

THIRD FIVE-YEAR PLAN BIHAR

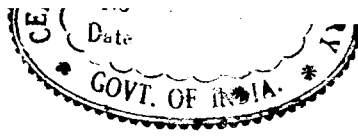
Volume I



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Planned development has been undertaken in our country with the twin aim of building up, by democratic means, a rapidly expanding and technologically progressive economy, and a social order based on justice and offering equal opportunity to every citizen. We have had two Plans so far and the Third Plan, initiated in the current year, represents the first phase in a scheme of long-term development extending over the next fifteen years or so, during which period the country's economy must not only expand rapidly but must, at the same time, become self-reliant and self-generating.

2. The urgency to bring about rapid expansion of the economy is more acute in Bihar because of the greater dependence on a stagnant agricultural base and the consequent prevalence, on a large scale, of conditions of poverty, even by all-India standards. The first two Five-Year Plans of the State have made some impact on the economy ; but have also thrown up the extent of the stagnation and the enormity of the efforts required to assure a good life to every citizen in the State.

3. The Third Plan of the State has, therefore, been drawn up as a programme of action much larger in size compared to the First or the Second. It is yet not large enough to meet the needs of the people of the State and is certainly within their capacity to endeavour. The success of the Plan is essential as it is the first step in the State's effort towards development, forming part of the national objective to make the economy self-generating and self-reliant.

4. The size of the task that we have set for ourselves in this State during the Third Plan period calls for the dedicated co-operation of everyone in the Plan effort. The State Government are confident that this co-operation would be forthcoming, that the tasks set would be understood and performed with enthusiasm and that necessary leadership would be available at all levels, for making the common man understand the task and complete it efficiently.

BINODANAND JHA
Chief Minister, Bihar.

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The Third Five-Year Plan of the State is being published in two volumes. In the first part of this volume are included chapters enumerating the problems of development and the progress in the First and Second Plan periods as also an outline of the Third Plan. In the second part of this volume details of the programmes of development in the various sectors are given. Volume II, being published separately, contains statistical appendices giving, among others, figures regarding financial outlays and the physical targets of the schemes included in the Third Plan.

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CHAPTER I

INTRODUCTION

Efforts towards planned economic development are now more than a decade old. While these efforts were initiated by the awareness of the stagnation in the economy, which was crippling progress, the momentum for further planned action on a larger scale has been provided by the realisation that amelioration of backwardness has to be quick and pronounced, if the country is to move smoothly in a democratic manner towards the goal of economic well-being in a socialistic pattern of society. The awareness of stagnation in the economy and the need for purposeful action in this regard find mention, in fact, in the Directive Principles of State Policy embodied in the Constitution. Planned economic development is thus an article of faith enjoined by the Constitution, and having the sanction of all progressive thought in the country.

2. The machinery for economic development on a planned basis was set up with the constitution of the Planning Commission which is tackling the huge task of framing the Five-Year Plans, keeping in view the social, economic and other objectives. We have had two such plans and the Third Five-Year Plan has been launched from the current financial year. The choice of "five years" as a "plan period" has no sanctity in itself and, in fact, attempts have been repeatedly made to obtain a perspective regarding the growth of the economy over a much longer period and to dovetail the particular Five-Year Plan into the result of the projection thus attempted. The First Five-Year Plan for the country gave a simple projection over the 30 years 1951 to 1981 and it was envisaged that the national income would be doubled by 1970-71 and *per capita* income by 1977-78. When the Second Plan was framed, the better results obtained till then induced a more optimistic projection, envisaging a doubling of the national income by 1967-68 and *per capita* income by 1973-74. The preliminary results of the 1961 census have revealed a much larger population growth than was allowed for in the projection when the Second Plan was drawn up. If the objectives of doubling the national income are still to hold good, it is now felt that the rate of growth of national income during the Third Plan period should be around 6 per cent per annum.

3. Any attempt at projecting long-term economic development and planning to reach certain stages of economic growth involves an intimate understanding of the economy at the time when the projection is attempted and of the maximum possible quantum of investment effort which should be reasonably expected from the various factors that would contribute to economic development. An assessment of both the natural and human resources is essential and, of course, the problem does not involve merely a computation of the extent to which these resources can be exploited as they are, but includes the question of their

development as well. Development of human and natural resources leads to more efficient exploitation at a later period; and it is in this sense that planning is always a dynamic programme.

4. Even while attempting projection of long-term development, the Planning Commission will have before it, not merely the picture of India as a whole, but also the special needs and problems of the various regions. We have a federal constitution and hence certain functions devolve on the States, others either devolve on the Centre alone or concurrently on both the States and the Centre. The Planning Commission, in consultation with the various Ministries in the Government of India and the State Governments, determines not merely the outlay in the public sector during the plan period, but also the distribution of the outlay between the Union on the one hand and the various States on the other. The States, therefore, have to assess firstly the possibilities of development within those sectors that are allotted to them as also to suggest to the Union the developmental activities, falling within its sector, that should be undertaken in the State. This two-fold study of requirements is also essential in order to ensure that regional disparities do not develop in the all-India context.

5. It is well-known that at the time of Independence India had a slender industrial base and a traditional agricultural structure, the pressure on which was continuously increasing on account of the growth in population. Low levels of productivity characterised both industry and agriculture, and the economy as a whole was in a state of stagnation. Bihar was in no way an exception to the general conditions prevailing in the country and in fact stagnation was much greater on account of the higher agrarian content in the State's economy and a larger density of population. The State accounts for about 1/11th of the total population although its area is only 1/20th of the area of the country as a whole. There has been a significantly steep rise in population of Bihar after 1921. In the 30 years up to 1921, the increase in population in the area now in this State was only 9 lakhs, but between 1921 and 1951 the total increase was 110 lakhs. The average rate of growth before 1921 was 0.1 per cent per annum but this increased to 1.26 per cent per annum thereafter. According to the 1951 census, the population was 40.22 millions and this was reduced to 38.78 millions in November, 1956, after reorganisation of States. The preliminary result of 1961 census has revealed a population of 46.5 millions, thus the rate of increase of population has been roughly 2 per cent per annum after 1951. Any planned effort has therefore to take into account this large population and it is even possible that in future the average rate of growth may increase on account of a further fall in the death-rate. Measures like family planning have not yet been adopted widely by the people and hence no significant fall in the birth-rate can be expected for another one or two decades. Measures taken towards improvement of public health have significantly reduced infant mortality and increased the average span of life. All these factors therefore point towards faster rates of growth of population in the future. The

preliminary result of the 1961 census has disclosed an average density of population per square mile of 691 against 384 for the country as a whole. Only two States, namely, Kerala and West Bengal, have a higher density and both of them are smaller in size compared to Bihar.

6. The higher population mentioned above is itself not a deterrent and the population could have enjoyed a higher *per capita* income had there been any significant industrial base in the State. Unfortunately, it is found that the dependence on agriculture is much greater in Bihar than in the country taken as a whole. According to the census of 1951, 86 per cent of the population in Bihar was dependent on agriculture as against 70 per cent for the country. The rural-urban population ratio was also adverse in Bihar, being as high as 93:7 of the population as against 83:17 for the country as a whole. The level of stagnation in the agricultural sector is also disclosed by the report of the Bihar Unemployment Committee, 1954 which found a large percentage of the rural population to be redundant to the requirement of the rural economy. The Committee adopted 1951 as the year of reference, since the latest census figures regarding occupational distribution, then available, were for that year. A comprehensive survey was conducted by the Committee for one year in 238 villages consisting of a population of nearly 2.25 lakhs. On the basis of this survey, the Committee estimated that 110.50 lakhs of self-sufficient workers were engaged in agriculture and that among them as many as 47.33 lakhs were redundant. Even among those gainfully occupied in agriculture the intensity of employment varied from 46.31 to 91.53 per cent of the available man-days. The findings of the Committee confirm what has always been well-known, namely, that there is a high incidence of both under-employment and un-employment in the rural sector in this State.

7. Productivity in the agricultural sector has been low and one of the important reasons is the uneconomic nature of the average holding. The Agricultural Labour Enquiry Committee, 1951, has analysed the pattern of land holdings in Bihar and the result is summarised in the table below ;—

TABLE 1.
Size of holdings in Bihar.

Size.	(In percentage.)	
	Number.	Area.
1. Below 1 acre	31.0	3.6
2. Between 1.1 and 2.5 acres	25.5	10.3
3. Between 2.6 and 5 acres	20.5	17.9
4. Between 5. 1 and 10 acres	14.3	24.2
5. Between 10.1 and 25 acres	7.1	24.9
6. Between 25.1 and 50 acres	1.1	8.6
7. Over 50 acres	0.5	10.5
Total ..	100.0	100.0

Nearly 77 per cent of the holdings in the State are less than 5 acres each and account for nearly 30 per cent of the total cultivated area; on the other hand, the number of holdings over 50 acres constitute only 0.5 per cent of the total area.

8. The collection of agricultural statistical data was not completely reliable till about the end of the First Plan period; the coverage was through approximate eye estimation of yields made by diverse sources, not all of whom were professionally equipped for the task. While precise statistics in terms of yields of the various crops are not being given, yet an attempt is here made to provide figures in respect of acreage under cultivation and the double-cropped area, during the period 1921 to 1951 and these figures may be taken as a broad index of agricultural productivity. The net area cultivated had increased from 21.17 million acres in 1921 to 22.19 million acres in 1951, i.e. a rise of only about 4.8 per cent as against an increase in population of nearly 38 per cent. Extensive cultivation had thus failed to keep pace with the increased population. However, some increase was evident in the double-cropped area indicating the adoption of intensive methods. The total double-cropped area is estimated to have been 56.61 lakh acres in 1921, which increased to 63.685 acres in 1951, a rise of about 12.5 per cent over 30 years.

9. Another important factor that contributed to the low productivity in the agriculture sector was inadequate irrigation. The net area irrigated increased from 41.05 lakh acres in 1921 to 51.74 lakh acres in 1951. But it is necessary to note that out of the net irrigated area so estimated, irrigation facilities were available from Government canals and tube-wells to 10.37 lakh acres only, even till 1951. The remainder were minor irrigation schemes meant to irrigate small areas from the local run-off water in a year of adequate rainfall. The figures mentioned above include the large area under the command of various minor irrigation works, required to be maintained by the Zamindar ex-intermediaries, according to survey and settlement records. These had actually gone into disrepair and were not available for storage or diversion even of the local rain water in years of normal rainfall. In the complete absence of any revenue administration below the district level, which was more or less the picture till 1956, no accurate or complete information about the area really benefiting from the old or new minor irrigation works could be had. Even according to the above figures, which suffer from serious limitations, it will be seen that (on a *per capita* basis) there was a decline in the net area cultivated, the net area irrigated, and also in the double-cropped area during the period 1921 to 1951, from the table below :—

TABLE 2.

	(Figures in cents of an acre.)	
	1921.	1951.
Net area cultivated	73	55
Net area irrigated	14	13
Double-cropped area	19	16

10. The inadequacy of irrigation facilities throws into bold relief the dependence of the agricultural sector on the monsoon. The result has been that agricultural production has always suffered violent fluctuations and depended upon the adequate distribution or otherwise of the rainfall. The main crop in the State is winter paddy and this crop not merely requires rainfall in adequate quantity but also demands that the rainfall should be distributed over the season of the crop. When rainfall is heavy, there is also the onslaught of floods, specially in North Bihar, and this serves as a further deterring influence against improvement in the agricultural sector. Floods and drought have contributed mostly to the stagnation of the agricultural sector and also to distress migration from the State over the years.

