any rate appears to be on the safe side. Whichever figure is really correct matters little. The main point is that this saving of cowdung for manure is a very important matter in the agricultural economy of India.

50. Agricultural evidence shows that 10 to 15 tons of manure are required per acre every three or four years or roughly $3\frac{1}{2}$ tons per acre per annum and that this roughly doubles the crop produced as compared with unmanured fields. At $3\frac{1}{2}$ tons per acre per annum the 250 million tons of cowdung could adequately manure 72 million acres and, as 226 million acres are cultivated in India, that means about 30 per cent of the whole of India's cultivation.

51. Nor is this loss of production the end of the evil. As the villager continues to burn cowdung for fuel and his fields are deprived of manure, so the fertility of the soil decreases, the crops produced get less and less (and incidentally the depleted soil is more liable to erosion) and so a vicious circle of general poverty is created.

52. The main problem of any reconstruction scheme for forests and forest policy in India in the post-war era is, however, to supply the wants for small timber and fuel for the majority of the population of India and more especially roughly the northern two-thirds of India. If this problem could be solved, the appalling poverty which exists among the millions of the peasants in India would very largely be removed. Given his supplies of small timber and fuel in his immediate neighbourhood, the fields could be given the easiest and cheapest manure available and a generally increased prosperity would be the result. This is no exaggeration. The general prosperity of India depends largely on the prosperity of the peasants, and this in turn is very largely dependent on having fuel and small timber available in the immediate neighbourhood.

53. Mixed up with this is the question of grazing. Although the management of grazing lands is perhaps hardly the work of a forest officer, it does become his work when those grazing lands are lands falling under class (a) Protection forests. Though forests only in name, such land is more often than not the province of a Forest Department. Recognizing this fact, the fourth class made of forest land in the written policy of the Government of India was (d) Pastures. In tackling the problem of the supply of forest produce to the ordinary village consumer provision must be made for grazing. But it should be remembered that these minor forests, managed for the supply of the wants of the agriculturist, will all be short rotation forests, many of them managed under what is called the 'coppice system' or its modification, the 'coppice with standards system', the standards providing the small timber needed by the agriculturist. These fuel rotations will be probably between 10 and 15 years, or at most 20 years, and for 5 to 10 years each rotation will provide good grazing in addition to producing fuel and timber. Once these forests close up sufficiently, the grazing will cease, but that will only be for the last few years of each rotation, so that a large proportion of this total area, probably between one-third to one-half, will not only be open to grazing but, with proper management, will produce good grazing. Moreover, for most of the years when the area will provide no grazing, it will still provide a general exercise ground for the cattle. The growing of minor forests on this land will on the whole increase and not decrease the production of fodder.

Chapter IV

FLOODS, EROSION AND DESICCATION

54. So much has been written and said during recent years about floods and erosion that there seems little necessity to stress the urgency of the problem. Still, in the two consecutive days of August 20 and 21, 1943, *The Statesman* had accounts of

(a) Jumna floods affecting 30 villages, hundreds of people and thousands of cattle.

(b) Ajmer-Merwara floods with 1,500 people drowned.

(c) Damodar river floods on 45 square miles, affecting 27,000 people with a request for Rs. 90,000 for relief and Rs. 1 lakh for agricultural loans.

(d) Orissa floods affecting 400 square miles. That is only two days' record and, besides people and cattle, there are breaches of roads, dams and railways, ruin to crops and general havoc.

55. There are several forms of erosion all of which need not be particularized here. The clogging of the natural pores of the earth from sediment washed down by rain eventually interferes with seepage and percolation. The actual run-off is thus increased and the silt and pebble-laden water running over the surface acts rather like a file in rasping away more surface soil. Not only is the surface rubbed away, but tiny gullies called 'finger gullies' are formed and

a thin skin of land is eventually stripped off. At the same time, soluble chemicals and micro-organisms necessary for plant growth are lost. This is 'sheet erosion' and, though of very great importance to any country and though something which must be completely stopped by correct cropping and land management if a country is to retain its prosperity, is not always obvious to the casual observer.

56. As more surface is washed away and the gullies extend, clefts slowly appear in the top soil cutting right through to the sub-soil so that erosion then proceeds at a greater rate than before. The gullies produce excessive drainage, the level of the underground water is lowered and even a moderate drought will cause the water supply to be below the minimum necessary for real fertility. When erosion has reached this stage, it is obvious to anyone, trained or untrained. Not only have many hundreds of square miles of India been rendered completely unproductive as a result of the floods and erosion but, unless some steps are taken to check it, this sore will fester in the body of India till the whole is diseased.

57. This question of floods and erosion is intimately connected with class (a) Protection forests and also with the forests of classes (c) and (d), Minor forests and Pastures. But, as previously stated, the classes overlap. An area may be classed as Pasture but in fact should also belong to (a) Protection class, the retention of which is so important that it should override all questions of rights, etc.

58. It is correct land management which has far and away the greatest influence on the prevention of floods and erosion. Such correct land management is extremely important in agricultural fields but, important though it is, it is not within the Department of Forestry. But a very large portion of the land which controls the flood and erosion problem of India occurs in hilly country and at the headwaters of rivers. Such areas should be placed in class (a) Protection forests and treated as such. Their correct land management should transcend all other considerations. It is the mismanagement of such land which has caused a very large proportion of the difficulty and trouble from erosion and floods in India. A great many of such lands are already under the Forest Department and are in fact managed as class (b) forests, that is to say to produce timber. There is no harm in this whatever because a forest maintained to produce commercial timber does in fact fulfil the requirements of the management of a forest necessary to be retained on climatic and physical grounds. The retention of high forest cover is in fact one of the best forms of land management to prevent floods and erosion in hilly country.

59. But there are vast areas all along the Himalayas and over many other hilly parts of India where the land is bare of tree growth, is open to unlimited grazing and is very often burnt yearly. Such land management in such places is sacrificing the starving millions in the plains for the temporary benefit—and it is only temporary benefit as anyone who knows the history of the oak forests in the hills can testify—of a much smaller population in the hills. It would be preferable for the good of India, if the whole of the vast pastures in the hills were closed and the area afforested. Fortunately, this is not necessary though it may be preferable. But it is little less than criminal to allow the mismanagement of the hills to continue where felling, fire, and grazing are often more or less uncontrolled.

60. The erosion question is also often intimately connected with (c) and (d) class forests namely, Minor forests and Pastures. Here also, though classed as (c) and (d) lands, they are often in fact really the important (a) class of Protection forests, and, if necessary, should be retained even at the sacrifice of all other benefits. But again such drastic treatment is not usually necessary. All that is necessary is to recognize that Minor forests and Pastures may often have this protection aspect as well and must be managed accordingly.

61. Serious though the erosion and flood problem is in India, the forests under the Forest Department, whether protection or timber-producing forests

and both reserved and protected, do usually adequately control run-off and therefore erosion and floods within their actual boundaries, though the minor forests, that is to say those really managed to supply the local villager with fuel, small timber and grazing, even when they are reserved, are not always so managed as to solve the erosion and flood problem even within their own boundaries. Thus in the minor forests of the Central Provinces, in the United Provinces in certain areas with excessive grazing rights, and in Madras in the mismanaged panchayat forests, the run-off and erosion problem is not sufficiently controlled even within the forest boundaries. In Bombay the reserves are so scattered and broken, sometimes half a hill being reserved and half open, or one aspect being reserved and one aspect open, or even with only a belt of reserve along the middle of a hill, that there also erosion and floods are not always adequately controlled even within the boundaries of reserves.

62. But the trouble is that the area under the Forest Department in almost all provinces is either wrongly distributed, too small, or both, to control the main erosion and flood problem. In the Central Provinces where the forest is well distributed and adequate in quantity, there is no particularly serious erosion problem except local problems, but in every other province in India there is a very serious problem outside the usually inadequate area under the Forest Department. It is serious in the Punjab and the North-West Frontier Province (especially along the foothills of the Himalayas), in the United Provinces (especially in the ravine country between the Jumna and the Chambal), in Orissa and in Bihar (especially on the Chota-Nagpur plateau where areas of private forests have already been taken under management to improve matters and far larger areas ought to be taken under proper management), in Bengal (particularly in western Bengal—see the Report of the West Bengal Forest Committee of 1939), in Assam (especially in the hills where shifting cultivation is doing tremendous damage), and even in Madras, despite the rather large proportion of the total area under the Forest Department.

63. It is difficult to get any table showing a relation between the main types of land management and floods and erosion, because most investigations have dealt with some particular aspect of the problem such as comparing different soils, different gradients, grassland with bare land, forest land with grass land, different agricultural crops or different rainfalls. The following tables are compiled from data from different experiments but which are in general reasonably comparable.

64. The run-off percentage of the rain that falls on an area is as follows:

Run-off percentages (water loss in per cent of precipitation)

Country	Reference	Completely bare ground	Grass land	Well managed pasture	Forest burnt annually and litter removed	Forest with normal ground covering
America	II	19%	..	3%	..	..
India	III	25%	7%	..	..	..
America	IV	15%	9%	3%	..	..
America	V	12%	..	2.5%	2.6%	0.8%

A general average of the above figures shows that the different kinds of soil cover result in a percentage loss of the precipitation that falls in the following proportion:

Forest with normal ground cover	1
Forest burnt annually and litter removed (or heavily grazed)	3
Well-managed pasture	3
Grass land	10
Completely bare ground	25

65. The following table shows the effect of the run-off in tons of soil lost per acre per year:

Soil lost per year in tons per acre

Country	Reference	Completely bare ground	Grass land	Well-managed pastures	Forest burnt annually and litter removed, i.e. the same effect as over-grazing	Forest with normal ground covering
America	I	..	..	..	2.4	0.004
America	II	59.9	..	0.003	..	..
India	III	8.3	1.6	..	..	..
America	IV	5.1	0.2	0.0	..	..
America	V	18.0	..	0.2	0.2	0.01

A general average of these figures shows that the different kinds of cover result in a loss of soil per acre per year in the following proportion:

Forest with normal ground covering	1
Forest burnt annually and litter removed (or heavily grazed)	20%
Well managed pasture	14
Grass land	130
Completely bare ground	3,250

66. In the above two tables it is interesting to note that although forest with its normal ground cover is better than any other form of land management to prevent run-off and erosion and although forest soil burnt annually with the litter removed or heavily grazed is still quite good at preventing run-off and is as good as well-managed pasture, the removal of the litter has minimised its capacity for preventing erosion. If the forest litter is completely removed, the figure for erosion rises to about 190 so that the complete removal of litter under forest cover turns the best preventive of erosion into a poor preventive.