11. While there has been some absorption of population in industries allied to agriculture, like sugar, the average rate of increase in population has been much ahead of the absorptive capacity of either agriculture or industry and other occupations. It has been estimated that in Bihar the working population carries on its shoulders a much heavier burden of dependants than is the average for the country as a whole. Economic classification adopted from the Census of India, 1931, enables a comparison to be made regarding the figures of the percentage of working population. From 1931 to 1951 it has been found that the percentage of working population had declined, from 41.54 to 36.00. This decline was particularly noticeable in North Bihar and South Bihar Plains, i.e. the regions which depend primarily on agriculture and not in Chotanagpur Plateau region where mines provide some alternative occupations.

12. It has already been stated that according to the census of 1951, 86 per cent of the population of Bihar were dependent on agriculture. Among the other occupational categories, service and commerce figure more prominently than processing and manufacture, except in Chotanagpur region, where minerals are found. According to the Techno-Economic Survey of Bihar, conducted in 1958 by the National Council of Applied Economic Research, urban labour force is only 5 per cent of the total labour force. Moreover, in the industrial sector, specially in towns of Jamshedpur and Dalmianagar, a considerable proportion of the labour force in the semi-specialised skills consists of migrants from other States. A survey conducted by the National Sample Survey in 1955 revealed a higher incidence of urban unemployment in Bihar than in all other States except West Bengal and Madras. To sum up, in the words of the Techno-Economic Survey, "over the years there has been a general deterioration in the economic conditions of the people, increase in population pressure, increase in dependence on agriculture, decreasing availability of land and its resources, and diminished opportunities for migration."

13. Although a stagnant economy is revealed from the details given above, it should not be presumed that progress is not possible. It was earlier stated that along with an assessment of the current situation, an assessment of various resources and the possibilities of their development should also be made so that planned effort can be taken up

An assessment of the natural and human resources of Bihar leads to the conclusion that a proper development of these resources can sustain even the growing population of the State at a reasonable standard of living. It is no doubt true that the fallow area that can still be brought under cultivation is not very large, but it is possible to bring under irrigation a much larger proportion of the cultivated area and to increase yields further by intensive methods like the use of fertilisers and adoption of other improved agricultural practices. The average rainfall in Bihar is 50" and the water resources of the State are considerable. The larger North Bihar rivers like the Kosi and the Gandak can easily be tamed and made to provide essential irrigation water to large areas. It has been estimated that the quantity of water available from these rivers, and underground, to be tapped through tube-wells, is in excess of the irrigation requirements of North Bihar. In South Bihar and Chotanagpur, it has been estimated that the available water resources can account for 26.99 million acre feet. A Master Plan for irrigation in Bihar has been prepared, so as to include schemes estimated to cost a maximum of Rs. 500 per acre; according to this Plan, 64 lakh acres in North Bihar and about 40 lakh acres in South Bihar and Chotanagpur can be provided assured irrigation.

14. Many of the rivers in Bihar will not merely supply water for irrigation but can also supply electric power, which is an essential component in any industrial scheme. Preliminary surveys indicate that a substantial quantity of hydro-electric power generation is possible from the North Bihar rivers. From the Kosi and Gandak schemes as sanctioned so far it is estimated that power generation would be of the order of 20 M.W. and 55 M.W. respectively. These estimates, however, take into account generation, at the barrage site at the Nepal border and in the canal, but do not take into account generation on a very much bigger scale possible at storage dams higher up. The South Bihar river systems also remain to be exploited for hydro-electric power with the exception of the Damodar, which has been partially exploited. The South Koel and Sankh rivers have potentialities for generation of nearly 700 M.W. power between them. The Sone and the Subarnrekha river systems can be harnessed to generate power to the extent of 24 M.W. and 76 M.W. respectively. A number of smaller hydel stations can also be set up and can contribute about 10 to 15 M.W. The picture regarding possible hydro-electric power generation is therefore quite optimistic. It may also be stated in this connection that on account of the vast supply of coal available, thermal power stations can be set up to satisfy the demands of power in the State for a long time to come. Hydel generation is, however, necessary for integrated and economical exploitation of the water resources of the river valleys and for the conservation of the coal resources of the country.

15. The utilisation of power will depend on the possibilities of strengthening the industrial base of the State. The most important industries in Bihar are at present based on mineral resources. Bihar is the most important mineral-bearing State in India and has the largest

concentration of a variety of minerals. In 1951, mineral production in Bihar was 43.3 per cent of all the minerals raised in India, by weight, and 30.6 per cent by value. Very large reserves of Mica, Bauxite, China-clay and Iron-ore are also found. Recently, deposits of Pyrites have been located in Shahabad district. Atomic minerals like Uranium and Thorium are also found in Bihar. It is, however, unfortunate that even in spite of these minerals, an adequate industrial base has not yet been built up. Industries based on extractive raw materials have greater scope for expansion on a large scale than industries based on agricultural raw materials. Industries based on agriculture like Sugar, Paper and Pulp, Tobacco cannot expand to the level that would absorb the surplus agricultural population. It is significant to note that the mineral deposits are all concentrated in Chotanagpur and hence it would be the Plateau region that would benefit by industrialisation schemes of the type suggested. It is essential to take into account regional differences so that all regions develop on lines peculiarly suited to their circumstances. Large-scale industries, medium-sized industries, small-scale industries and village industries have to be developed in different degrees in the different regions, so that, on the whole, every region achieves a balanced kind of agro-industrial development, and the different regions also get integrated with one another in an economic sense.

16. An attempt has been made above to give a picture of the economy of Bihar prior to 1951 and particular emphasis has been laid on the agricultural and industrial sectors. Planning commenced in the financial year 1950-51 to put this economy in order, and some impact has been made on these various sectors as a result of the first and the second plans of the State. In the pages that follow a broad picture of the achievements during the first decade of planned development in Bihar has been attempted. It is important to mention here that social conditions can never be isolated from the economic and hence many of the measures which were adopted as part of the plans had as their aim the improvement of these social conditions. Provision of educational facilities or dispensaries and hospitals cannot be considered merely welfare measures; these add to the overheads of the nation, in the shape of human resources, and also provide the necessary psychological incentive for the plan effort, which is required to usher in economic conditions that will bring such social facilities within the reach of every one. Willingness to save, to pay higher taxes, and to undergo other sacrifices for the plan cannot come, especially under a democratic set up, without the launching of such measures at an early stage of the plan effort. It is from this view that plans to improve the conditions of scheduled castes and scheduled tribes and other backward classes should be considered. The brief review of progress in the various sectors of development in the past decade is followed by an attempt to give an outline of the approach towards the Third Plan and the targets that form part of it. The chapters thereafter give details regarding each sector, the progress during the decade and the work to be done in the sector during the Third Plan period.

CHAPTER II

THE TWO PLANS IN BIHAR

PRIORITIES IN THE TWO PLANS

From the analysis in the previous chapter it would be clear that the agricultural population of Bihar can be maintained at a reasonable standard of living only by increasing agricultural production per acre of land. Further growth in the economy and improvement in the living standards of population can be achieved by increasing the base of industrialisation by fuller exploitation of the resources with which nature has gifted Bihar. Industrialisation in its turn requires the provision of such services like power, transport and communications; and in fact the effort required from the people towards the improvement of their own living standards will itself demand on a large scale the provision of social services like education and health measures. It is thus clear that the programme of development has necessarily to be a co-ordinated effort embracing all sectors of activity, both economic and social.

2. In spite of several handicaps attempts have been made in the First and Second Five-Year Plans to have a co-ordinated programme of development on all fronts. The First Plan was largely a carry-over from the Post-War Reconstruction Schemes, and in the time that was available to frame the plan, no concerted attempt was possible to reassess priorities. The First Plan did, however, contain an emphasis on agricultural production and this emphasis was further continued in the Second Five-Year Plan. The production of more foodgrains deserved priority with a view to achieve self-sufficiency, but the agricultural production schemes also included increase of production of industrial raw materials. The development of village and small-scale industries was also taken up extensively during the Second Plan period as a measure to shift the large dependent agricultural population to other occupations. At the same time the development of social services, particularly primary education, and the welfare of Scheduled Castes and Scheduled Tribes and other Backward Classes, was given attention. During the First and Second Plan periods, programmes for irrigation and flood control, power generation and distribution, epidemic control, technical education and craftsmen's training were all included so as to improve agricultural and industrial production and to create the necessary social overheads for further development in the future.

COMPARISON OF FINANCIAL OUTLAY.

3. The following table indicates the financial outlay during the First and Second Plan periods in respect of major heads of development :—

TABLE I.

Outlay in the two Plans.

[RUPEES IN CRORES.]

Head of Development.	First Five-Year Plan (1951—56) Actual outlay.	Per- centage.	Second Five-Year Plan (1956—61) Anticipated outlay.	Per- centage.
1	2	3	4	5
1. Agriculture and Community Develop- ment.	16.04	21.9	54.87	31.0
2. Irrigation	12.94	17.7	25.82	14.6
3. Power	9.46	12.9	31.24	17.7
4. Industry	1.04	1.4	9.08	5.1
5. Transport and Communications	10.78	14.7	13.64	7.7
6. Social Services	21.19	28.9	41.48	23.5
7. Miscellaneous	1.82	2.5	0.74	0.4
TOTAL	73.27	100.0	176.87	100.0

It will be seen from the table given above that the first priority was given in the First Plan to the social services sector, followed by agriculture, irrigation and transport and communications. Within the social services sector, the main effort was to raise the low level of literacy by providing facilities for primary education and also to adopt measures for the welfare of the backward sections of the community who constitute nearly 37 per cent of the total population of the State. It will be seen that in the Second Plan this order of priorities was only slightly changed. Agriculture was given the first place followed by social services, power, irrigation and transport and communications. It was also realised that a successful agricultural effort depended to a large extent on the growth of an extension movement and popular participation supported at the base by an integrated irrigation programme.

4. While the total outlay in the First Five-Year Plan was Rs. 73.27 crores as will be seen from the foregoing table, the original provision was only Rs. 57.3 crores, subsequently increased to Rs. 67.79 crores. Thus, in terms of plan investment, the performance was Rs. 5.48 crores in excess of the target. During the First Plan period, the establishment of extension agencies like the Community Development and National Extension Service Programme was executed outside the State Plan; the programme of the Damodar Valley Corporation, for which the State contributes a share, was also kept outside the State Plan outlay. During

the Second Plan period, however, the establishment of C. D. and N.E.S. Blocks was included as part of the State outlay. In regard to the Damodar Valley Corporation programme, a clear decision to include the State's entire share of expenditure within the State Plan outlay was taken only towards the end of the Second Plan period. Further, an important addition to the State Second Plan outlay was in respect of the railway electrification scheme on the Eastern and South-Eastern Railways.

5. Since the major sectors of development did not change significantly in the two plan periods, a comparison can be made between the two financial outlays. As against an outlay of Rs.73.27 crores in the First Plan period, the Second Plan outlay was fixed at Rs. 190.22 crores after making the necessary efficiency cut of five per cent, suggested for all the States and, after taking into account the transfer of territories consequent on the reorganisation of States in November, 1956. During the Second Plan period, the peculiar difficulties of growth experienced by the economy [and the balance of payments position led to the reduction of the National Plan outlay from Rs. 4,800 crores to Rs. 4,500 crores. Our outlay was also reduced to the lower figure of Rs. 175.62 crores, which was the total of the yearly allotments for the five years, fixed annually in consultation with the Planning Commission. As against the total allotments of Rs. 175.62 crores the expenditure is estimated to have been Rs. 176.87 crores.

CAPITAL-REVENUE RATIO.

6. The classification of expenditure into capital and revenue heads, which was in vogue in the State in the First Plan period, was changed slightly in 1956-57 on the suggestion of the Finance Commission. The following table gives the break-up of the total outlay of the First and Second Plans into its revenue and capital components, based on the original revenue-capital classification adopted in the State as well as the revised classification suggested by the Finance Commission.

TABLE 2.

Classification of Plan Expenditure.

[RUPEES IN CRORES.]

		Revenue expenditure.	Capital expenditure.	Total.
1		2	3	4
1. First Plan	..	(a)52.5 (b)38.0	20.8 35.3	73.3 73.3
2. Second Plan	..	98.0	77.0	175.0
TOTAL	..	(a)150.5 (b)136.0	97.8 112.3	248.3 248.3

(a) According to the classification in vogue till 1956-57.

(b) According to the revision suggested by the Finance Commission.

7. In the First Plan period revenue and capital expenditure were in the ratio of 72 to 28, on the basis of the old classification of capital and revenue expenditure; on the basis of the new classification suggested by the Finance Commission in 1956-57, the ratio was 52 to 48. In the Second Plan, revenue expenditure accounts for 56 per cent of the total outlay and capital expenditure for 44 per cent. The larger proportion of revenue expenditure has to be attributed partly to the very low levels of development in the State, but mainly to the large new administrative staff created in the last ten years. All the Development Departments of Government had to start from scratch in building up a nucleus organisation extending not only to district and subdivisional levels but to the newly constituted block and village levels. Practically the entire field staff of the Agriculture, Animal Husbandry, Industries and Co-operation Departments were organised during this period as extension agencies. Field staff had also to be provided for the mass scale organisation of non-official agencies in the villages such as Gram Panchayats. A vast staff structure had to be put up in a short time, and this is also reflected by the sharp increase in recruitment to cadres in the last two plan periods. The large and far-flung field staff, who are already in position, are intended to match the growing tempo of development expected during the Third and the Fourth Plan periods. Once this group of initial trained professional man-power is available, the proportion of revenue expenditure during the Third and the Fourth Plans should necessarily decrease in relation to the respective capital outlays. In the Third Plan period the overall break-up of the outlay of Rs. 337.04 crores would be Rs. 107.54 crores as revenue expenditure and Rs. 229.50 crores as capital expenditure, giving a ratio of 32 to 68.

COMMUNITY DEVELOPMENT PROGRAMME.

8. The figures given above regarding financial outlays are no doubt important since they show the magnitude of investment in the public sector as part of the State Plan. But far more important are the achievements in the various fields of development during the last decade. In the context of the predominantly rural character of the economy, the most significant achievement of the two Five-Year Plans is the setting up of an extension agency to cover ultimately all the villages in the State, and to uplift the economy largely through community effort. The credit for the establishment of such an extension agency goes to the Community Development Programme which was initiated in the First Five-Year Plan period. Integrated rural development was first initiated in four Community Project areas and one Community Development Block and the success of these pilot efforts led to the adoption of a modified programme as the basic administrative pattern for rural development. At the beginning of the Second Plan, the Community Development Blocks were under two different categories, namely, Community Projects and National Extension Service Blocks. The National Extension Service Block was first started and after a period which extended from one to two years, the National Extension

Service Block was converted into a Community Project Block with a much larger budget allotment. In 1957, a review of the functioning of the Community Development Programme was taken up by the study team set up by the Committee on Plan Projects under the Chairmanship of Shri Balwant Rai Mehta. On the basis of the recommendations of this Committee, the programme was revised from April, 1958, and while all the blocks were named as Community Development Blocks, each is now to have an intensive period of development being its first stage, for five years; and thereafter, continue for another period of five years in its post-intensive stage. A Community Development Block Stage I, i.e., during the intensive stage of development, has a financial provision of Rs. 12 lakhs for five years, and thereafter in Stage II a provision of Rs. 5 lakhs for five years. It has also been decided that because of the renewed emphasis on agricultural production, there would be one year of pre-extension activity, exclusively in the field of agriculture, in each Community Development Block.

9. During the First Five-Year Plan, 102 Blocks covering 14,366 villages with a population of 7.15 millions were opened. However, on account of the reorganisation of States and the transfer of territories to West Bengal, the number of blocks in Bihar came down to 98. Although the original phasing for the opening of blocks had been such as to cover the entire State during the Second Five-Year Plan, on account of the change in the pattern adopted on the basis of the recommendations of the Balwant Rai Mehta Committee, the phasing of blocks was staggered so as to cover the State by October, 1963. During the Second Plan 258 blocks of all categories have been opened and with the opening of 219 more in the Third Five-Year Plan, the entire State would be covered except the five cities of Patna, Gaya, Bhagalpur, Ranchi and Jamshedpur. The total number of blocks will then be 575 and care has been taken while demarcating the area of each block to take into account all factors like area, population and the number of villages.

10. From the point of view of economic development, Community Development Blocks offer opportunities of integrated rural development on all fronts. The main schemes for which provision exists in the block budget itself are the following :—

- (i) Improvement of agriculture, including provision of minor irrigation, soil conservation, improvement of village forests animal husbandry and dairying;
- (ii) Development of co-operation ;
- (iii) Village industries;
- (iv) Elementary education, especially provision of school buildings for local communities ; and
- (v) Rural water-supply and the programme of minimum rural amenities, including construction of approach roads, linking each village to the nearest road or rail-head.

Apart from the provision in the block budget itself for these various sectors, the Development Departments in the State like Agriculture Co-operation, Industries, Education, Health, Welfare, etc., all make use of the block agency for putting through the development schemes for which funds can be provided from their departmental budgets. It will be seen in this manner that the block has, therefore, become the normal agency for administration at that level, specially of development schemes, during the last decade.

11. Since ours is a democratic country, participation of the people in any programme of development is absolutely essential and the Community Development Blocks have provided the medium through which such participation can be effectively expressed. In most of the schemes, included as part of the Community Development Programme, people of the locality contribute the share prescribed either in cash or in the shape of labour. Moreover, Committees of Mukhiyas of the statutory Gram Panchayats, legislators and other non-officials, selected in the prescribed manner, have been constituted at the block level in order to frame programmes, to scrutinise achievements and to take steps for effective implementation of all development schemes that are on hand. At first, these Block Committees were only advisory bodies but from 1958 these Committees, which began to be called Block Development Committees, take all decisions regarding the schemes to be taken up in the block area, and also review the implementation of these schemes.

GROWTH OF PANCHAYATS.

12. The Balwant Rai Mehta Committee has also stressed the need for democratic decentralisation, popularly known as Panchayati Raj. Action on the basis of the recommendations of the Committee, which have broadly been accepted, is proposed to be taken and a Bill is at present before the legislature to define the constitution and functions of Block Panchayat Samitis and Zila Parishads. But the essential step towards this, namely, the constitution of Gram Panchayats, which are democratic bodies nearest to the people, was taken up in Bihar even before the First Five-Year Plan; and during the last decade almost the entire State has been covered by Panchayats notified under the Bihar Panchayat Raj Act. 1,424 Panchayats were functioning in the State before the commencement of the First Five-Year Plan and during the plan period another 6,512 were constituted. On the reorganisations of States, Bihar was left with only 7,392 Panchayats; 3,133 more were formed during the Second Plan. Only 236 more remain to be constituted during the Third Plan period, and the State, when entirely covered, will have 10,761 Panchayats.

13. Panchayats in Bihar have been given both executive and judicial functions, and it is the former that are important from the point of view of economic development with people's participation. The Panchayats have been empowered to levy a labour tax, and in this

manner execute small schemes within the Panchayat area with the help of local labour. The Panchayat has been made the agency for the execution of the various schemes of Government, both development and relief, the local Panchayat getting the first preference amongst agencies considered for the implementation of the schemes. With the amendment of the Act in 1959, the construction of field channels has become the responsibility of Panchayats; even before the amendment, the maintenance of works of irrigation, public drainage and water-supply had been a duty imposed on the Panchayats. Gram Panchayats have also been entrusted with rent collection and have been associated with the raising of the village volunteer force for self-defence and assistance to law and order authorities.

14. Continuous effort has been made to make the Panchayats function as successful democratic institutions. The necessary training in leadership for the non-official functionaries is being given by seminars, discussions and training courses organised for Mukhiyas and Sarpanches, among others. Panchayat Secretaries paid by Government have been posted to assist the Panchayats in the maintenance of proper accounts and the prescribed records. The success with which many of the Panchayats are functioning confirms the view that these institutions can be expected to play their proper role in the scheme of democratic decentralisation that is being drawn up.

CO-OPERATIVE MOVEMENT.

15. A discussion regarding community efforts towards development inevitably takes one to the growth of the co-operative movement in Bihar in the last decade. The traditional function of the few societies that were active, prior to the commencement of plan effort had been to supply credit, often on an inadequate scale; and during the First and Second Plans, efforts have been made both to increase the number of societies and to diversify their functions so as to include the supply of seed, manures and fertilisers to farmers, the supply of raw material to village artisans, the marketing of agricultural produce, village industries products, etc.

16. 12,268 Multi-purpose Co-operative Societies were established in the First Plan and in the Second Plan, 255 large-sized Co-operative Societies with a membership of 38,467 were established against a target of 500 such societies. The shortfall is due to the revised policy decided in 1959-60 discontinuing the establishment of large-sized societies. During the Second Plan period, 10,555 small-sized societies are expected to have been formed with membership of 4,59,977. The Bihar State Co-operative Bank has been functioning as the apex bank for the distribution of credit to the District and Subdivisional Central Banks. The District and Subdivisional Branches have been strengthened by the schemes to provide managerial assistance through trained personnel of the Co-operative Department. In Bihar, the problem has really been the

qualitative improvement of a very large number of primary societies already set up, which have, for various reasons, fallen into a bad shape. The Co-operative movement is yet to gather momentum and requisite non-official leadership has not been built up. An attempt has been made to persuade the uneconomic units to amalgamate into viable economic units, serving a large area and population. The Bihar Co-operative Marketing Union has been entrusted with the supply of fertilisers, which is done either through the department or retail sale centres established by the Union, or through the primary Co-operative Societies, which are assisted by loan accommodation by the District Central Banks for this purpose. The total quantity of all fertilisers distributed by the Co-operative Marketing Union has increased from 40,303 tons in 1956-57 to 50,453 tons in 1959-60 in spite of difficulties in getting supply. Among the miscellaneous co-operative societies, the most successful have been the cane marketing unions, which undertake the supply of cane to the sugar factories. The total number of such societies in Bihar by the end of the Second Plan was 9,579 with a membership of 4.53 lakhs and share capital of Rs. 25.47 lakhs. Between themselves, these societies supply cane of the order of 502.76 lakh maunds. Experimental co-operative farming societies have been started in several places towards the end of the Second Plan period.

17. As the Planning Commission had emphasised in the Second Five-Year Plan, co-operation is something more than a series of activities organised on co-operative lines; basically, its purpose is to evolve a system of co-operative community organisation, which touches upon all aspects of life. In its Resolution in November, 1958, the National Development Council had emphasised that the responsibility and initiative for social and economic development at the village level should be placed fully on the village co-operative and the village Panchayat. With the qualitative improvement, especially of primary societies, the co-operative movement in Bihar can be expected to play the role assigned to it.

ACHIEVEMENTS IN VARIOUS SECTORS.

Agriculture.

18. The development efforts of the public, either as part of the community development programme or through such bodies like Gram Panchayats and co-operative societies have, of course, been supplemented by the activities of the official agencies of the various departments. Official agencies have provided necessary guidance, supervision or financial assistance to the community. These agencies have also themselves executed schemes which could not be taken up, on account of the scale of operation, by the community. There has been a distinct impact on the economy of the State as a result of these efforts. While an attempt is being made in this chapter to give a broad picture of this impact, details regarding the particular sectors will be found in the chapters included in Part II of this volume.