67. It is of interest to note that in the detailed figures, given by Ayres most agricultural crops such as cotton, wheat, corn, alfalfa have a run-off and erosion comparable to and often greater than bare land.

68. It is also worth mention that it is not the average rainfall that does most damage but a single infrequent but heavy storm which by cutting out fresh gullies starts a new cycle of erosion. This occurs in many parts of India, particularly in the Punjab where the small annual rainfall usually consists of a few heavy storms. It is in fact characteristic of India that even the normal rainfall is not evenly distributed throughout the year but mostly falls in the few monsoon months. Some measurements of the effect of single storms in America in conditions similar to those of the Punjab are given below:

Rainfall		Cover	Run-off per cent of precipitation	Soil loss Tons per acre
Amount (inches)	Duration (hours)			
5	9	Bare	35%	44
5		Grass	0.4%	Nil
5		Forest	0.4%	0.1
3	10	Bare	53%	2.6
3		Grass	2.3%	0.2
3		Forest	0.3%	0.005
1.5	0.7	Bare	59%	4.1
		Grass	1.2%	0.01
3.75	9	Bare	53%	29
		Grass	39%	0.1

A general average of these figures shows the following as general proportions of the run-off and soil loss in single heavy storms for three different kinds of cover:

Cover	Run-off	Soil loss
Forest	1	1
Grass	27	32
Bare land	125	800

References

- I. Lowdermilk, W. C. 1930. Influence of forest litter on run-off percolation and erosion *Journal Forestry*. 1931 States of the role of forest vegetation in surficial run-off and soil erosion *Agric. Engin.* [quoted in Editorial 1933, *Indian For.*, LIX (11)].
- II. Gorrie, R. M. 1937. - The movement of soil erosion and run-off. An attempt and some results. *Indian For.*, LXIII (12).
- III. Gorrie, R. M. 1938. The problem of soil erosion in the British Empire with special reference to India. *Jour. Roy. Soc. Arts.*, LXXXVI (4471).
- IV. Weaver, J. E. and Noll, W. C. 1935. Comparison of run-off and erosion in prairie pasture and cultivated land. *Nebr. Univ. Conserv. and Survey Div., Conserv. Deptt. Bull.* 11.
- V. Ayres, Q. C. 1936. *Soil erosion and its control.*
- VI. Gorrie, R. M. 1938. The conservation of Punjab water supplies. *Punjab Engineering Conference, Paper* 216.

69. A further question which may be dealt with here is the very dry area existing roughly to the west of a line running from Ambala via Etawah to Ratlam and across to Mt. Abu. Everywhere west of that line conditions are dry and, though forests will grow, they are of the tropical dry thorn type, the rainfall being below 30 in. Further west conditions get even drier. Thus, west of a line from Lahore to Rohtak and then through Ajmer to Nawanganar, the rainfall sinks to below 20 in. and the forest is more scrubby and consists of even drier and more scanty thorn forest. Forests of a sort can still be grown here perfectly well without irrigation, and species can be grown which are very useful for the small timber and fuel so necessary for the agriculturist such as *babul* (*kikar*) if there is no frost, *shisham*, *khair*, etc. Further west still, west of a line roughly from Lyallpur through Bikaner, about 50 miles west of Jodhpur and then down to a point about 100 miles south-east of Karachi, the rainfall sinks below 10 in. and, proceeding from that line westwards, the rainfall gets less and less till complete desert conditions are met. But even here, over much of the area, forests of a sort, sufficient to provide fuel and some small timber, could still be grown so long as the plants could be watered for the first two or three years. Needless to say, where proper irrigation is available, good forests could be grown over much of this area provided suitable species were chosen.

70. Over all this tract below the 30 in. rainfall line, there is possibly an even more important point involved than the mere provision of fuel and small timber. It has been stated, though I have no actual evidence, that the desert conditions are spreading eastwards and that the country over all this tract is getting drier. Whether this is correct or not at present, it is an obvious danger. Without entering upon the controversial question of forests increasing rainfall, it is an acknowledged fact that forests do conserve what rainfall there is, prevent evaporation, generally mitigate the extremes of climate and are a great adjunct to agricultural dry farming, which presumably must be practised over much of this area. Apart therefore from increasing the general fertility and improving the climate over the tract itself and preventing dust storms, the afforestation of this area would undoubtedly act as a barrier against the spread of desert conditions and preserve the fertility of the Gangetic plain to the east of the 30 in. rainfall line.

FOREST RESEARCH

71. Forest research is centralized at Dehra Dun, but there is nothing to prevent provincial Governments from appointing their own research officers in the provinces. Some provinces have done this but only for research in silviculture which, by its nature, must to a large extent be done in the provinces, though Dehra Dun is a central repository for results.

72. The present organization of the Forest Research Institute is that the administrative head is the President, who is a forest officer. Under him are the branches of Botany, Silviculture, Entomology, Chemistry and Minor Forest Products, and Utilization, each with a branch officer at its head. There is in addition a Timber Development branch which is virtually, though not actually, in abeyance at present. The President has a personal assistant.

73. The Botany branch deals with identifications, ecology, etc. and has a Mycology section dealing with research into the fungal diseases both of living trees and converted timber. It has two gazetted assistants, one dealing with systematic work, and the other is the head of the Mycology section. There is also a post of Oecologist, which is vacant. The Silviculture branch, in addition to the Silviculturist as head of the branch, has a Statistical Assistant Silviculturist and an Experimental Assistant Silviculturist. It has also a General Assistant sanctioned for two years but unable to be appointed at present. Just at the moment the Statistical Assistant Silviculturist's post is also unable to be filled. The Entomology branch deals with insect pests both of the living trees and of the converted timber. It has, in addition to the Forest Entomologist, a Systematic Entomologist and two Assistant Entomologists. There are also two posts of Divisional Entomologists which are vacant and which are unlikely to be filled. The Chemistry and Minor Forest Products branch has a Bio-Chemist as head of the branch with two Assistant Chemists and an Assistant Chemist, soil section. There is also a temporary post of Rubber Chemist. Under the Bio-Chemist also is the Minor Forest Products section with a Minor Forest Products Officer and an assistant. Neither post is filled at the moment, but they are likely to be filled in the near future.

74. There are other Institute posts sanctioned, but the above really gives a truer picture than the actual sanctioned posts, because the posts have been sanctioned piecemeal, then some of them left unfilled and now are unlikely to be filled owing to changes in organization. For example, there is a permanent post of Officer in Charge, Minor Forest Products section, which is held in abeyance, its place being taken by the temporary post of Minor Forest Products Officer referred to above. There is also sanctioned a temporary post of Documentation Officer, but this will not be filled as, with the present Minor Forest Products Officer, it is now considered unnecessary. There is also a temporary post of Assistant Chemist in this section which only happens to be vacant at the moment.

75. The Utilization branch contains the sections of Timber Testing with an officer in charge and an assistant, Wood Technology with an officer in charge and a temporary assistant, Paper Pulp with an officer in charge and an assistant, Wood Seasoning with an officer in charge and two posts of assistant, one of which is vacant, Wood Preservation with an officer in charge and two temporary posts of assistant, Wood Workshop with an officer in charge and an assistant, the former being vacant at present, and an Engineering section with an officer in charge of the section.

The Entomology branch and the Mycology section of the Botany branch must naturally work in close cooperation with the Wood Preservation section on the protection of converted timber.

76. The above account of the general organization has purposely omitted certain small variations which exist merely as a result of the war. For example, at the moment both in the Paper Pulp and Seasoning sections the real officer-

in charge is seconded for other duty, while the assistants are carrying on the sections either in addition to their other duties or with the assistant's posts vacant.

77. The Inspector General of Forests is also the President of the Institute. There is no need here to give a detailed history of how this unhappy combination arose. It was always a combination of expediency rather than efficiency. Before 1926 there was both a President of the Institute and an Inspector General of Forests. Between 1919 and 1925 the Institute's gazetted officers increased from 11 to 27, the budget from Rs. 3½ lakhs to 8½ lakhs and the Institute estate from 40 acres to 1,000 acres. Naturally, the work and responsibility of the President rose in proportion. Yet it was in 1926 that it was decided to combine the posts of President, Forest Research Institute and Colleges and the Inspector General of Forests, on the ground that the Inspector General's direct work had decreased as a result of forests becoming a transferred subject. In fact, the Inspector General's work of advice to the Government of India and his work connected with the provinces was exactly the same in practice as it had always been, except that, as a result of provincialization, he now had to persuade where previously he could have ordered. Since that date a very large increase in his work has taken place as he is now permitted to tour and advise in Indian States with their consent in much the same way as he does in provinces. This has been taken full advantage of by the States and it is admitted, I think, that it is for the general good of the country. Correct forest management in British India to minimize the danger of floods and erosion would be largely vitiated if neighbouring Indian States managed their forests badly, for example all those Indian States along the southern catchment area of the Ganges. Thus, both the President's and the Inspector General's work has increased and not decreased.

78. There is plenty of evidence that the combination of the two posts has not led to efficiency. In 1929 the Government of India appointed the Mehta Commission to enquire into the workings of the Institute, in 1938 they sent Sir Shanti Swarup Bhatnagar to investigate and report on certain aspects of the work, in 1940 they formed a central advisory board in forest utilization and in 1941 a proposal was made that a further general enquiry committee should be appointed though, owing to the war, it did not materialize. I suggest that if things were satisfactory, it would not have been necessary continually to appoint these investigating committees. Moreover, as long ago as 1940, I pointed out that such a post-war reconstruction policy for forestry as this would have to be written and that it was time the Inspector General began to devote some attention to it. Yet in fact, having had to hold the two posts till now, I have found it impossible to devote any real attention to this extremely important problem.

79. The Inspector General is the adviser to the Government of India on all questions dealing with the administration and organization of forests and forestry throughout India. He tours in provinces and States and reports on conditions. It is a post which a man can only attain at the end of his service and, to be qualified, an Inspector General must have had an extensive experience of general forestry with high administrative experience in a province. Ideally, the post should be held for five years.