19. In any discussion regarding the impact on the economy, agriculture naturally takes pride of place. During the First Plan period, the target was to achieve an additional production potential of foodgrains of 7.22 lakh tons; and this target was actually achieved. However, the actual production in the various years showed wide fluctuations, thus emphasizing the dependance on the monsoon. In 1955-56 the production in Bihar was 55.33 lakh tons, whereas in 1951-52 it was only 42.31 lakh tons. The average of the production during the five years of the First Plan was taken as the base for the Second Plan. This worked out to 52.08 lakh tons for old Bihar and 49.03 lakh tons for Bihar after reorganization of States. In the Second Plan it was first estimated that additional production potential to the extent of 15 lakh tons would be created as a result of the various measures undertaken. But, unfortunately, due to the delay in the setting up of seed multiplication farms the absence of an effective agency for the exchange of improved seeds and, of course, the short supply of chemical fertilizers, the anticipated achievement is only likely to be 11.75 lakh tons. The average production during the five years of the Second Plan will be about 59 lakh tons. It will thus be seen that the average production in the second quinquennium is distinctly higher than that in the first.

20. Since reliance has to be placed almost solely on intensive methods to improve agricultural production, the plan programmes included the popularisation and distribution of manures and fertilizers, distribution of improved seeds and education in the adoption of improved cultural practices, in addition, of course, to the provision of irrigation to the farmers' fields. The consumption of manures and fertilizers is on the increase and in fact the production potential originally estimated for the Second Plan could not be achieved partly on account of the shortage of chemical fertilizers. The following table gives an idea of the increase in the consumption of chemical fertilizers :—

TABLE 3.

Chemical Fertilizers distributed during the First and Second Plans.

(In tons)

	Ammonium sulphate.	Super-phosphate.	Urea.
(a) First Plan period	92,000	22,000	..
(b) 1956-57	32,814	7,489	..
(c) 1957-58	28,142	8,682	..
(d) 1958-59	34,446	8,024	522
(e) 1959-60	40,812	9,141	500
Total—For four years of Second Plan.	1,36,214	33,336	1,022

21. In the First Plan 6,649 maunds of improved potato seeds were alone distributed and it was in the Second Plan that a programme was organised to establish a seed Multiplication farm in each block. While 574 such farms were to be established, 533 were actually set up during the Second Plan period. multiplication and exchange of improved seeds have required considerable extension effort and progress has been slow also due to unfavourable weather conditions during two years of the plan. A fully satisfactory procedure for the exchange of improved seed at each stage is still in the process of being developed. The co-operative movement has not been able to play its role in this regard both in the storage and exchange of seed and in providing credit to needy cultivators for the purchase of improved seed. It is estimated that even by 1960-61, out of a total cultivated area of 20 million acres, only 3 million acres would have received the benefit of improved seed. Considerable extension effort, mainly through the effective technique of demonstrations, is also being made regarding the use of improved agricultural implements and the adoption of better techniques of cultivation.

Minor Irrigation.

22. It is only when water is assured to the field that either manures or fertilizers or improved seeds or techniques can yield the additional production anticipated. The dependence of the crops on the rains has repeatedly been emphasized and it is because of this dependence that wide fluctuations in production between different years are noticed. In the irrigation sector, minor irrigation schemes have been given great importance both on account of the low cost of execution and the possibility of deriving immediate benefit from the potential created. During the First Five-Year Plan a sum of Rs. 7.35 crores was spent on schemes of minor irrigation by the Agriculture and Revenue Departments, benefiting an area of 16.4 lakh acres. In the Second Plan minor irrigation schemes were executed not merely by the Agriculture and Revenue Departments, but also by the Community Development Department as part of the Block programme ; further, the State Tube-wells Scheme was executed by the Irrigation Department. It is estimated that the area that was benefited during the Second Plan is roughly 26.26 lakh acres. For integrated action as regards both the investigation and execution of minor irrigation schemes, except tube-wells, a unified minor irrigation agency has been set up in the last year of the Second Plan.

23. During the last ten years, a great impetus has been given to the installation of tube-wells for irrigation, which are administered by the State Irrigation Department. The tube-wells provide assured irrigation to their command area unlike other minor irrigation works built around diversion weirs or served by inundation canals. Nine hundred and forty-six tube-wells have been constructed by the State Government, 496 in South Bihar and 450 in North Bihar, under various separate programmes. Out of these, 175 were in existence prior to the First Plan, and 771 were constructed during the First Plan period, partly under financial

assistance from the Central Government under G. M. F. and partly under the T.C.M. Aid programme. On an average these tube-wells provide assured irrigation to 250 acres each, though the actual irrigation has exceeded in several cases the minimum assured command. The irrigation achieved from these tube-wells has so far been of the order of 2.00 lakh acres. Difficulties in the management and economic maintenance of these tube-wells have been tackled from time to time by the State Government who have got the problems comprehensively analysed by two committees established for the purpose. The reduction by half in the water-rate applicable to these tube-wells has evoked a good response from the agriculturists, and in due course the question of stepping up the water-rate should be considered after a stable demand has been created.

Major and Medium Irrigation.

24. In addition to the efforts undertaken as part of the minor irrigation programme, the expenditure on major and medium irrigation during the First Plan was of the order of Rs. 12.94 crores. Provision was originally made in the Second Plan for Rs. 32.58 crores, which was later reduced to Rs. 25.04 crores. During the First Plan none of the major river valley projects, like Kosi, Gandak or Sone, was taken up as part of the Plan. The important schemes taken up were the Triveni Canal system, the Batane reservoir scheme, the upper Morhar and lower Kiul irrigation schemes. Irrigation potential up to 5.13 lakh acres was reached in the First Plan period, out of which utilisation was of the order of 3.16 lakh acres.

25. In the Second Plan period, out of the original provision of Rs. 32.58 crores, the Kosi scheme was allotted Rs. 16 crores and the Sone remodelling and Gandak projects Rs. 5 crores. The remaining Rs. 11 crores were to be spent in a number of storage reservoir schemes the most important being the Hanuman Pahar Dam across the river Badua. A sum of Rs. 1.80 crores was provided for this scheme whose ultimate cost would be Rs. 3.39 crores. It is expected that 15,000 acres would be irrigated by this project in the Second and 78,920 acres in the Third Plan periods. The Kosi scheme was included as part of the Second Plan and the barrage is under construction. Ultimately, the scheme is expected to provide irrigation in a large area of North Bihar to the extent of 2.6 million acres including the area commanded by Kosi Extension Scheme. The Sone remodelling scheme was taken up in 1957-58 at a total cost of Rs. 2.37 crores; the benefit that would accrue from the remodelling of the canal system of the old Sone anicut would be stepped up by the construction of a new barrage five miles upstream across the river Sone, with two high level canals connecting the existing irrigation system. The project, which would cost Rs. 20.69 crores, has been investigated fully and approval for the barrage alone has already been obtained from the Planning Commission. Work of a preliminary nature was also taken up in 1958-59 on the Gandak Project.

26. The potential created during the Second Plan period by major irrigation schemes was of the order of 6.07 lakh acres, the actual utilisation being 6.07 lakh acres, inclusive of 1.97 lakh acres coming on unutilised from the First Plan period. To the area under assured irrigation in Bihar at the start of the Five-Year Plan, namely 9.97 lakh acres, the two plans have added a total of 10.69 lakh acres. As against 19.19 million acres of cultivated area for the re-organised state of Bihar, the provision of assured irrigation extends at present to only roughly 21 lakh acres, namely, 11 per cent of the total cultivated area. It must also be pointed out that the major portion of the work done during the two plans in irrigation relates to the construction of diversion weirs. Apart from the big snow-fed rivers of North Bihar, on which substantial work is yet to be done, the diversion weir arrangements related mostly to small seasonal rivers of South Bihar and Chotanagpur. In an area of poor rainfall, when irrigation has to be a major assurance, the failure of the rains in any year limits the usefulness of these irrigation arrangements by diversion. Effective addition to assured irrigated area can only be available by storage in South Bihar including Chotanagpur except on large perennial rivers, whether snow-fed or not, such as the Kosi, the Gandak and the Sone, on which even diversion works can meet the needs of irrigation.

Flood Control.

27. Impressive work in the control of floods has been the achievement during the past decade, more so because this programme has been executed with a great measure of popular support, in which non-official agencies, like Bharat Sevak Samaj and local Gram Panchayats, have taken a hand in the construction of the embankments. Practically all the major rivers in North Bihar have been controlled. As against 350 miles of embankments constructed during the First Five-Year Plan, which itself compares with 285 miles of embankments in existence in 1951, the mileage of embankments constructed in the Second Plan rose up to 1,700 miles, including the Kosi embankments. The total outlay on the Flood Control Programme in the First Plan was Rs. 5.60 crores and in the Second Plan, estimated to be Rs. 17.69 crores. The Flood Control Programme in the First Plan added 5.75 lakh acres, and the Second Plan is expected to add another 25.50 lakh acres to the area protected from floods; adding this figure to the original area of 24.87 lakh acres already protected from floods by 1951, it will be seen that in North Bihar where the bulk of the Flood Control Programme has been executed, a total area of 56.12 lakh acres has been protected from floods. The most remarkable element in this programme was, however, the tremendous enthusiasm of the non-official agencies in organising this work, which was split up into several parts and given to the non-official agencies in preference to the other recognised contractors.

Review of Agricultural Economy.

28: It is clear that a greater production potential has been built up in the first two plans. At the end of the decade, assured irrigation was

available to 11 per cent of the total cultivated area, which is more than twice the area before the start of the First Plan. Through the Community Development Programme, people have been made conscious of the practice of intensive agriculture, with better seeds, manure and fertilizers, with improved implements and better farming techniques. Co-operative societies were functioning over a large area and although they tried to discharge such functions as provision of agricultural credit, supply of improved seeds, manure and fertilizers and the marketing of produce, it was apparent that they had to be strengthened considerably to meet the needs continuously pouring in from an awakening rural population.

Industries.

29. As regards the industrial sector, the programme in the State had necessarily to be modest, because the vast resources that the State possesses could be tapped only through investment of a very high order which could be provided by the Central Industrial plans alone. Only towards the end of the First Plan it was possible to get a clear idea of the scope of the industrial planning possible in the State Sector. As part of the Central Plan, the fertiliser factory at Sindri was established during the First Plan period. In the Second Plan period the Central Plan envisaged preliminary work in regard to Hatia Heavy Machinery Plant, the Foundry Forge and the Barauni Oil Refinery. A modest attempt has been made in the State Second Plan to start a Superphosphate Factory at Sindri which has been producing 5,000 tons superphosphate from 1958, against an installed capacity of 15,000 tons per annum. In addition a start was made with the installation of a High Tension Insulator Factory, which, because of import difficulties, could not be started earlier. Schemes for a spun-silk factory at Bhagalpur, a co-operative spinning mill and a co-operative sugar factory were also included in the plan and preliminary steps for the establishment of these units were taken. In the private sector, although production of iron and steel, sugar, vehicles, electrical equipment, chemicals, paper and textiles, has been expanded, no large new plant was established except the Explosives Factory at Gomia.

30. The Second Plan emphasised the scope for considerable expansion of the small-scale and village industries, partly to relieve the large under-employment in the rural sector and partly to create a technological bias which was expected to grow fast because of the advantage of the location of the large-scale industries in Bihar. For this purpose, four industrial estates have so far been set up at Patna, Ranchi, Darbhanga and Biharsharif. Pilot projects were started in three areas for giving encouragement to the industrial potential of the areas concerned. Production-cum-training centres in the C. D. Blocks were set up for a large variety of small-scale industries, like lock-making, carpentry, tailoring, etc. As part of the various loan assistance schemes under the State Aid to Industries Act, a sum of Rs. 1.19 crore has

been advanced during the Second Plan till 1959-60 to small-scale industrialists. An industrial survey has been made in Monghyr and Ranchi districts and is in progress in Shahabad district, for the purpose of ascertaining the particular demands and potentials of the different areas. In the case of Monghyr, for instance, efforts have been made to find out whether the well-established traditional small industries like gun-making could be broad-based to include the production of other goods. It may also be mentioned here that at the instance of the State Government, the National Institute of Applied Economic Research has conducted a Techno-Economic Survey of the State and has recommended studies regarding the setting up of a number of industries for which raw materials are available. A scheme for the establishment of rural industrial estates has been taken up necessary exploratory surveys are also being made. Towards the end of the Second Plan period, the scheme for the setting up of Industrial areas was taken up, under which necessary overheads of industrial development would be provided over specified areas, inviting entrepreneurs to take up production of small-scale industrial products. Organisation of co-operatives for the marketing of goods produced through 467 production-cum-training centres and tuition classes has also been taken in hand.

Power.

31. In the location of industries, the availability of power and water and facilities for transport and communications play an important part. In fact the consumption of power has often been taken as one of the important indicators of industrial development. Prior to the First Five-Year Plan, the installed capacity of the Government owned units was only 5.6 MW; while that of the privately owned electric supply undertakings was 39.3 MW. The industries in Bihar had generally their own generating sets. The Tatas owned a station generating 120.5 MW and the Rohtas Industries a station with a capacity of 12 MW. The total installed capacity of the self-generating industries was 168.8 MW.

32. During the First Five-Year Plan the efforts of the State Government were mainly concentrated on the distribution of power obtained in bulk from the generating undertakings. This distribution enabled coal and mica mines to be electrified, tube-wells to be operated and to complete a modest rural electrification scheme. The installed capacity of the State Government units at the end of the First Five-Year Plan was only 7 MW. But power generation in the State was boosted up by the Damodar Valley Corporation which completed the installation of 4 MW at the Tilaiya Hydro-Electric Power Station and 150 MW at the Bokaro Thermal Power Station, which was linked with Maithon and the Grid Sub-station at Jamshedpur. Among industrial generators, the Sindri Fertilizers set up a Steam Power Station with an installed capacity of 80 MW and the Rohtas industries increased their capacity by 10 MW. The total outlay by the State Government under this sector was Rs. 8.27 crores as against an original provision of Rs. 7.1 crores.

33. During the Second Five-Year Plan, the Electricity Department continued the work for two years and then the State Electricity Board was set up in 1958 to enable the generation and distribution of power to be managed on commercial lines. The construction of transmission and distribution lines and sub-stations to supply power, mainly purchased in bulk from the D.V.C., to towns, villages, coal-mines, mica mines, and factories, for domestic, industrial and agricultural uses, was continued. The setting up of independent generating stations of the Board to meet the power requirement which could not be met by the share of D.V.C. power received by the Board, was also taken in hand. Provision was made for a Steam Station of 30 MW at Barauni in North Bihar, at an estimated cost of Rs. 3.09 crores, mainly to supply power to the oil refinery that was being set up by the Centre. To supply power to the plant of the Heavy Engineering Corporation at Hatia and other ancillary units that were expected to be set up in the area, it was decided to instal a power station of 100 MW capacity at Patratu, with the help of Russian aid; while the project is estimated to cost about Rs. 12.82 crores, a provision of Rs. 1 crore was made in the Second Plan to meet the cost of preliminary items of work. In the third year of the plan period, the Ministry of Railways decided to electrify the route from Asansol to Mughalsarai *via* Gaya and from Asansol to Rourkela and Noamundi. The programme of laying out 300 miles of 132 KV distribution lines and building five sub-stations, for this purpose, was taken by the Board and an amount of Rs. 3.0 crores, approximately, has been spent as against the cost of the scheme of Rs. 4.0 crores. The Board also took over derelict undertakings in seven towns at a total cost of Rs. 56.67 lakhs.

34. Besides the Board, the D.V.C. which produces electricity for consumption in Bihar and West Bengal, has also executed a number of schemes. Hydel stations of 60 MW and 40 MW respectively were installed at Maithon and Panchet; a steam power station of 172 MW capacity was installed at Durgapur in West Bengal and the capacity of the Bokaro Station was increased by 86 MW. To meet the power requirements of railway electrification, and also to meet the anticipated additional requirements in this State, two units of 140 MW each have been sanctioned for installation at Chandrapura. Including the contribution by the State Government of about Rs. 12.72 crores to the Damodar Valley Corporation, the anticipated expenditure on power projects, during the Second Plan, is Rs. 31.24 crores as against the original provision of Rs. 24.02 crores.

35. The work done by the Electricity Department and Board, and by the D.V.C. is reflected in the increase in *per capita* consumption of electricity in the State. In 1955, the *per capita* consumption, taking into account the supply from both public utility undertakings and self-generating industries, was 26.69 units; and the anticipated average consumption in 1961 is 36.9 units. The corresponding figures for the country as a whole are 25.75 and 49.2 respectively. Even by the end

of the Second Plan it is estimated that demand for power for existing industrial and irrigational pumping loads to the extent of 90 MW will not be satisfied. This only indicates the urgency of further development. Yet the achievements are in themselves considerable. 3,500 distribution sub-stations have been constructed, connections given to 3,500 surface wells and 1,100 tube-wells and 100 towns and 2,047 villages have been provided with electricity.

Roads and other Transport.

36. In the field of transport and communications, work has mainly to be carried out by the Centre, except for the construction of roads, which is the responsibility of the State Government. In North Bihar the development of roads to link the different areas is a long-felt need; and in South Bihar and Chotanagpur, roads have to be developed as they are the arteries of transport in the industrial region. A conference was held in 1943 at Nagpur of Chief Engineers of Provinces and others interested in the development of roads; this conference evolved certain principles for development of roads, taking into account such factors as population, industrialisation, alternative transport available, etc., and the decisions of the conference are commonly known as the Nagpur Plan for roads. In 1950-51 Bihar had only about 1,952 miles of improved roads. According to the Nagpur Plan there should have been 4,606 miles of improved roads in the State by that year. By 1956 the total road mileage under the P.W.D. increased to 3,703. It is expected that by 1961 this would increase to 5,100 miles. The total mileage of improved roads by the end of 1961 would be about 6,830 miles of roads including 1,730 miles of Kachha roads. Though the minimum metalled width had been prescribed to be 12 feet by the Indian Roads Congress, in some cases it has not been possible to provide for more than 9 feet width within the limited funds available. According to the Nagpur Plan the main metalled roads in the State of Bihar by 1961 should be of the order of 10,211 miles; against which, the total length of metalled roads including District Board roads and State highways would only be 8,069 miles, the achievement being 62 per cent of the target according to the Nagpur Plan. The progress made in this sector though impressive has revealed that as against 445 miles per million population which would be the average of India by the end of the Second Plan period, Bihar would have only 167 miles per million population. The road sector had a provision of Rs. 11.04 crores during the First Five-Year Plan and Rs. 14.38 crores during the Second Five-Year Plan. The percentage of expenditure on roads in the First and the Second Plan periods works out to 15.1 per cent and 8.25 per cent of the total outlay. Though the need for development of transport and communications is very urgent, yet in view of the necessity to provide a minimum level of benefits in other sectors, and the consequent dearth of adequate funds for this sector, even after the efforts during the past decade, the level of development attained is far below the all-India average.

37. There has been significant growth in the case of railways, during the decade, and the plan efforts were of course part of the programme for the Central Sector. A bridge was constructed on the Ganga at Mokameh, thus linking North and South Bihar. A Broad Gauge line has been laid up to Barauni; and is being extended to Samastipur. A Broad Gauge line has also been constructed from Chandrapura to Ranchi and is being extended to Bondamunda. This line is especially important since it would supply coal to the Steel Plants in the public sector. In fact, to cope with the additional loads that the railways are now called upon to carry, a huge scheme of electrification has been drawn up. A large portion of the sections, Asansol to Mughalsarai *via* Gaya and Asansol to Rourkela and Noamundi, which are to be electrified, lie in Bihar.

Review of industries and allied sectors.

38. It will thus be seen that in the industries, power, and transport sectors, the efforts of the State Government have been supplemented on a large scale by those of the Central Government undertakings and by the Damodar Valley Corporation. The location of the Sindri Fertilizer Factory, the Heavy Machinery Plant and Foundry Forge at Hatia and of the Oil Refinery at Barauni, has helped to increase the industrial importance of the State. The State Government have, on their part, established the Superphosphate Factory and taken up the High Tension Insulator Factory. Mineral production has increased and the National Coal Development Corporation has begun the operation of new coal mines and also set up coal washeries. In the private sector, the production of various items has increased during the decade. Within its financial limits, the State has carried out a sizeable road-building programme and the railways have taken up in the State important items of improvement like the construction of Mokameh bridge and of new lines and the electrification of a sizeable length of track in the State. The State Electricity Board has supplied electricity to a number of towns and villages for surface and tube-wells. There has been sizeable power generation within the State both by the Electricity Board and by the Damodar Valley Corporation. For the growth of small-scale industries steps have been taken to set up industrial estates, pilot projects and training centres and to render technical advice and financial assistance.

Health.

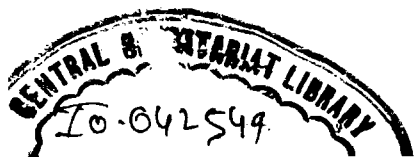
39. The two Five-Year Plans have not concentrated their attention on agricultural or industrial development alone; as mentioned earlier, they have given high priority to the provision of Social Services, like health, education and welfare of backward classes. The health services provided by the State were poorer, at the beginning of the decade, compared to the rest of the country. The district hospitals had been taken over by Government under the Post-War Reconstruction Programme

but many of them did not even have 100 beds each. The total number of hospitals and dispensaries in the State was 728 of which 40 hospitals and dispensaries with a bed capacity of 4,256 were managed by the State. During the First Plan all the subdivisional hospitals were taken over by the Government, and 55 new dispensaries were also started in different thanas. Of the total number 816, at the end of the First Plan, of hospitals and dispensaries, the number of Government institutions was 137 with a bed capacity of 5,702. While the total number of hospitals and dispensaries at the end of the Second Plan is estimated to be about 1,012, those managed by Government would be as large a number as 587. It is thus obvious that over the decade there has been a tremendous improvement in the scale of provision of health facilities by the State, the index to such improvement being the increase in the number of State-owned institutions from 40 to 587.

40. Health and Rural Sanitation Schemes have formed an important item of the Community Development Programme, and the attempt has been to reach medical facilities, both preventive and curative, to the doors of the people in the block areas. All the blocks are being provided with one static dispensary each at the block headquarters and one mobile dispensary each with three health sub-centres. The construction and repair of drinking water wells, taken up as a measure to provide hygienic drinking water to the people, has been quite popular in the blocks. Construction of latrines and other sanitary measures have also been attended to in the blocks. As a result of all these measures there has been considerable success in the control of epidemics. Special mention in this regard should particularly be made of the Malaria Eradication Programme initiated by the Central Ministry of Health.

Education.