80. But the work of the President of the Forest Research Institute is completely different. While its head must certainly have had extensive experience of ordinary forest conditions and while he must be primarily the administrator and controller of the Institute work, it is a very great advantage if he is also a scientist. Moreover, the management of a research institute is so different from any ordinary post in the Forest Department, that it needs a year or two before the holder knows sufficient about the details to be really efficient in his post. Having learnt those details, the longer the incumbent holds the post within reason the better. Ideally, therefore, the President should be a much younger man than the Inspector General, capable of holding the Presidentship for at least ten years.

81. An examination of the organization of the Institute will reveal another peculiar anomaly. Four out of the five branches deal with a single science or a

series of very closely related sciences. Even the Mycology section of the Botany branch, which is very specialized work, is still botany and is work which any good botanist should be capable of understanding sufficiently to direct and generally to control. But in the Utilization branch the sections are as wide apart and as varied as the branches are in the rest of the Institute. The main qualifications in Timber Testing, for example, are mathematics and engineering, while in the Paper Pulp section the qualifications are fundamentally a very specialized form of chemistry. The result is that while the branch officer in all the other branches is a technical head and technically responsible for all the work of the branch, the Utilization Officer is not qualified in any of the sections of the branch and is just as purely an administrative officer as the President. In other words, the Utilization branch is really a small separate and independent Institute with its own centralized office, its own budget, etc. As organized at present, to be efficient the head of each section in the Utilization branch should be able to direct technically the work of the section just as in the rest of the Institute, the branch officer is technically able to do it. This peculiar organization of an Institute within an Institute naturally leads to various difficulties.

82. After several years at the Institute as a research officer and now as President, I consider emphatically that this attempt to combine the direction of the Forest Research Institute with the post of Inspector General, both of which are heavy full-time posts, has never been efficient and never will be. A Vice-President has been sanctioned at the Forest Research Institute for two years from the end of 1943 and in practice he will virtually control the Institute as a President. The experience gained will enable the final decision to be taken whether this organization should be perpetuated. If it is, the Vice-President should be made the President and the Inspector General definitely made Inspector General only, with headquarters with the Government of India like all other heads of departments.

83. As already stated, a commission to reorganize the Institute was to have come to India in 1941, but owing to the war was postponed. I recommend that such a commission be appointed immediately after the war. Someone on that commission should have intimate knowledge of the internal workings of the Institute and its relation to the forest service. He should be a member of the commission to cross-examine witnesses and not merely be a witness himself. I regret to say that in reading the Mehta Commission Report and knowing the internal arrangements of the Institute at that time, it is evident that no one on the Commission knew sufficient of the inner working of the Institute to sift the evidence enough to know where it was being influenced, possibly unconsciously, by personal considerations.

84. On the whole, there need be no great change in the general organization of the Institute. Improvement in detail is certainly possible, but the general idea of an administrative President with a detailed knowledge of forestry, forest conditions and the detailed needs of the Forest Departments in research, with certain branches under him, the head of the branch being technically responsible for the work done in it, is sound. Even though there might be some rearrangement of the branches, the existing branches of Botany, Silviculture, Entomology, and Chemistry and Minor Forest Products are suitable. There are obvious possible modifications; but these, having been in existence for a long time, have collected and arranged data and, on the whole, should not now be materially changed.

85. But the anomalous organization of the Utilization branch within the framework of the Institute must be changed. There are two obvious ways of doing this. The Utilization branch could be definitely constituted a separate technological Institute with an administrative head, its present sections becoming branches. (One of its branches would then probably be Chemistry and Minor Forest Products.) It is a branch essentially dealing with the products of forestry and not with forestry itself. It deals with the raw material for trade and would normally be better situated in a trade centre. Its head would not necessarily need to be a forest officer though on the staff there should be some experienced forest officer

to act as a liaison between this trade research and the needs and possibilities of the Forest Department itself. This form of solution has been adopted in some other countries. While I insert it here for consideration, I do not advise it. The whole work of the Utilization branch has been so intermingled with the rest of the Forest Research Institute for so many years that a separation now would, I consider, bring more evil than good.

86. The other solution, however, is to bring the organization of the Utilization branch into line with that of the rest of the Institute. This would not be difficult. One man cannot possibly be a technical expert in all the various sections of the Utilization branch as constituted at present, and this is one of the reasons he has developed into an administrative head only. The existing Utilization branch should be split up into groups of sections to form branches parallel with those elsewhere in the Institute. The head of each of these newly constituted branches would be as in the rest of the Institute, a technical officer technically responsible for the work in his branch.

87. Suggested groupings might be Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing to form one branch with an engineer as head of the branch. This engineer should, if possible, be experienced in extraction and logging problems. The post already exists in the Timber Development Officer. It may be mentioned here that there was a Forest Engineering Service for all these problems connected with sawmills, transport, logging, etc., but it died through lack of work. But while there is insufficient work for a whole forest engineering service, there are plenty of problems demanding solutions and there is plenty of room for one such officer at Dehra Dun.

88. It must also be mentioned that there is no officer at the Institute to carry the results of timber testing to its final translation into wooden structures, buildings, bridges, etc. The result is an accumulation of data with little practical result. An engineer capable of designing structures making use of the results is a necessity, and this lack has been felt repeatedly during the war and more especially when there was a need for very large wooden aeroplane hangars. Nobody had any experience of designing such a structure. If such a man were made head of this Timber Development branch, he might gain the logging and sawmilling experience; if that is not possible, then there must be two men.

89. The other three existing sections of Wood Preservation, Wood Seasoning and Paper Pulp could also be combined into a second branch with a Chemical Engineer as head of it.

90. The next step would be to combine most of the office of the existing Utilization branch with the Central Office, and also to combine the budget with that of the rest of the Institute, thus completing the general aim underlying the Mehta Commission Report of 1929 but which was only carried out for the rest of the Institute and not for the Utilization branch. The present administrative Utilization Officer would cease to exist.

Chapter VI

FOREST EDUCATION

91. The Forest education which has to be legislated for in India is:

- (a) the training of Foresters;
- (b) the training of Rangers; and
- (c) the training of gazetted officers.

(a) Foresters

92. Arrangements for training Foresters are made by provinces themselves at various provincial schools for Foresters. The arrangements are satisfactory as far as they go and need not be further considered here. It might perhaps be advisable to forecast roughly the total demand for such training throughout India to assure that the total number of such schools throughout the country is adequate for the work required.

(b) Rangers

93. Rangers have been trained at Dehra Dun since 1878. There is no need to go into all the past history, but Dehra Dun has not always been the only school for training the Rangers. There was a school at Coimbatore in

Madras and until this year a class at Poona in Bombay. For a period from 1933 to 1935 the Indian Forest Ranger College at Dehra Dun closed down owing to a temporary lack of demand for training; it was then revived principally for training the Rangers from the United Provinces and the Punjab and from 1937 has existed in its present form for training the Rangers from all provinces in India and from Indian States. Actually Madras first sent Rangers for this training at Dehra Dun only in 1943 and Bombay has not yet sent any, though it proposes to do so from the class beginning 1944. This is most welcome as it is the opinion of the vast majority of forest officers, if not of all of them, that by training the Rangers together at one centre for the whole of India, including the Indian States, a certain service tradition and *esprit de corps* is engendered which can be attained in no other way. The course is a two-year course, a new class arriving each year.

94. There has been a most gratifying increase in the interest in proper forest management by the Indian States in the last few years. I have already stressed how much the general welfare of India depends on proper forest management in the States and every effort is being made to encourage this and to give them every help possible. The forecasted demand for seats in the Rangers' College for the next five years is an average total of about 55 students of which the demand is 30 from provinces and 25 from States. The total capacity of the existing Indian Forest Ranger College in Dehra Dun is a yearly intake of 39 students, making a total in residence at any one time of 78 students. This is the utmost possible for the college to accommodate and a class of 39 students is too large for maximum teaching efficiency. If this demand of 55 students per year were the normal perpetual demand to replace wastage, then the question of expansion of the college would arise. Actually, however, the total cadre of Rangers for the whole of India is approximately 800 with a probable expansion in the near future to approximately 900. In most provinces a percentage of recruitment is made by promotion from the lower ranks of the service and, assuming that roughly one-third of the Rangers' posts are filled in this way, it means that the total directly recruited cadre is at present about 530 and may easily expand to 600. Again, assuming that the average service of each Ranger who enters the service, including casualties of all sorts, is 25 years, it means the average annual recruitment must be for provinces from 21 to about 24 per year. With the maximum possible accommodation of 39 students per year, this leaves from about 15 to 18 as the absolute maximum possible for Indian States. Although I have no figures for the States, it does appear that it would be unwise at present to embark on any scheme for expanding the size of the Indian Forest Ranger College.

95. There is, however, one change which should be made. It is most inconvenient for administration to have the Ranger College situated five miles away from the present New Forest, quite apart from the fact that the New Forest is very much more favourably situated for the teaching of forestry, for which in fact the estate was partly acquired. The advent of the 17th British General Hospital has necessitated certain rearrangements of the Institute and in particular the closing down of all the museums and a rearrangement of the Utilization branch, so that the latter is now almost wholly situated outside the main building over at the workshops. The museums must of course be reopened directly the 17th British General Hospital leaves, but there is no need for the Utilization branch to return to the main building, in fact the present arrangement is undoubtedly more efficient, despite certain minor inconveniences. I have examined the accommodation carefully and I am convinced that the whole of the two Rangers classes could be provided with adequate lecture rooms, laboratories, etc. in the existing Forest Research Institute building at the New Forest, as soon as the 17th British General Hospital leaves it. Such a move would of course not provide for living accommodation either for the Rangers or for the Instructors. The move would necessitate the building of hostels to accommodate some 80 students, two more bungalows of the type to accommodate Class II officers, and two more bungalows of the Class I type. What this will cost in the immediate post-war era I am unable to say, but it is quite certain that the

disposal of the existing very valuable Indian Forest Ranger College and estate would fetch far more than any cost involved. Whether it would be wise immediately to dispose of the older building is another matter. I would advise that it be retained for a short period in case the very excessive demand for Rangers' seats in the immediate future, with the possibility of a much larger cadre after the post-war reconstruction, necessitates an extra class for a few years before the figures have settled down to the normal annual recruitment.

(c) *Gazetted Officers Class*

96. A detailed history of this class is unnecessary. Briefly, however, the old Imperial Forest Service was trained at various institutions in Europe up to 1930 with an increasing percentage trained in the Indian Forest Service class at Dehra Dun from 1926. This class ended in 1932 when the last recruits to the old Imperial Forest Service entered the service. The old-style Provincial Services were recruited in various ways, but up to 1912 it was always by promotion from the Ranger service with or without extra training. From 1912 it was recruited directly from a class trained at Dehra Dun. This class for training the direct recruits to the old Provincial Services lasted in Dehra Dun up to 1928.

97. With the provincialization of the forest services in 1937, the question of training the future gazetted officers for these new provincial services again arose. The existing Indian Forest College for training the gazetted officers class was started at Dehra Dun in 1938 and housed at the Forest Research Institute. The maximum accommodation for this class is 32 in the laboratories, lecture rooms, etc., but at present only 30 can be taken, and that with some difficulty for living accommodation, etc. The living accommodation has been obtained by taking over and adapting certain Class II officers' bungalows.

98. I have no exact figures for the average annual demand for recruits to the gazetted services, but it would appear that it is about 20 to 24, including the present demand from Indian States.

99. The present arrangements for this education of gazetted officers are adequate as far as they go except that proper hostels for these students should be erected after the war and the Class II officers' bungalows, which have been taken over, reverted to their proper use.

100. One suggestion, however, is recommended for the future education of these gazetted officers. In Circular No. 4-F., dated February 13, 1892, the Government of India enunciated rules for special continental tours for members of the Indian Forest Service when on leave in order to keep them up to date in the various problems of forestry and to encourage professional efficiency. There is no doubt that these young gazetted officers trained at Dehra Dun would benefit at least as much by such tours as the former members of the old Imperial Forest Service. I recommend that it be made a normal and not an exceptional thing that either a selected member or preferably every gazetted officer who passes from the Dehra Dun class should make such a tour in Europe within the first five years of his service but after he has left Dehra Dun and has had some experience of actual forestry and forest conditions in India. Dehra Dun trained forest officers in fairly recent years have actually been sent to Europe in this way by the United Provinces Government. There is no need to go into details of the exact rules which should be made to govern such tours, or whether it should be for every student or only for a percentage, though personally I consider it would be advantageous if every student made such a tour. It need not, however, be longer than six to eight months and facilities already exist to arrange the continental tours and to provide the necessary instruction. I have already worked out the total expenses of such a tour, including fees to the University, living expenses, touring expenses on the continent, living on tour, etc., and it would come to between Rs. 4,000 and 4,300 per student, exclusive of passages from India to Europe. It would not necessarily cost Government that amount extra because the officer would be paid his ordinary salary and it should only cost Government the difference between his normal living expenditure in India

and the above total. I may add that both the Director of the Indian Forest Ranger College, and the Principal of the Indian Forest College agree that such a tour early in a man's service would greatly increase the general level of efficiency of officers. All the students and recent ex-students whom I have been able to consult also believe it would be of the greatest advantage to them professionally.

Chapter VII

CREATION OF A FEDERAL FOREST SERVICE

101. The Hon'ble Member, Sir Jogendra Singh, has more than once suggested the possibility of creating a Federal Forest Service to fill posts under the central Government and possibly interchangeable with men from the provinces. So far as the Forest Research Institute itself is concerned, it is an undoubted fact that greater efficiency would be attained if every gazetted officer were also a forest officer, but of course much of the work is so specialized that it would be quite impossible ever to fill the posts with forest officers. There are, however, certain posts which can be and in fact are filled by forest officers who are also specialists in some particular science more or less directly connected with forestry. There is no doubt that more posts could be so filled, for example, certain posts in the Botany branch, in the Entomology branch, in the Minor Forest Products section of the Chemistry and Minor Forest Products branch, and of course, by its nature, all the gazetted officers in the Silviculture branch. In addition, of course all the instructors at both colleges dealing with forestry subjects must be forest officers.

102. At present these officers are seconded from the provinces. During the war it has been increasingly difficult to fill posts, and in fact posts have had to be left vacant because they could not be filled, and various expedients have been adopted to fill others. It is true that to a large extent this difficulty would disappear after the war; but the war has certainly shown that when the forest staff in provinces is properly occupied, the needs of Dehra Dun have perforce to take second place, and this decision rests with an officer who usually knows little or nothing of the aim or utility of a large proportion of the Institute work.

103. This is an argument for a Federal Forest Service to staff such appointments at Dehra Dun. But there are in addition certain other forest posts directly under the central Government, for example, the officers in the Andaman Islands, Coorg, etc.

104. Nor is the above the whole scope for a separate federal service under the Government of India. There is an increasing demand for forest officers in Indian States and these not entirely as the ordinary State Forest Officer. Demands arise for seconded officers to make working plans or to advise on general possibilities, etc. If such a federal service existed and officers could be lent to individual States or to Agencies as advisers, in much the same way as there is a Forest Adviser to the Eastern States Agency, there would be a demand for their services, and it would be for the general good of forestry in India. I am not making any further detailed suggestions, but it is a matter which might be seriously considered with the Political Department.

105. I have enquired from all parts of the empire about this in places where there are separate States rather on the analogy of Indian provinces and a central Government. I have only had replies from Australia, South Africa and New Zealand. Australia has a Federal Service separate from the Provincial Services. South Africa has a Federal Service only and no provincial services. New Zealand the same but has no separate provinces in the Dominion. I also know that America and Canada have Federal Services separate from the Provincial Services.

Chapter VIII

MINOR FOREST PRODUCTS

106. The development of minor forest products industries has been neglected in the past. They often have been collected by petty contractors in a

haphazard way and markets have been lost through dirty or adulterated material having been supplied. With such products the importance of proper grading and cleaning and the guarantee of the purity of the article need not be emphasized. The whole of this work is now under the Chemistry and Minor Forest Products branch and a proper Minor Forest Products Officer is about to be appointed at the Forest Research Institute. A great deal of information on these minor forest products has been collected at the Forest Research Institute over a number of years and it is now being compiled in such a way as to show exactly what is known and, perhaps equally important, exactly what is not known and has to be found out.

107. These minor forest products are very definitely of two types. There are those derived from more or less mature trees like, for instance, kapok from the *scmiul* tree, *kutch* and *katha* from the *Acacia catechu* tree, Myrabolams from the more or less mature *Terminalias*, etc., and other products derived from annual and perennial herbs like pyrethrum, ephedrine, santonin, *bhabar* grass for paper, etc., or from young trees, for example quinine from cinchona bark giving a yield at the age of about seven years, rubber from *Hevea* giving a yield at the age of about five years, etc.

108. The first type will usually remain as forest industries and part of the Forest Department work because few private individuals or communities are prepared to grow crops which give no material yield for long periods like 30 and 40 years. These have always been collected from the scattered trees in a forest and even if grown as crops by the Forest Department will probably be only so grown when they can also yield a useful timber or fuel.

109. But the second type which give their yield in a comparatively short time are probably better not collected from the scattered trees of a forest. Their return is quick enough and their profit is good enough to make it worth while growing them as a special crop to yield their particular product just as there are rubber plantations, cinchona plantations, tea plantations, pyrethrum plantations, etc. This type of crop offers scope for the ordinary individual cultivator and, once the preliminary stages are over, is probably better grown by them than by any Forest Department." At that stage they pass to the Agricultural Department.

Part II.—Suggestions**Introduction**

110. It was stated in the introduction that this reconstruction policy was for British India and had not dealt with Indian States but that much of what was written applied *mutatis mutandis* to the States. This is equally true of these suggestions. There are large States, like Kashmir, which have a completely organized forest service, but there are others where there is no forest officer and sometimes no forest, or sometimes a State can only afford a forest officer of the status of a Ranger. In the Eastern States Agency a number of States have combined to employ one properly qualified forest officer to advise most of the States of the agency. I also recently recommended such a possible combination for the Punjab Hill States and I would recommend that an extension of this arrangement be examined by the Political Department who can call upon the Inspector General for advice whenever they wish. It seems to me that it would be to the advantage of the smaller States if they combined to employ a joint cadre of forest officers with a properly qualified adviser at their head. This combination might possibly be by existing agencies. In this way skilled professional advice would be available at a comparatively small cost to each State. Moreover, the smaller States could get men with better qualifications for their State Forest Officer at a lower rate provided the officers knew that there were prospects of advancement to the highest posts of a joint cadre covering a number of States.

General

111. The general line of these suggestions for a post-war plan for forestry will be evident from what has been written in Part I. For the sake of completeness any suggestions already made will be repeated in this Part II. It will be arranged under the same chapter headings as Part I, so that, so far as possible, the parts referring to the same subject can be read complete. There is unfortunately a certain amount of overlap which cannot be avoided.

112. The order in which the chapters have been written is a logical order, so far as possible, and not necessarily in the order of the importance of the problem. It is therefore repeated and emphasized here that the most important post-war forest problems of India are:

(a) Proper land management to control floods, erosion and the afforestation of the dry belt in the west. Connected with this is the defining of those areas where correct land management is necessary for the physical well-being of the country. This may affect private ownership.

(b) Second only to the above is the provision of small timber and fuel for the ordinary agricultural village consumer in India both to provide for his direct wants and at the same time to release cowdung for manure. Connected with this is the provision of an adequate total area of forest land and its correct distribution throughout India.

113. A small reconstruction forest policy committee should be set up in each province to draw up their own programme. When drawn up, the heads of these committees should meet together so that the reconstruction plans which coincide for each province (as many must necessarily do) can be discussed and as far as possible brought into an exactly similar plan for each province.

Chapters II and III: Government in relation to forestry and existing forest policy

114. The principles which govern the existing forest policy of India should be endorsed.

These are:

(a) The areas necessary for the preservation of the general climatic and physical conditions of the country must be kept as forest.

(b) The minimum amount of forest necessary for the general well-being of the country must be preserved or created

Subject to (a), (b) above.

(c) Cultivation is more important than forests.

(d) The satisfaction of the wants of the local population free or at non-competitive rates is more important than revenue.

(e) After the above have been satisfied, the object of management is the realization of the greatest possible revenue consistent with the principles of forest management, that is to say, on the principle of sustained annual yield.