41. No other evidence regarding the importance of education is essential than the direction to provide universal, free and compulsory primary education contained in the Constitution. In 1950-51 there were 23,699 primary schools in the State and the number of students enrolled was about 14.65 lakhs. As a percentage of children of age-group 6—11, enrolment in schools was only 27.9 in Bihar as against the all-India figure of 42. The number of schools increased to 29,549 at the end of the First Plan and to 38,000 (estimated) at the end of the Second. The number of students increased to 18.61 lakhs approximately at the end of the Second Plan. Nearly 70,000 students went over to West Bengal on transfer of territories and yet the number of students at the end of the Second Plan is estimated to be 32.00 lakhs. The percentage of enrolment is estimated at 55.7, which is double the figure for 1950-51 and the all-India figure is only slightly higher at 60.0. During the Second Plan, there was remarkable increase in enrolment in 1958-59 and 1959-60 due to the shifting of the academic session from July-June to January-December and a special drive launched by the Education Department.



42. In the field of secondary education, the efforts during the decade have been concentrated not merely on the increase in the number of institutions, but also towards diversification of courses and the conversion of high schools into Higher Secondary and Multi-purpose Schools, based on the recommendations of the Secondary Education Commission. Secondary education has thus been sought to be designed to meet the pattern of employment opportunities and to help further the scientific, industrial and technological progress of the State. The progress in secondary education has also been quite marked; as against 643 High Schools, including Higher Secondary and Multi-purpose Schools, in 1950-51, it is estimated that the number in 1960-61 was 1,515. The number of matriculates in 1950-51 was 14,405; this has risen to 55,000 (estimated) in 1960-61. While only 5.3 per cent of the children of age-group 14—17 was enrolled in schools in 1950-51, against the all-India average of 6.4 per cent, by 1960-61, 12.4 per cent is estimated to have been enrolled; and this is higher than the all-India estimate of 11.5 per cent.

43. Significant changes have also taken place in the field of University education. The Patna University, which was only an affiliating University, was converted into a teaching-cum-residential University in 1952, and simultaneously the University of Bihar was established as a teaching-cum-affiliating University with headquarters at Patna. With the increase in the number of Colleges and students, it has been found necessary to establish four Universities in this State, in place of two, with jurisdictions co-terminus with the administrative divisions in the State. In 1952, there were 24 University departments, 36 colleges for general education and 12 colleges for professional and technical education. The reorganisation into regional Universities was put into effect from the academic session commencing in July, 1960, and the position at that time was as follows:—

Name of University.	No. of university departments.	No. of constituent colleges.		No. of affiliated colleges.	
		General education.	Professional and technical education.	General education.	Professional and technical education.
1	2	3	4	5	6
Patna	34	5	6+ 3(institutes).	26	Nil.
Bihar (Muzaffarpur) ..	13	1	Nil	30	4
Ranchi	11	1	Nil	15	7
Bhagalpur	6	1	Nil	30	1
Total	64	8	6+3 (institutes).	101	12

In 1952, the total number of students was 27,706 ; the number was about 89,000 (estimated) in 1960-61. There has been a remarkable increase in the number of science students from 3,401 in 1950-51 to 9,103 in 1955-56 and to 21,000 (estimated) in 1960-61.

Technical and Professional Education.

44. The increase in the number of science students is an index of the great demand for technical and professional education in the State. This demand is in fact a derived demand in the sense that it is the result of both industrial progress and the growing awareness of the need to apply scientific methods and improved technology even to such old occupations as Agriculture and Animal Husbandry. As regards technical education facilities existed before the First Plan for only 64 degree students and 83 diploma students. Even at the end of the First Plan period, facilities could be provided for only 192 students at the degree level and 390 students at the diploma level. By the end of the Second Plan, the capacity of the institutions rose to 1,048 at the degree level and 1,595 at the diploma level. Even these facilities, specially at the diploma level, are disquietingly low both from the point of view of the comparative facilities available in other States and also because of the very large needs of Bihar, with its vast natural resources.

45. The establishment of large extension services in the field of Agriculture, Animal Husbandry, Health, etc., has increased the demand by the State of professionally equipped men like Agricultural and Veterinary graduates, doctors, etc., and also skilled supervisory and field staff. The expansion of education facilities at the primary and higher secondary stages has brought to the forefront the problem of training teachers. Each of the departments of Government has tried its best, during the decade, to solve its problem regarding skilled man-power requirements. Whereas only one agricultural college was functioning at Sabour (Bhagalpur) at the beginning of the First Plan, the second college at Ranchi was started at the end of the First Plan, and completed in the Second. In the last year of the Second Plan, the third college has been started at Dholi (Muzaffarpur), ahead of its scheduled date of commencement, since the scheme had originally been proposed for the Third Plan. The total number of seats for the degree course at the two colleges at Sabour and Ranchi had to be increased from 150 to 200 and the Dholi college has been started with 100 seats. Facilities for post-graduate studies have also been provided in the colleges at Ranchi and Sabour. During the Second Plan period, two years' diploma course was provided in a phased manner, in all the 17 Basic Agricultural Schools, with a view particularly to improve the quality of training imparted to village level workers. At the end of the Second Plan period, even though two agricultural colleges existed in the State, about 230 posts for agricultural graduates remained vacant; and while this hastened the start of the third college, it gives an index of the extent to which facilities for professional education in the field of agriculture have to be provided.

46. Shortage of veterinary personnel was also experienced in executing schemes of the Animal Husbandry sector. During the First Plan, the number of admissions to the Degree course was increased by introducing a double shift at the Bihar Veterinary College at Patna. A condensed diploma course was introduced at that college, and a short-term course at Bhagalpur, for training stock supervisors. During the First Plan, 83 veterinary graduates, 93 Stock Supervisors and 437 Stockmen were trained. During the Second Plan the capacity of the Stockmen's training centre at Darbhanga was increased to 160; and a second centre was opened at Gauriakarma (Hazaribagh). Improvement in training facilities enabled the State Government to discontinue the second shift at the Patna Veterinary College. A second Veterinary College has, however been started at Ranchi in 1960, with a capacity to enrol 100 students. For the present, the college is being held in the premises of the Bihar Veterinary College at Patna and will be shifted to Ranchi when buildings are constructed. The Stock Supervisors' training centre at Bhagalpur was also discontinued and was substituted by a short orientation training course for subordinate veterinary personnel.

47. The expansion and improvement of public health measures have made it necessary to provide facilities for training of medical officers and other health personnel. Admissions in the Patna Medical College were raised to 100; and in the Darbhanga College to 50. Since, even with these measures, the output of medical graduates proved to be inadequate, it was decided to start a Medical College at Ranchi and straightaway to admit students at Patna and Darbhanga, to be transferred later to the Ranchi College. From 1960-61 each of the three Medical Colleges are admitting 150 students and in this manner the existing demand for doctors would be met. Study leave is also given to doctors for specialised post-graduate training abroad. Training schools have also been started for the training of Lady Health Visitors, Auxiliary Nurse Midwives and Auxiliary Health Workers for the Rural Health Service.

48. At the end of the First Plan there were 64 institutions providing training for teachers of primary and middle schools. On the transfer of territories one of the training schools went to West Bengal. During the Second Plan, the duration of training in these schools was uniformly put at two years and the number of seats in each was raised to 200. Further, 38 training schools have been opened, each with a similar capacity. The output of many of these schools will, however, be available only during the Third Plan period. It is important to note that even in 1960-61, the estimated percentage of trained teachers in the total number of teachers in the primary and middle schools, was only 68.7. There was only one Teachers' Training College before the beginning of the First Plan. At present, there are five, including one for women. These colleges award diplomas to enable teachers to be appointed in Secondary/Higher Secondary Schools. The intake capacity

at the beginning of the First Plan was 130; this rose to 510 at the end of that plan, and to 725 at the end of the Second. Yet, the percentage of trained teachers to the total number of teachers in secondary schools was only 51.9 (estimated) in 1960-61.

49. Apart from education, either general, technical or professional, research and training programmes are also important. Such research and training programmes have constituted an important item of work of the various sectors and details can be seen in the chapters in Part II. It may only be mentioned here that training has not been confined to officials at the various levels, but extended also to the non-official agencies associated, especially, with the work of Gram Panchayats, Co-operative Societies and the Community Development Programme. Similarly attempts have been made, particularly in fields like Agriculture and Animal Husbandry to break down the results of research into formulæ of action that the ordinary villager can understand, and the extension agency built up has been made use of in propagating and popularising them.

Welfare of backward classes.

50. Among measures for the welfare of Scheduled Tribes, Scheduled Castes and other Backward Classes, provision of educational facilities has played an important part. Stipends and book-grants have been distributed; school buildings and hostels have been constructed; and institutions engaged in the education and welfare of these classes have been given monetary aid. The students of these classes have also been exempted from payment of examination fees. Construction of grain-golas, starting of co-operative societies, development of cottage industries, construction of houses, provision of wells, etc., have been other activities to rehabilitate these classes economically and also improve their social status. The details regarding the achievements under each item of work may be seen in Chapter X of Part II.

CHAPTER III

APPROACH TO THE THIRD FIVE-YEAR PLAN

An account of Bihar's economy before the commencement of planned effort was given in Chapter I and the possibilities of development broadly indicated by enumerating briefly the natural resources with which the State has been gifted. In the preceding chapter, an account of the development effort during the past decade has been given. In framing the Third Plan, the development during the past decade has to be taken into account and further efforts projected keeping in view the requirements of the State at the time the Third Plan is to commence, and the important limitation of the financial resources estimated to be available.

2. It is essential to state at the outset that the technique of planning adopted in the country enables consultation at many levels and forums before the Central or the State Plans take concrete shape. The Planning Commission and the National Development Council have before them the picture of the nation as a whole and they framed certain national targets for the plan period taking into account firstly, the growth in the national economy essential for the purpose of achieving improvement in the standard of living of the people and for making it self-generating over the subsequent plan periods; secondly, the volume of financial resources that would be available for the planned effort, including the estimated increase in yields from current taxation as a result of increase of national income, the yield from additional taxation possible, loans, savings and other receipts; and thirdly, the special needs of those sectors of the economy, regions of the country or classes of the people, which are backward when compared to the level of growth that may be considered the average. On the basis of the national targets preliminary decisions were taken regarding the programmes to be undertaken by the Centre and by the States. A series of discussions was then held and the plan for each State was finalized. The extent to which the needs of the State have been recognized is reflected in the allotment of financial resources for the plan and the programme of work.

3. It is, therefore, necessary to have a picture of the national plan first before describing the priorities that have been adopted in the State Plan. In drawing up the Third Plan for the country, the principal aims have been the following :—

- (1) to secure an increase in national income of over 5 per cent per annum, the pattern of investment being designed also to sustain this rate of growth during subsequent plan periods;
- (2) to achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports;

- (3) to expand basic industries like steel, chemical industries, fuel and power, and establish machine building capacity, so that the requirements of further industrialisation can be met within a period of ten years or so mainly from the country's own resources;
- (4) to utilise to the fullest possible extent the man-power resources of the country and to ensure a substantial expansion in employment opportunities; and
- (5) to establish progressively greater equality of opportunity and to bring about reduction in disparities in income and wealth and a more even distribution of economic power.*

The Third Plan for the nation will be directed towards "strengthening the agricultural economy, developing industry, power and transport and hastening the process of industrial and technological change, achieving marked progress towards equality of opportunity and the socialist pattern of society, and providing employment for the entire addition to the labour force".†

4. In the plan for the country first priority has necessarily been given to agriculture. Schemes have been drawn up not merely to increase agricultural production, but also to diversify the rural economy so as to diminish the proportion of the population dependant on agriculture. Large-scale programmes of irrigation, soil conservation, dry farming, afforestation, development of local manurial resources, the establishment of service co-operatives for every village and the extension of co-operative farming are all programmes forming part of the effort to increase agricultural production and diversify the rural economy.