115. It should, however, be pointed out that the existing policy does not legislate for any allocation of the land area necessary to fulfil (a) above, nor does it lay down any percentage either for India or for any province to fulfil condition (b) above. These omissions might be rectified.

116. The land in each province necessary for the preservation or improvement of the general climatic and physical conditions should be classified, allotted to class (a) of the existing forest policy classification, and placed under proper land management. The majority of it will be under some form of forest management. It should be allotted to this class (a) even though it may also be allotted to and managed as classes (b), (c) or (d). Such an allotment is not difficult for areas already under the Forest Department and should be possible through the revenue authorities for other lands. After all an approximation only is sufficient to start with.

117. It is suggested that it be laid down as a general aim that the area of properly managed forest land for India should be between 20 and 25 per cent. and so far as possible this minimum should be attained in each province and equally distributed throughout the province. This point will be referred to later.

Control of private forests

118. A definite Private Forest Act should be drafted supplementing the present Indian Forest Act which is insufficient to prevent the devastation of forests even when they fall under class (a) Protection forests, and, though the Indian Forest Act does legislate for this in Chapter V, in practice the harm has often been done before control is undertaken. I am not inserting such a draft act here but it should legislate for all stages of control up to the actual taking over of the area by Government and its correct management as forest on behalf of the owner, depending on local conditions. Forest preservation might be necessary on climatic or physical grounds, or to attain the prescribed minimum of forest area in a province, or for the better distribution of forest land throughout the province, etc. Provision must also be made for actual land acquisition as it is possible that the proper management of the land, necessary in the general interest may be a definite loss to the individual owner and therefore a necessary charge on the general revenues.

Chapter III : Existing demands on and supply of forest resources

Management of existing reserved forests

119. Except to restore the departure from normal caused by the advance fellings to supply war demands, there is really very little to suggest for the management of the existing reserved forests of India under the Forest Department. Such matters as the growing of general utility species of light hardwoods to replace useless species in miscellaneous forests are fully recognized and are being legislated for in working plans. Nor has the time yet come when any coordinated plan of regeneration between provinces is necessary. At the present moment what is necessary is what is being done, that is to say, to grow such utility species wherever the soil is suitable and not already growing more valuable timber. These are in fact merely the general principles of forest management, namely to grow those species most suited to the locality and which are in general demand, on the principles of the sustained yield and with the object of attaining a normal increment in the shortest possible time. These are the principles which have actuated the Indian Forest Department ever since its inception in 1865. Though considerable steps have been made towards the ideal of a normal forest, it has not yet been attained in India, nor, for that

matter, anywhere else in the world, and probably never will be attained. But it is the forester's aim, and progress towards it continues.

120. But, as indicated in Part I, Chapter III, over-felling though not excessive as a total, has been sufficiently concentrated to upset existing plans of management. The working plan position should be examined immediately after the war and steps taken to rectify over-felling. The amount of work necessary for this will vary in different provinces. In some, fresh working plans can be made immediately, whereas in others it may be necessary for various reasons to start with rough working schemes to be converted into proper working plans at leisure.

121. The United Provinces has a special working plans circle for the making and revision of working plans and their control which, it is now generally admitted, has been in every way to the advantage of the forest management of that province. This organization is commended to other provincial Governments, as a permanency where sufficient work exists, but anyway as a temporary measure till the necessary post-war revision of working plans is complete. Some provinces are too small to make it worth while having a special working plans circle, but even those might examine the possibility of combining with a neighbouring province. The absolute minimum number of working plans to make such a circle worth while is ten plans revised on a ten-year cycle, which is a short cycle except for fairly intensively managed forest. Even if the making of each plan took two years, this would only mean one preliminary report and the control of two plans each year, which is very little. But with 15 working plans such a circle is well worth while as some of them are bound to be on a ten-year cycle and the more plans there are over that number, the more worth while does such a circle become.

122. One other point connected with war fellings which arises is the disposal of the Defence Department's stocks of timber after the war. The Board of Forestry in October 1942 has already passed a resolution on this matter and the relevant part is repeated here.

(a) The release of Defence Department stocks after the war must be controlled by a disposal board or some such agency, and the Board of Forestry emphasizes that the Forest Department must be adequately represented in any planning for such disposal.

(b) The Board of Forestry further advises that, in consultation with railways, steps should be taken to stabilize sleeper prices after the war.

Ordinary agricultural village consumers.

123. The importance of the provision of timber and fuel for the ordinary village consumer cannot be overemphasized. Map I shows the areas of Reserved forests under the Forest Department. It is certain that these will soon be the only areas of forest left in British India under existing conditions. It shows clearly the large areas which will be left with no forest anywhere near them. To make the picture complete it should include such forests in Indian States also. In Map II an attempt is made to include these. So far as it has been possible to obtain the data this map shows in black all forests both in British India and Indian States under proper forest management, that is to say, which will remain as forest. It will be seen that, although the position is better than that shown in Map I, it still leaves enormous areas devoid of forest where the wants of the ordinary agricultural villager will eventually remain entirely or almost entirely unfulfilled.

The question therefore immediately arises whether land is available which is either covered with forest of a sort, though not under the Forest Department and not properly managed.

124. The following table compiled from *Agricultural Statistics of India, 1937-38*, Vol. 1, page 4, shows a classification of the land in the various provinces as cultivated, uncultivated and forest.

Area cultivated and uncultivated in 1937-38 in provinces and States (as far as available)*

Provinces	Area	Cultivated		Uncultivated		Forests
		Net area actually sown	Current fallows	Cultivable waste other than fallow	Not available for cultivation	
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Ajmer-Merwara	2,766	527	273	411	1,405	151
Assam	55,445	9,837	2,503	29,463	7,152	6,490
Bengal	76,966	38,638	7,318	8,990	15,015	7,005
Bihar	69,242	30,193	10,885	8,006	9,835	10,323
Bombay	76,128	44,868	7,905	1,388	8,942	13,025
C. P. & Berar	98,581	38,340	5,946	21,863	7,655	24,777
Coorg	1,581	226	257	18	562	518
Delhi	576	334	17	102	123	..
Madras	124,692	50,051	14,766	16,465	22,819	20,591
N. W. F. P.	13,402	3,295	900	4,456	4,199	552
Orissa	32,195	10,074	2,714	5,580	9,705	4,122
Punjab	93,992	42,651	5,775	22,133	20,347	3,086
Sind	47,156	8,032	7,615	9,218	21,170	1,121
U. P.	106,189	56,517	4,122	15,608	15,450	14,492
Total Provinces	798,911	333,582	70,996	143,701	144,379	106,253
Total Indian States (as far as available)	231,099	106,748	20,945	30,153	43,373	29,880
Grand Total (as far as available)	1,030,010	440,330	91,941	173,854	187,752	136,133

*(From *Agricultural Statistics of India, 1937-38, Vol. I, page 4*)

N.B.—These figures do not coincide entirely with those in the table under para. 16. The difference is accounted for partly by the omission from this table of the *Andamans and Baluchistan* and the rest because the 20,000 odd square miles of forest not under the Forest Department included in para. 16 has probably been put under 'uncultivated'. But the difference is immaterial for this analysis.

It is impossible to vouch for the accuracy of the figures, but at least they do give an indication of possibilities. It has also been possible to give in this particular table a figure for Indian States. No attempt is made to analyse these figures province by province: each province can do that for itself. But what is of interest is the total. The figures of this table (as explained in the footnote) differ somewhat from those in para. 16. It will be seen that 106,000 square miles of land classified as forest represents something over 13 per cent. of the total area of British India. At the same time, however, it classifies 144,000 square miles as 'cultivable waste' and another 144,000 square miles as 'not available for cultivation.' The probabilities are that a percentage of this 144,000 square miles classified as not available for cultivation will in fact grow forest sufficiently good for the purpose in view, namely to provide timber and fuel for the ordinary agricultural village consumer. But at any rate here is a possible 288,000 square miles from which it is probably only necessary to find between 50,000 to 100,000 square miles to solve the whole problem.

125. Connected with this a reference is invited to Map III. The map was compiled for the census and I have no information as to how they defined what they have called 'areas of forest or dense scrub' (the black areas on the map) or how they defined 'areas of small trees and open scrub' (cross-hatched on the map). It can be compared with Map II, which is the areas under the Forest Department and properly managed Indian State forest, and it will be seen that the black areas on the two maps are not entirely inconsistent. Map III also includes private forests most of which are rapidly disappearing. At any rate, even on Map III, for what it is worth, the black areas still leave enormous areas of India where the ordinary village agricultural consumer cannot possibly be supplied with his demand for timber and fuel. But the cross-hatched areas, which are only areas of small trees and open scrub, are still forest of a sort, and they do show a far better distribution over India. There are still large

areas where apparently not even scrub forest exists, but if these areas of scrub forest were taken over by the Forest Department and properly managed, it would go a long way towards solving this very difficult problem of providing forest produce in close proximity to the ordinary village agriculturist.

126. An examination of Map III still shows a large blank area extending from Bengal through Bihar and the United Provinces to the Punjab and down through Rajputana, parts of Bombay and Hyderabad. But even in those areas there are large possibilities of improvement. A reference to the table in para. 124 will show that Bengal has apparently 9,000 square miles classified as 'cultivable waste' and 15,000 square miles as 'not available for cultivation' compared with the forest area of only 7,000 square miles; Bihar has 8,000 square miles of 'cultivable waste' and nearly 10,000 square miles 'not available for cultivation' compared with 10,000 square miles classified as forest; the United Provinces has over 15,000 square miles of 'cultivable waste' and another 15,000 square miles 'not available for cultivation' compared with 15,000 square miles of forest; the Punjab has 22,000 square miles of 'cultivable waste' and 20,000 square miles 'not available for cultivation' compared with 3,000 square miles of forest; the North-West Frontier Province has 4,500 square miles of 'cultivable waste' and 4,000 square miles 'not available for cultivation' as against 550 square miles of forest. Bombay on these figures does not appear so well off, having only 1,400 square miles of 'cultivable waste' and nearly 9,000 square miles 'not available for cultivation' compared with an existing 13,000 square miles of forest. Even therefore in these provinces where the problem of supplying the agricultural village consumer with his timber and fuel is the most acute, there do seem to be great possibilities of increasing the area under forests to supply these particular wants, and for that area to be properly distributed throughout the province so that every agricultural village has its neighbouring minor forest instead of as at present the forests generally consisting of a narrow strip along the Himalayas.