5. The development of basic industries such as steel, fuel and power and machine building and chemical industries, has been given prominence as in the Second Plan, as these industries determine the pace at which the economy can become self-reliant and self-generating. In this sphere, however, work is to be carried out largely by the Centre and the work allotted to the States falls mainly in the small and village industries sectors, which are essential for the diversification of the rural economy, referred to in the previous paragraph, and for the provision of employment, production in these sectors being labour-intensive.

6. The Third Plan for the country also gives considerable emphasis to the development of education and other social services, in order to ensure a proper balance between economic and social development. Some of the measures like scientific research and technical education are no doubt directly linked with economic development, but others like health and water-supply, welfare of the backward sections of the population are also essential to ensure that the average Indian, apart from enjoying a reasonable standard of living in terms of such requirements as food and cloth, is also a good citizen, conscious both of his

* Government of India, Planning Commission, *Third Five-Year Plan*, page 48.

† *Ibid*, p. 49.

rights as well as duties, and contributing in his own way to the progress of the nation in a democratic manner.

7. The two plans have increased the expectations of the people and the need to make the economy self-reliant and self-generating has, therefore, become more urgent. In the course of the Third Plan, the attempt is to achieve as much in five years as has been realised in the ten years of the First and Second Plans. A plans of smaller dimensions than those envisaged would prove altogether inadequate. For achieving the aim of a cumulative rate of growth of over 5 per cent per annum, it will be necessary for the nation to undertake net investment to the extent of more than 14 per cent of the national income whereas the present level is about 11 per cent. Domestic savings will have to be raised from the present level of nearly 9 per cent to about 12 per cent by the end of the Third Plan. The size of the national effort that is called for during the plan period will be clear from these data. It is estimated that the planned efforts during the next five years will increase the national income by 30 per cent and *per capita* income by 17 per cent.

8. The physical programmes that have been framed for the country with the objectives in view stated above will entail an outlay of about Rs. 8,000 crores in the public sector and Rs. 4,100 crores in the private sector (exclusive of an estimated transfer of Rs. 200 crores from the public to the private sector). The broad distribution of the public sector programmes, included under the major heads of development, for the Centre, States and Union territories is given in the table below:—

TABLE I.
Physical Programmes.

(Rupees in crores.)

Head of Development.	Second Plan anticipated expenditure.		Third Plan—physical programmes.					
	Total (States, Union territories and Centre).	Percentage.	States.	Union territories.	States and Union territories.	Centre.	Total.	Percentage.
1	2	3	4	5	6	7	8	9
1. Agriculture and Community Development.	529	11	945	24	969	125	1,094	14
2. Irrigation and Power.	866	19	1,515	25	1,540	130	1,670	21
3. Village and Small Industry.	176	4	137	4	141	123	264	3
4. Industry, Minerals, Transport and Communications.	2,200	48	332	35	367	2,875	3,242	41
5. Social Services and Miscellaneous.	829	18	918	87	1,005	525	1,530	19
6. Inventories ..	..	..	..	..	..	200	200	2
TOTAL ..	4,600	100	3,847	175	4,022	3,978	8,000	100

9. The plans of States are of great importance since the national objectives in such fields as Agriculture, Education and other Social Services, in the utilisation of rural man-power can be achieved only by a successful implementation of the State Plans. The State programmes bear closely on the welfare of the people and it is through them that a rise in the standard of living for the weaker sections of the community and for the less developed areas can be secured. The development programmes to be implemented by State Governments form part of the State Plans and only very limited categories of schemes are shown in the Central Plan and as "sponsored" by the Centre. The manner in which the programmes for each State were decided upon is described in the following words by the Planning Commission :

"In determining the plan of each State consideration has been given to its needs, problems, past progress and lags in development, likely contribution to the achievement of the major national targets, potential for growth and the contribution in resources which the State was able to make towards its development programme. In assessing needs and problems, such factors as population, area, levels of income and expenditure, availability of certain services, e.g., roads, schools, hospitals, extent of commitments carried over from the Second Plan, commitments on account of large projects or special programmes and the state of technical and administrative services available were taken into account. Care was also taken to see that States whose resources were unavoidably small did not have to undertake development on a scale which was altogether insufficient merely because of paucity of resources. At the same time States which were able to make a larger effort in mobilising their own resources could undertake development on an appropriate scale. "*"

10. The table below gives the outlays proposed for the various States during the Third Plan on the basis of physical programmes :—

TABLE 2.

Outlays proposed for the Third Plan in the various States.

Name of State.	(Rupees in crores.)			
	Third Plan outlay (programme limits).			
Andhra Pradesh	305
Assam	120
Bihar	337
Gujerat	235
Jammu and Kashmir	75
Kerala	170

*Government of India, Planning Commission, *Third Five-Year Plan*, p. 60.

					(Rupees in crores.)
Name of State					Third Plan outlay (Programme limit:).
Madhya Pradesh	..	..	..	..	300
Madras	..	..	..	..	290.9
Maharashtra	..	..	..	..	390
Mysore	..	..	..	..	250
Orissa	..	..	..	..	160
Punjab	..	..	..	..	231.4
Rajasthan	..	..	..	..	236
Uttar Pradesh	..	..	..	..	497
West Bengal	..	..	..	..	250*
TOTAL					3,847.3

11. Although the physical programmes will entail an outlay of over Rs. 8,000 crores, it is estimated that the financial resources that would be available during the plan period would only be about Rs. 7,500 crores. Much of the uncertainty relates to the availability of foreign exchange and the Planning Commission is of the view that the execution of schemes in the industries and related sectors in a connected manner, on the basis of priorities related to the availability of foreign exchange, should also enable internal resources to be found to the extent necessary. In any case the maximum physical capacity should obviously be aimed at in fields like agriculture, small-scale industries, etc., where foreign exchange is not a limiting factor. The adjustments between physical programmes and financial resources are proposed to be made through annual plans, which will also ensure the proper phasing of related projects.

12. While earlier estimates had placed the resources of the Union and the States during the plan period at Rs. 7,250 crores, the National Development Council decided in January, 1961 that the resources should be taken as Rs. 7,500 crores, on the basis of revised estimates submitted to it. The decision to keep the physical targets at Rs. 8,000 crores was taken by the National Development Council since it was felt that there was scope for raising further resources. A Committee appointed by the Council studied the budgets of the Centre and the States and while the study revealed greater buoyancy in the revenue position, it was also felt that the precise manner in which the gap between physical programmes and financial resources could be bridged, could not be set out especially in view of the limitations regarding foreign exchange resources. The financial ceiling for the plan has, therefore, been kept at Rs. 7,500 crores; and inclusive of Rs. 4,100 crores estimated as the outlay in the private sector, the overall outlay in the Third Plan becomes Rs. 11,600 crores.

*The outlay for West Bengal is subject to alteration.

13. The following table gives the estimates of financial resources for the Third Plan separately for the Centre and the States :—

TABLE 3.

Resources for the Third Plan.

(Rupees in crores.)					
	Centre.	States.	Total.		
(1) Balance from current revenues (excluding additional taxation).	410	140	550		
(2) Contribution of Railways	100	..	100		
(3) Surpluses of other public enterprises	300	150	450		
(4) Loans from the public (net)	475	325	800		
(5) Small Savings (net)	213	387	600		
(6) Provident funds (net)	183	82	265		
(7) Steel equalisation fund (net)	105	..	105		
(8) Balance of miscellaneous capital receipts over non-plan disbursements.	428	(—)258	170		
<hr/>					
TOTAL OF (1) TO (8)	2,214	826	3,040		
(9) Additional taxation including measures to increase the surpluses of public enterprises.	1,100	610	1,710		
(10) Budgetary receipts corresponding to external assistance.	2,200	..	2,200		
(11) Deficit financing	524	26	550		
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TOTAL	6,038	1,462	7,500		
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14. During the discussions with States in 1960, the total of the State's resources was assessed only at Rs. 1,416 crores. This amount was reduced to Rs. 1,346 crores after taking into account adjustments which had been overlooked; but has later been stepped up to Rs. 1,462 crores mainly on the study of the 1961-62 Budget Estimates of the States. The break-up of the figure Rs. 1,462 crores, Statewise, is not available. However, the table below gives the break-up of the original

amount of Rs. 1,416 crores and also the expenditure in terms of physical programmes, thus enabling a comparative picture to be obtained :—

TABLE 4.

Financial Resources of States and Physical Programmes.

				(Rupees in crores.)	
Name of State.		Financial resources.		Third Plan outlay (programme limits).	
Andhra Pradesh	.. ..	105		305	
Assam..	.. ..	33		120	
Bihar	.. ..	119		337	
Gujrat	.. ..	122		235	
Jammu and Kashmir	.. ..	13		75	
Kerala	.. ..	58		170	
Madhya Pradesh	.. ..	93		300	
Madras	.. ..	101		290.9	
Maharashtra	.. ..	220		390	
Mysore	.. ..	110		250	
Orissa	.. ..	28		160	
Punjab	.. ..	97		231.4	
Rajasthan	.. ..	80		236	
Uttar Pradesh	.. ..	147		497	
West Bengal	.. ..	90		250*	
TOTAL		1,416		3,847.3	

15. Since the resources of the States are now assessed at Rs. 1,462 crores and the Central assistance to them would amount to Rs. 2,375 crores, the total resources available for the State Plans would amount to Rs. 3,837 crores. The difference between the total resources available to States and the programme limit, namely, Rs. 3,847 crores is thus negligible and the brunt of bridging the gap between programme limits and financial resources will, therefore, be mainly on the Centre.

16. In so far as Bihar is concerned, it will be seen that the Third Plan outlay in terms of physical programmes has been fixed at Rs. 337 crores and the resources that the State can harness during the plan period have been assessed at Rs. 119 crores. The Central Government would be giving assistance for execution of plan programmes to the tune of Rs. 218 crores. Since the actual outlay by the State during the First Plan was Rs. 73.27 crores and the estimated outlay in the

*The figures for West Bengal are subject to alteration.

Second is Rs. 176.87 crores, the Third Plan outlay will in fact be greater than the outlay in the two plan periods put together. From this point of view, therefore, the State seeks to accomplish in the next five years much more than what it has actually done in the last ten years. In precise terms, the outlay proposed for the Third Plan is 34.7 per cent higher compared to the total outlay in the First and Second Plan periods. The physical programmes proposed to be taken up, an outline of which is given in the next chapter and details in Part II of this volume are, however, only the barest minimum required keeping in view the needs of the State.

17. In the State Plan, while drawing up the physical programmes, the aims of the national plan have been adhered to. At the same time, priorities have been decided upon on the basis of a study of the peculiar requirements of the State. It was stated earlier that in the national plan first priority has been given to agriculture and that the aim is to achieve self-sufficiency in foodgrains and increase agricultural production to meet the raw material and export requirements. In Chapter II it was shown that a higher production potential of foodgrains has been built up during the last decade. Yet the State has not been able to achieve self-sufficiency in foodgrains and imports into the State have averaged about 3 lakh tons even in normal years. With the increase in population at rates faster than those anticipated, the achievement of self-sufficiency has acquired prime importance. Agricultural production programmes have, therefore, been given a high priority in the Third Plan as in the Second.