127. Moreover, in these same provinces in Bengal there are possibilities of properly managing the remaining private forests (see the report of the West Bengal Committee), in the United Provinces there are opportunities for the control and proper management of private forests, of mango groves, etc. (said to amount to nearly 1,100 square miles or nearly 8 per cent. of the total area of Government forests of the province), of better utilization of canal banks, roadside and railway lands and the utilization of village waste, etc. The mango groves in the United Provinces are numerous enough that, journeying in a train through the most treeless parts of the Gangetic plain, the scattered groves so quickly coalesce that they form to the eye an apparently continuous horizon of trees at a distance of not more than three or four miles. Yet a closer examination of these same groves usually shows an ill-shapen, badly managed crop producing nothing except possibly a few unpalatable mangoes. The proper management of these mango groves alone under short rotations would help very considerably towards the solution of the problem. The United Provinces Government actually sanctioned a scheme for the afforestation of village land and formed a Forest Development division in 1938 to arrange plantations of agricultural timber, fuel and fodder trees in the villagers' holdings or on zamindars' land. The forest staff carry out propaganda, arrange the areas to be afforested, give technical advice and supply seeds and plants free, the work itself being done by the villagers or zamindars. It has already extended to 12 out of the 48 districts in the province and up to the end of 1942 something like 3,500 acres had been successful. It was originally intended to form a unit or division every two or three years eventually with four or five divisions covering all the districts in the plains; but naturally the war has held up the expansion, though it will undoubtedly recommence as soon as the war is over. It has been estimated, admittedly on not very reliable data, that a total new forest area of approximately 10,000 square miles could be created in this way in the plains districts of the United Provinces, where this problem of small timber and fuel for the agriculturist is very acute with the consequent waste of cowdung manure. Four or

five Forest Development divisions could easily be formed in the United Provinces as part of the Forest Department under a separate Conservator. This would form a circle somewhat analogous to the Soil Conservation circle of the Punjab, for it must not be forgotten that the solution of this problem of providing small agricultural timber and fuel for the ordinary village consumer by forests properly distributed throughout the provinces would go a long way towards solving the erosion problem as well. In Bihar, there are probably 3,000 square miles capable of being used for this particular supply and some 7,500 square miles of private forests which, if properly managed, would help considerably. In the Punjab the *Rawalpindi guzaras*, which have apparently been badly managed and have largely disappeared, could presumably again be taken up by the Forest Department and could grow forest. A policy for the development of village forest is being inaugurated in Kangra, Hoshiarpur and Ambala and of course the Soil Conservation circle is dealing with waste lands so far as its staff and funds permit. In Bombay, there are about 2,000 square miles under the Revenue Department and there are about 4,000 square miles of what is called 'unassessed uncultivable land' which could definitely come under some form of forest management to help in solving this pressing problem of supplying the timber and fuel wants of the agricultural villager.

128. There seems therefore plenty of scope both for increasing the area under forest to bring it up to something approaching the figure of 20 to 25 per cent of each province and for it to be properly distributed throughout the province so that what I have called the 'ordinary village consumer', at present inadequately supplied with agricultural timber and fuel, could become what I have called a 'local village consumer' with his forest needs supplied on his doorstep.

129. In each province a classification of land should be made on the lines of that given in para. 124, but the uncultivated land should be classified in more detail and should be done from the forest crop point of view rather than from that of the agricultural crop. In this way the figures in cols. 5 and 6 of that statement would change to 'waste other than fallow on which minor forests could be grown' and 'land not available for forest cultivation.' The land given under the heading 'waste other than fallow on which minor forests could be grown' should be divided under certain heads such as private forests, village waste, groves, etc., while that given as 'land not available for forest cultivation' should also be classified as roads, buildings, water, barren lands (ravines, *usar*, sand dunes, rocks, etc.). This classification is wanted immediately as a basis for all this planning. It need not be particularly accurate to start with, nor need it have a special agency to collect it. The agency which collected the figures given in para. 124 either has the data already or could very easily collect the small amount of extra data to give the more detailed classification from the forest point of view indicated above. It would then be necessary for forest officers to check up the places classified as 'waste on which minor forests could be grown' and, only where this was insufficient and badly distributed, would they need to examine any of the land classified as barren to see in fact if any of it could grow trees. It is true that those who are used to deal with agricultural crops do classify land as barren which could often perfectly well grow trees fit for this particular type of supply. It should not be forgotten, however, that in most places the final answer will not be large blocks of forest but comparatively small areas scattered throughout the country and this is exactly what is needed.

130. I have not yet mentioned the question of grazing. The cattle problem of India is not the province of the Forest Department; but it is so mixed up with forest work that it must be mentioned. One of the chief reasons for the destruction of forests over large portions of India and the prevention of reforestation and regeneration is the excessive grazing which takes place over such large areas. If the schemes outlined above are to succeed, grazing must be prevented while the tree crops are being established. In fact, if the areas are protected from grazing, they will give a far greater weight of grass in a few

years than they ever produced while being continually grazed (one experiment on *usar* land in the United Provinces increased the dry hay production from 2½ maunds per annum under continuous grazing to about 17 maunds per annum under proper regulation). Moreover, as already indicated in Part I, the areas can be opened to grazing after three or four years when the tree crops are safe and will then provide good grazing till the forest has closed sufficiently to prevent the growth of grass. The forests would still then provide good exercise grounds for the cattle till the forest was again felled and regenerated. But the rotations to supply this particular type of demand for the agricultural villager would be short and would probably vary from 15 to 20 years.

131. For convenience the Government of India classifies its fourth type of forest land as (d) Pastures, and there is no doubt that, under this scheme, a large quantity of the uncultivable land which would come under the Forest Department would be of this class (d) Pastures. It has been estimated that such barren lands, including ravines, *usar*, etc. total in the United Provinces something like 14,000 square miles, though my own opinion is that a certain amount of this would in fact grow trees. Grazing on this area is at present unlimited and uncontrolled and the number of cattle is far in excess of what the land can stand. The grazing is poor in the rains and there is practically no grazing for the rest of the year, so that there is constant and increasing deterioration often coupled with erosion. If the country is to become prosperous, this grazing must be reduced in intensity and controlled, so that the better types of fodder grasses have a chance of increasing. Obviously, this part of the programme must be a slow process as it depends so largely on persuading the villager that it is really for his own good to keep fewer and better cattle.

132. This is really the first proposal made which means spending any considerable sum of money. I am entirely unable to give any figure for the cost of creating and managing these Minor forests properly distributed throughout the country. Fairly obviously any figure must depend on the speed with which the work is done and, as it is quite impracticable to do it all in one year, a total figure, even if it were available, would be of little use. As a very rough guide, however, I may quote the cost of the Soil Conservation circle in the Punjab. The total cost of the circle is about Rs. 5½ lakhs per year. Roughly, a lakh and a half of it is spent on conservancy and works, while four lakhs are spent on establishment, travelling allowances, etc. Naturally, in work such as this, establishment forms a disproportionate amount of the total expenditure. The establishment consists of a Conservator in charge, 11 gazetted officers, 19 Forest Rangers, 52 Deputy Rangers and Foresters and 370 Forest Guards, etc. If every province appointed a similar staff, a very considerable amount of work could be done. There would be great difficulty in finding the necessary staff to do this immediately after the war, and for some years the maximum that any province could provide, even assuming they started training and recruitment immediately, might perhaps be double the above amount. A rough figure therefore might be put as between Rs. 5 and 10 lakhs per year, which in fact is a very small amount to pay for such infinite good, when it is remembered that the destructive process of war has been spending Rs. 150 lakhs a day or 15 to 30 times as much in one day as this will cost in a year.

Chapter IV : Floods, erosion and desiccation

133. To a large extent the proposals already made will have automatically done what is necessary for erosion, floods and desiccation. It has already been recommended in para. 116 that where proper forest management is necessary to protect the climatic and physical conditions of the country, land should be allotted to class (a) forests whether it is also allotted to classes (b), (c) or (d) or not. The whole of the land of India outside the Government forests should be classified in the same way. This again, however, need not be meticulously accurate, and can probably be done comparatively quickly and accurately enough through whatever existing organization compiled the figures given in para. 124, and who will compile those for class (a) forests above. Once this

preliminary classification is made, or concurrently with it, the present land management of the areas must be recorded as whether suitable for the prevention of erosion or not. If it is not suitable, it must be altered to become suitable. A reference to para. 64 will show that forest land with normal ground covering is probably the best land management to prevent erosion and floods, while well-managed pastures is good. Grass land is moderately good to prevent run-off but is distinctly bad for the prevention of erosion. The classification of the land necessary for the protection of these climatic and physical conditions of a country will probably show that a large proportion of the land will be either forest, pasture, grass land or bare land, and it is probable that all such land would be better under the management of the Forest Department. A very large proportion of it will of course coincide with the land to be managed under paras. 123 to 129 above for the production of Minor forests, and a great deal of the rest will fall under the portion mentioned in paras. 130 to 132 above where grazing must be controlled not only for the sake of the grazing but also for the sake of this erosion. Where, however, such land falls under agricultural crops, it is not for me to suggest a solution. Without doubt, however, the answer to a very large proportion of this problem in India is (a) afforestation where possible, and (b) proper control of grazing where afforestation is impossible. Proper control of grazing will make afforestation unnecessary over large areas where control alone will allow nature to re-establish forest.

134. I also mentioned in paras. 69 and 70 that desiccation was probably advancing eastwards from the dry areas west of Etawah where the rainfall is always below 30 in. and falls as low as 4 or 5 in. The creation of Minor forests indicated under paras. 123 to 129 above to supply the wants of the general agricultural villager will, to a large extent, automatically solve this problem also if the total possible area is taken up and afforested (please see the cross-hatched areas of Map III). A large portion of this area falls within the boundaries of Indian States and the solution of much of the problem will therefore depend on them, though presumably the central Government will give all the help it can. Below a rainfall of about 15 in. it will be difficult or impossible to start most species of trees without irrigation, though some of the very dry species could be started without irrigation down to a rainfall as low as 10 in. to 15 in. Below that figure trees cannot be started without irrigation in their early years, and the solution of that problem depends therefore on the solution of the irrigation problem.

135. I have repeatedly recommended, and it has been accepted in principle, that an officer or officers should be appointed at the centre to deal with the whole of this question of floods, erosion and desiccation. I repeat that recommendation here. In addition, however, an officer or officers inside each province are also necessary. It has been suggested that this should form a separate Soil Conservation service. I do not agree with that view myself. If the projects suggested in this note are carried out, it will, I believe, be found that a large proportion of the land concerned will automatically be under the management of the Forest Department, and I consider that the erosion control part of it will automatically become to a large extent merely one of the objects of management of this greatly expanded forest area in exactly the same way as it is the first object of management of any area under the Forest Department today. I therefore consider that the whole of this work should be primarily under the Forest Department, though naturally they would consult, and possibly even employ, certain agricultural officers and irrigation officers both of which departments are greatly interested in and concerned with this same problem. In Chapter VII the question of the creation of a Federal Forest Service was discussed and, if such a service were formed, I consider that the whole of this flood, erosion, and desiccation control, in so far as it was controlled at all from the centre, would form an important and definite part of the work of such a Federal Forest Service. In fact, I would go so far as to say that if such a Federal Forest Service were in existence, its men could very well be sent to provinces to review the flood, erosion and desiccation problems and write up a report on the conditions, handing it over

to the provinces for whatever action the provinces deemed fit. This might possibly overcome the difficulty felt by forest officers in some provinces that unless an entirely separate soil conservation department is created the proper examination of erosion, flood and desiccation questions will become merely a side-issue of their own work and will tend to be neglected, just as sometimes the very important branch of forest management, namely working plans, tends to be neglected till there is some special organization to deal with it.

136. The flood and erosion problem hardly exists inside the actual reserved forests under the Forest Department, though often the area of such forests is too small to control the problem sufficiently for the whole province. In the Deccan Ghats the problem is not controlled even in the reserves because they are so scattered and broken. Except in the Central Provinces, Sind and Coorg, there are very serious flood and erosion problems outside the reserved forests under the Forest Department. The allocation of land necessary to control this problem mentioned in para. 116 above will probably show that much of it falls under the ordinary management of the proposed expanded Forest Department. Certain provinces are already taking steps about this. Thus, there is the Soil Conservation circle in the Punjab, an Erosion range proposed in the North-West Frontier Province, an anti-erosion officer is proposed in Orissa, Madras is considering the question of control of private forests, where apparently much of the trouble occurs, and Bengal has made recommendations in the report of the West Bengal Forest Committee of 1939.

Chapter V : Forest Research

137. The proposals have already been made in Chapter V of Part-I and need only be repeated briefly here for completion.

They are:

(i) Separate the Inspector General of Forests from the President, Forest Research Institute. The Inspector General would then work at the headquarters of Government like all other heads of departments. The Inspector General of Forests should also be made more use of by the Political Department for advice on all the forest problems of Indian States. If a Federal Forest Service were created, these officers would also be available for this purpose.

(ii) The appointment of a commission as soon after the war as possible to enquire into the best organization for the Forest Research Institute.

(iii) Either the complete separation of the Utilization branch together with the Chemistry and Minor Forest Products branch as a separate Institute or, in my opinion better, the division of the present Utilization branch into two branches, each with a technical expert at its head, and the centralization of its office and budget with the rest of the Forest Research Institute under the direct administrative control of the President. Suggested grouping of the Utilization branch might be one branch consisting of Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing, and the other consisting of Wood Preservation, Wood Seasoning and Paper Pulp. There must also be in the Institute one officer capable of dealing with structural designs in timber and one to deal with problems connected with sawmills, transport, logging, etc. He might possibly be the head of the branch mentioned above consisting of the Mechanical Engineering, Wood Workshops, Wood Technology and Timber Testing sections.

Chapter VI : Forest education

138. Again, this is merely repetition of what has already been given in Part I, Chapter VI: Forest education. The training of Foresters should remain with the provinces as at present.

139. The training of Rangers should be centralized at Dehra Dun as at present, but the class should be moved from Dehra Dun itself out to the New Forest. There is sufficient accommodation in the main building for lecture rooms, laboratories, etc., but it would necessitate the building of hostels for about 80 students with a further two Class II officers' bungalows and two Class I officers' bungalows. The cost could very easily be covered by the value of

the present site and buildings in Dehra Dun. I would advise not giving up these present buildings for a few years owing to the possibilities of an increased Ranger class being necessary for a few years immediately after the war to train the additional subordinate forest staff which will be necessary if the expanded proposals given in paras. 123-129 above come into force.

140. The training of the gazetted officers class is also satisfactory, but it is proposed that the existing legislation for continental tours for forest officers be extended sufficiently to allow a selected number of gazetted officers, or preferably all gazetted officers, to proceed to Europe some time during the first five years of their service.

Chapter VII : Creation of a Federal Forest Service

141. This is a matter which should be discussed. If created, there would certainly be work for it at the Dehra Dun Forest Research Institute which at present is dependent on the goodwill of the provinces for all its forest-trained research officers, to staff the Andamans and other areas under the central Government, as advisers and seconded officers to Indian States or Agencies, and as the central Soil Conservation Department. I may add that there are precedents for such federal services separate from provinces in Australia, Canada, the United States of America, etc.

Chapter VIII : Minor forest products

142. There is little to recommend here except to stress the importance of research and the development of these very valuable and important products. The expanded staff of the Forest Research Institute will continue to compile the information it possesses and fill in the blanks in its knowledge. For the second type of quick-return minor forest product, special research is needed on methods of growth, cultivation, etc. It is recommended that in addition to the staff at the Forest Research Institute, provinces themselves investigate and record all the industries connected with minor forest products in their own provinces. This should be made a definite problem for their research officer or utilization officer whichever they may happen to possess. I may mention that Burma has sent one of its officers to work at the Forest Research Institute to take up this question as soon as Burma is reconquered.

PLANNING AND DEVELOPMENT DEPARTMENT.

STATEMENT
OF
GOVERNMENT'S INDUSTRIAL POLICY.



PRINTED BY THE SUPERINTENDENT, PRESS OF THE PRIVATE SECY. TO THE VICEROY,
NEW DELHI.
1945.

STATEMENT OF INDUSTRIAL POLICY.

The Government of India have issued the following statement on Industrial Policy:—

The Government of India have reached a stage in their planning of industrial development when they consider it would be in the public interest to make an announcement of the conclusions reached by them on various aspects of policy. There has not been time to consult either provincial Governments which are at present constitutionally responsible for industrial development in Provinces or States between whom and British India a high degree of collaboration will be necessary if the maximum results are to be achieved from a vigorous industrial policy. Some of the proposals will eventually have to be placed before the Legislature for approval. Although, for these and other reasons, the conclusions reached are, to some extent, provisional, the Government of India consider that an announcement of their views may help to clear up the uncertainty which appears at present to be impeding plans of development by private industry.

2. Under the Government of India Act, 1935, the development of industries is a provincial subject, but is open to the Centre to declare by law that the development of certain industries under Central control is expedient in the public interest and thereupon, the development of such industries becomes a Central subject. No such Act has in fact been passed by the Central Legislature with the consequence that the development of industries is at the moment wholly a provincial subject. In view of this, some explanation is necessary as to why the Government of India feel themselves called upon to issue a statement of their industrial policy. The reasons are two-fold. In the first place, the general economic policy pursued by the Government of India under their own constitutional powers exercises a profound influence over industrial development. It is a matter of history, for example, that the cotton textile, the iron and steel and the sugar industries have made rapid strides in India largely as a result of the fiscal policy pursued by the Central Government. In the second place, the progress of planning has made it abundantly clear that certain industries must be taken over under Central control in the interests of co-ordinated development. It was indeed contemplated by Parliament, when the Government of India Act was passed, that industries in which a common policy was desirable would be brought under Central control. Government consider that for achieving the foregoing object the following industries should be centralised, but before coming to a final decision they will consult the Provinces and the leading Indian States:—

- (i) Iron and Steel.
- (ii) Manufacture of Prime Movers.
- (iii) Automobiles and Tractors and Transport vehicles.
- (iv) Aircraft.
- (v) Ship-building and Marine Engineering.
- (vi) Electrical Machinery.
- (vii) Heavy Machinery, such as Textiles, Sugar, Paper, Mining, Cement and Chemical.
- (viii) Machine Tools.
- (ix) Heavy Chemicals and fine chemicals, chemical dyes, Fertilisers and Pharmaceutical Drugs.
- (x) Electro-chemical Industry.
- (xi) Cotton and Woollen Textiles.
- (xii) Cement.
- (xiii) Power Alcohol.

protection to essential war-time industries. Outside the scope of this announcement, however, lie a large number of industries which have helped to sustain the national economy during an exceptionally difficult period. The provision of assistance to or protection of such of these industries as have been established on sound lines is likely to assume a measure of urgency during the period of transition. Government propose to set up machinery without delay for the investigation of the claims of such industries for assistance or protection. This is a short-term measure pending the formulation of long-term tariff policy and the establishment of a permanent machinery for the purpose.

7. (i) A primary point in industrial policy is the extent to which the State will take part in industrial enterprise. In India, ordnance factories, public utilities and railways together forming a considerable proportion of the total industrial enterprise are already very largely State-owned and State-operated. This arrangement will naturally continue. Further, Government have recently decided that the bulk generation of electric power should, as far as possible, be a State concern. This decision falls within the existing pattern of State and private enterprise. Apart from ordnance factories, public utilities and railways, basic industries of national importance may be nationalised provided adequate private capital is not forthcoming and it is regarded as essential, in the national interests, to promote such industries. For the purpose of Government policy, basic industries can be defined as including aircraft, automobiles and tractors, chemicals and dyes, iron and steel, prime movers, transport vehicles, electrical machinery, machine tools, electro-chemical and non-ferrous metal industries. It is contemplated also that Government may take over certain industries in which the tax element is much more predominating than the profit element and it is necessary and convenient for the State to take over the industry. An example of such action in the past is "Salt Manufacture".

All other industries will be left to private enterprise under varying degrees of control. There may be no control except such as is required to ensure fair conditions for labour, in the case of such industries as those catering for ordinary consumers' demands and subject to free competition, while in the case of industries of a semi-monopolistic nature or which control scarce natural resources there may be a stricter control varying with the circumstances of each case.

The views expressed in this paragraph regarding the scope of nationalisation will be discussed with Provinces and also with the more important Indian States and a further statement issued as to whether the scope should be enlarged at all, and if so to what extent.

Within the field considered open for State enterprise, the question whether the existing units which are privately owned should be taken over by the State will be examined on the merits of each type of each case. The Reconstruction Committee of Council has decided in regard to Electricity undertakings that, as licences fall due, they will as far as possible be taken over by the State or quasi-State organisation.

The case of coal will be examined and dealt with separately.

(ii) Certain industries of national importance such as Ship-building and the manufacture of locomotives and boilers will be run by the State as well as by private capitalists.

(iii) Normally State enterprises will be managed by the State. In special cases the possibility of management through private agency for a limited period may have to be explored.

(iv) In some cases, State enterprises may be operated through public corporations. In order to gain experience of management through public corporations, further experiments will be tried.

Government assistance to industry.

8. Government have a primary responsibility, which they propose to discharge without delay as soon as war conditions allow, for developing certain pre-requisites of industrial progress. One of them is the development of transport facilities. This is a matter in which both Central and Provincial Governments as well as the Indian States are vitally interested and steps to ensure a co-ordinated policy have already been initiated and made considerable headway. Another pre-requisite is the development of power. The Government of India have made good progress in ensuring co-ordinated development in this field. In many cases, power schemes—particularly where they are combined with irrigation—are the primary responsibility of Provinces, but where regional projects, which overrun Provincial and State boundaries, are considered necessary, the Government of India are taking action for the development of resources on a regional basis. The survey of mineral resources is another field where the responsibility falls squarely on the Central Government. Steps are being taken to extend the Geological survey and to put it on a footing where it can be of the maximum service to the country. Another pre-requisite of industrial progress is scientific and industrial research; the Government of India have already devoted considerable attention to it and they propose to take all steps which their resources will allow for seeing that it is maintained at a high level. Technical education, particularly through high grade technological institutes, and technical training of personnel required for skilled employment are also matters in which the Government of India have initiated action which will directly assist industrial progress.

9. In addition to discharging their responsibility for thus laying the foundation of industrial progress, the Government of India are prepared to assist industry in one or more of the following ways:—

(i) Government will take part either by making loans or by subscribing a share of the capital, in industrial undertakings which are considered to be of importance to the country's development, but for which adequate private capital may not be forthcoming. Within this category might fall such industries as those manufacturing air-craft, automobiles and tractors, chemicals and dyes, iron and steel, prime movers, transport vehicles, electrical machinery, machine tools, electro-chemical and non-ferrous metal industries. This list will be modified from time to time as circumstances warrant. Industries receiving this type of assistance will be subject to a greater degree of Government control than others. For example, Government might require representation on the Board of management and that their sanction should be obtained for incurring certain types of expenditure and for certain appointments. Government might provide in suitable cases, capital equipment like buildings, services and/or machinery on terms to be settled on the merits of each case. This might in certain cases take the form of bulk Government orders for capital goods which might then be allocated to industrialists on suitable terms.

(ii) In special cases, industrial enterprise will be encouraged by guaranteeing a minimum dividend on capital or undertaking to meet revenue losses, for a fixed number of years, subject to the condition that Government would have a voice in the management and that a ceiling will be fixed for the return on capital. Where this procedure is followed, profits in subsequent years over and above the

ceiling will be appropriated towards returning the funds paid by Government and after this has been done, such excess profits as continue to accrue will be divided by the Government and the Company in agreed proportions.

(iii) Government will be prepared to give adequate financial support to research organisations set up by Industrial Associations representing organised industries and to provide for grants to Universities for approved schemes of research. Such assistance would be in addition to direct Government organisation of research as for instance through the Council of Scientific and Industrial Research.

(iv) Subject to reasonable safeguards as to quality and price, Government will continue to encourage Indian industry by buying its products in preference to others.

(v) The Government of India are examining the question of the promotion of an Industrial Investment Corporation or a similar institution.

(vi) Government will undertake to examine from time to time, the tax system with a view to ensuring that, while securing the ends of social justice and national budgetary interests, the taxation does not tend to act adversely on development.

(vii) Government will assist in the procurement of capital goods required by industrialists. They propose to set up an organisation in the U.K. and in the U.S.A. for this purpose.

(viii) In certain branches of industry, the advice of experts is particularly essential. Government will help in making the services of such experts available to industry.

Licensing of industry.

10. Government have come to the conclusion that they must take power to license industrial undertakings. They have at present no power except for emergency war-time controls, to regulate the growth of industry; normally a person may put up a factory wherever he likes and may manufacture in it whatever commodity he chooses. There are, of course, local laws which regulate the size of the buildings, the proportion of open space, public health needs and so forth and it is possible under these regulations to refuse permission to put up a factory building, but such refusal cannot be based on considerations of industrial development. One effect of this unregulated freedom to promote industrial enterprise has been the concentration of industry in certain areas for instance, the manufacture of cotton textiles has been concentrated in Bombay and Ahmedabad; sugar in the United Provinces and Bihar; paper in Bengal. In some cases, there are good grounds for the concentration of particular industries in particular areas, but in many cases, it has been the result of fortuitous and haphazard growth. There are vast areas in this country which, though suitable for industrial development, have not been developed because industry has tended to flow in particular channels.

M. The effects of such concentration are economic, social as well as strategic. It seems unsound from the strategic point of view that so large a proportion of industry should be concentrated in a few cities which might well be vulnerable to attack. On the social side it is clear that concentration creates housing problems of a most acute type. Perhaps, an even more important consideration is that concentration deprives other areas of the country of the beneficent effects of diversified economy. Lastly, it is not clear that concentration is necessarily

economically sound. The markets for textiles, for instance, are situated all over India, and cotton, the main raw material, is also grown in various parts of India. From the point of view of the consumer, it would obviously be right to cut out unnecessary transportation costs and to locate manufacture where both the raw material and the market are situated. Even where concentration appears relatively cheap on the basis of financial costs of production and distribution, it would, in many cases be found, in the long run, both socially and economically cheaper to disperse industry, if regard is paid to the benefits of a widely spread industrial structure and its integration with agriculture.

12. Control over development would be necessary from another point of view. In an unregulated industrial economy there is likely to be a tendency for capitalists to go in for schemes which promise quick returns. This will lead to lopsided development—a scramble for some industries, with the danger of over-production and excessive competition and inadequate attention to other industries which are equally necessary in the national interest. To overcome this difficulty it would be necessary to fix targets, to allocate them on a regional basis and to see that these targets are achieved.

13. As Government has no authority at present to do this, they will have to take powers by legislation. Government propose that they should take power to license the starting of new factories and the expansion of existing factories, for, without this power, planned industrial development will be quite impossible. At the same time in order to avoid unnecessary delays it is proposed to set a monetary limit to the plants or projects requiring licence so that very small plants, moderate extension of existing plants or replacements which do not add to output should not be subject to licensing. Details of this legislation are under consideration. Even on a preliminary examination, it is manifest that the power proposed to be taken by Government must be used in a manner that will command general public confidence. It is equally clear that the administration of the licensing system must be such as to assure Indian States that their legitimate desire for industrial development is not overlooked. It is accordingly proposed that a Board should be constituted at a high level to advise the Central Government in the matter of granting licences for industries specified in paragraph 2 above. Details of the personnel of the Board, its function, and other connected matters will be decided later.

Other Controls.

14. In a planned economy it is impossible to do without controls. Government consider that such controls should be the very minimum required. They propose that apart from licensing, control should be undertaken to achieve the following objects:—

- (i) To secure balanced investment in Industry, agriculture and the social services. It will be necessary, after the war, to ensure that the available capital resources are utilised on a balanced plan of agricultural, industrial and other development and that inside the field of industrial development, a balance is kept between the manufacture of capital and consumer goods. Agricultural development will be undertaken almost wholly under the auspices of the State. This is because the bulk of the holders of land are poor and cannot themselves finance, at any rate, initially, improvements such as contour bunding and irrigation by lift pumps. In many cases it

will be possible to recover the cost ultimately, but the capital expenditure will have to be advanced by the State. The State will also require to borrow heavy sums either directly for itself or on behalf of local authorities for financing road development, irrigation, electrical power, public health and other social services. On any reasonable estimate, the capital resources required for these purposes will be heavy, and it will be necessary to ensure that the State is in a position to mobilise them from the country's savings. This will make it necessary to maintain control over capital issues; for, otherwise, capital may flow excessively in one direction and lead to lopsided development.

- (ii) To secure for industrial workers a fair wage, decent conditions of work and living and a reasonable security of tenure. It is a fundamental objective of industrial development that it should enable the general standard of living to be raised. It would be a frustration of this objective if industrial workers do not get fair wages and decent working conditions. In the past, these matters were left largely to be settled between the employers and the workers, but it may be necessary for the State to intervene with statutory powers. This question is engaging the earnest attention of Government and the necessary legislation will be undertaken from time to time.
- (iii) To prevent excessive profits to private capital. In the case of private undertakings, subject to free competition, it would be a mistake to discourage enterprise by undue restriction of profits. The risks of such enterprise are considerable and if industrialists are to bear the losses, they must also be permitted to reap the profits. In the normal course the tax system may be expected to prevent any excessive accumulation of profits. Where, however, conditions of free competition do not exist and as a consequence, excessive profits accrue, special steps would be necessary. These can only be considered on the facts of each case as it arises.
- (iv) To ensure the quality of industrial products in the interests of both internal and external markets. It is of the utmost importance to ensure good quality for the internal as well as the external markets. This involves standardisation of products and administrative machinery to enforce standardisation.
- (v) To ensure that unhealthy concentration of assets in the hands of a few persons or of a special community would be avoided. This may be secured by a judicious exercise of controls, such as capital issues control and the licensing machinery for the regionalisation of industry.
- (vi) To require necessary technical training of personnel and to extend the benefit of such training to minorities and backward communities.

15. The Government of India propose without delay to enter into discussions with Provinces and with the Indian States in the light of the policy stated above and are confident that it will be possible to evolve a machinery which will enable an agreed policy to be implemented in practice in a spirit of friendly co-operation on the part of all parties concerned.

Planning and Development Department;
New Delhi, April 21st, 1945.

⁵P&DD-500-26.4.45-PSVPI