18. It has also been explained in Chapter II that assured irrigation would be available only to about 11 per cent of the total cultivated area even at the end of the Second Plan. The possibilities of increasing the area under cultivation being severely limited, agricultural production can be stepped up only by increasing the yield per acre by intensive agriculture, for which assured irrigation is required over a much larger area. The wide fluctuations in agricultural production between years of good and bad rainfall can be eliminated or reduced only by the provision of assured irrigation. Major river valley schemes for providing irrigation, such as the Kosi, Gandak and Sone projects, are being taken up in the Third Plan. The outlay proposed for irrigation projects forms a higher percentage of the total plan outlay of the State in the Third Plan than that in the Second, thus emphasising the priority given to the provision of assured irrigation.

19. On account of the setting up of major industrial units, as part of the Central Plan, in Bihar, the electrification of large portions of the track of the Eastern and South-Eastern Railways, and the popularity of electrically-driven pumping sets for irrigation from surface and tube-wells in the villages, the demand for power is heavy and is likely to increase by rapid strides during the Third Plan. Considerable progress has been made by the Heavy Engineering Corporation in the erection of the Heavy Machinery Plant and the Foundry Forge Plant at Hatia

near Ranchi, during the Second Plan. The State Government also proceeded with the construction of the High Tension Insulator Factory at Ranchi during the same period. In the Third Plan, the Hindustan Steel Limited will be erecting a Steel Plant at Bokaro, with an initial production capacity of 1 million ton ingots, and ultimately of 2 million. A large industrial complex is thus expected to grow up in the area around Ranchi and the ancillary units that would be set up in the locality in the private sector are also likely to come up to the State Government with their demands for power. Power generation has, therefore, been given priority and, as in the case of irrigation, the outlay on Power in the Third Plan is a greater percentage of the total State Plan outlay than in the Second. Apart from the provision in the State Plan, an amount of Rs. 9.33 crores will also be made available from the Central Plan for additional generating units partly for the Bokaro Steel Plant and partly in replacement of the Central contribution to the D.V.C., of which the size will now be less than that initially envisaged, because more of the power generation is being entrusted to the States of Bihar and West Bengal, instead of the D.V.C. which has so far been generating power in bulk for both.

20. After Agriculture, Irrigation and Power, the next priority has been given in the State Plan to Social Services, namely, Health, Education and Welfare of the Backward Sections of the Community. It was mentioned in Chapter II that the level of primary education in the State is below the all-India average. It is obvious that steps should be taken quickly to step up the progress so that the State may reach the goal of universal free primary education laid down in the Constitution. Industrial development in the State and the execution of the large-sized irrigation and power programmes envisaged will require the services of an army of technically skilled personnel. Under the head Social Services, therefore, in the distribution of outlay among the various sectors, General Education has claimed the highest priority and the provision for Technical Education is significantly higher compared to the outlay in the Second Plan.

21. The health programmes of the State Government have been given a priority, among Social Services, next only to Education. Even at the end of the Second Plan, Bihar had medical facilities, in terms of number of beds in hospitals and number of doctors as a proportion of the population, poorer than those available in many other States. The control of epidemics still constitutes a challenge on account of the vast population and the low standard of living, but it is obvious that efforts towards such control have to be strengthened in order to assure the average citizen a reasonable amount of freedom from the onslaught of epidemics.

22. A description of the measures that were taken up in the First and Second Plan periods for the welfare of Scheduled Castes, Scheduled Tribes and other Backward Classes, has been given in Chapter II.

These measures will be continued on a larger scale during the Third Plan so that the backward sections of the community are also enabled to catch up with the other sections in the State.

23. From Table 2 above in this chapter it will be seen that the total outlay of Bihar in the Third Plan will be Rs. 337 crores. The table below gives the break-up of this outlay into certain major groups of heads and also a similar break-up for the national plan :—

TABLE 5.

Comparison of Third Plan outlay for the Nation and for Bihar.
(RUPEES IN CRORES.)

Head of Development.	Third Plan outlay for the nation (public sector).	Percentage.	Third Plan outlay for Bihar.	Percentage.
1	2	3	4	5
1. Agriculture and Community Development.	1,094	14	82.49	24.47
2. Irrigation and Power	1,670	21	141.19	41.90
3. Village and Small-scale Industries	264	3	11.03	3.27
4. Large Industry, Minerals, Transport and Communications.	3,242	41	24.40	7.24
5. Social Services and Miscellaneous	1,530	19	77.93	23.12
6. Inventories	200	2	..	..
TOTAL	8,000	100	337.04	100

The differences that are noticed in the relative distribution of outlay in the National Plan and in the State Plan are easily explained. The establishment of basic industries and the improvement of railways are programmes to be executed by the Centre and the priority given to these programmes at once accounts for the large proportion of the national outlay allotted to the industries and transport sectors; the State programme in Bihar includes mainly the construction of roads, provision for further nationalisation of road transport and the expansion of the few industrial units set up by the State Government. On the other hand, in the State Plan, the proportions of total expenditure allotted to the heads Agriculture and Community Development, Irrigation and Power and Social Services are all higher than those in the National Plan.

24. A comparison of the distribution of outlay among the relevant heads of development in the Second Plan and in the Third Plan of

the State will also prove useful. The table below gives the relevant figures:—

TABLE 6.

Comparison of outlay in the Second and the Third Plan in Bihar.

(RUPEES IN CRORES.)

Head of Development.	Anticipated outlay in the Second Plan.	Percentage.	Proposed outlay in the Third Plan.	Percentage.
1	2	3	4	5
1. Agriculture and Community Development.	54.87	31.02	82.49	24.47
2. Irrigation	25.82	14.60	70.57	20.94
3. Power	31.24	17.66	70.62	20.96
4. Village and Small-scale Industries	6.84	3.87	11.03	3.27
5. Large Industries, Minerals, Transport and Communications.	15.88	8.98	24.40	7.24
6. Social Services and Miscellaneous	42.22	23.87	77.93	23.12
TOTAL	176.87	100.00	337.04	100.00

It will be seen from the figures given in the table above that the differences in the other sectors are negligible, considering the percentage of total outlay in the two plans, except in the case of Agriculture and Community Development and Irrigation and Power. A substantial proportion of the Second Plan provision for Agriculture and Community Development was on extension, research and teaching staff that was appointed for the first time. This staff will continue in the Third Plan period as committed expenditure, outside the Plan. Most of the outlays provided in the Third Plan will thus be on works of various kinds to increase production, and even in terms of the actual size of the Plan outlay ignoring committed expenditure, the efforts will be much greater than in the Second Plan period. There is greater emphasis in the Third Plan on the execution of the major river valley projects for providing assured irrigation and on power for industry and agriculture. In fact all the major projects like Kosi, Gandak and Sone Schemes had been initiated during the Second Plan itself; during the Third Plan, the tempo of expenditure will be higher and the people in the areas served by these schemes will also begin to reap benefits.

25. It has been stated above in paragraph 17 that for executing the State Plan of Rs. 337 crores, the State Government would themselves furnish resources to the tune of Rs. 119 crores and that the balance of Rs. 218 crores would be made available by the Central Government as its assistance for enabling them to execute the Plan. The mobilisation of resources for securing an adequate rate of growth is an important problem in any scheme of planning proposed by an under-developed economy. If the cost of the various development schemes included in the public sector is to be met and the proposed rate of growth is to be assured, it will be necessary to gather financial resources to the maximum extent possible and also adopt suitable measures of additional taxation. It is estimated that at the rates of taxation prevailing in 1960-61 the State Government will be able to obtain during the plan period resources totalling only Rs. 77.8 crores. The table below gives the break-up of the estimates of resources that would be available at the 1960-61 rates of taxation:—

TABLE 7.

State resources at current levels of taxation.

		(RUPEES IN CRORES.)	
1. Balance from current revenues at 1960-61 rates of taxation	22.3
2. Loans from public (net)	23.0
3. Share of small savings	42.5
4. Unfunded debt (net)	8.0
5. Balances of miscellaneous capital receipts over non-plan disbursement	(—)28.6
6. Contribution of enterprises	10.6
7. Withdrawal from cash and other resources	Nil
TOTAL			77.8

These estimates of resources available at the current levels of taxation were given to the Planning Commission in 1960 when discussions were held with the representatives of the State for finalising the State outlay during the Third Plan. It was also further estimated that during the same period additional taxation will enable the State Government to obtain Rs. 41 crores. The details regarding the estimates of receipts from additional taxation during the Third Plan period are given below:—

TABLE 8.

Estimates of receipts from additional taxation.

		(RUPEES IN CRORES.)	
1. Increase in the rate of land revenue on agricultural land	25.00
2. Doubling of rent on urban and industrial lands	5.00
3. Agricultural income-tax	3.00
4. Upgrading of rates of sales tax including inter-State sales tax	8.00
TOTAL			41.00

26. It may be mentioned here that while placing the estimates of the State Government's resources, at current levels of taxation, before the Planning Commission, it was assumed that the State would continue to receive shares of income-tax, Union excise duty, taxes on railway fares, etc., according to the recommendations made by the Second Finance Commission; and that the grant to the State Government under Article 275(1) of the Constitution would account for a sum of Rs. 21.25 crores, which was the amount received during the Second Plan period on the basis of the recommendations of the Second Finance Commission. The Third Finance Commission has now been constituted and has already reached an advanced stage in its enquiries. On a re-assessment of both the estimates of receipts and also of expenditure, it is apprehended that the balances from current revenues may not be as high as the figure reported to the Planning Commission. The Passenger and Goods Transport Act, which was a taxation measure, has been declared *ultra vires* by the Supreme Court, and the receipts under various other taxes levied by the State Government are also now estimated to be lower than those first anticipated. On the expenditure side, in order to ensure efficient administration, it is now considered necessary to carve out seven new districts and fifteen new subdivisions during the Third Plan period. Moreover, it may be necessary to create 87 new police-stations, so as to make them co-terminus with Anchal-*cum*-Development Blocks. The programme of Survey and Settlement Operations will have to be advanced to make the records of rights up to date and to rationalise and revise the rentals. The Health Department of the State Government has to execute many schemes which had been previously sponsored by the Central Government during the Second Five-Year Plan period. The Third Finance Commission has been apprised of all these changes as a result of which the revenue surplus of the State Government will be considerably lower.

27. It is also apprehended that there may be difficulties in reaching the target of additional taxation of Rs. 41 crores during the Third Plan period. In spite of a decade of development effort, the agriculture sector of the State continues to be subject to the onslaught of drought and floods; and it is obvious that any onset of these natural calamities will diminish significantly the yield from the existing and the proposed additional sources of revenue. Again, such measures as the fixation of ceilings on agricultural land holdings, adopted as part of the national policy for agricultural development under conditions of social equality are bound to decrease the likely yield from agricultural income-tax, even though ultimately, the national income and the yield from other direct and indirect taxes may go up, in course of time.

28. The Third Finance Commission has been given a re-assessment of the resources that the State Government can collect and it is hoped that suitable grants will be recommended by the Commission under Article 275(1) of the Constitution, so that the State Government can

carry through the programmes of development that form part of the plan. It is, however, essential to remember that the problem of finding adequate resources for the plan cannot merely be solved by placing a greater emphasis on the grants to be obtained from the Centre on the basis of the recommendations of the Finance Commission. The Central Government has also to collect its resources from the citizens of this very country either through taxes and excise or through loans and has taken on its shoulders the responsibility of collecting a large amount by way of additional taxation. During the Third Plan period the Centre hopes to receive Rs. 1,710 crores through additional taxation and as a result of the measures to increase the surplus of public enterprises owned by it. During the Second Plan period, sizeable foreign exchange reserves were available as an offset to deficit financing and yet there was a significant rise in prices. It has, therefore, become necessary to limit deficit financing in the Third Plan to the minimum warranted by the genuine monetary needs and the absorbing power of the economy. Moreover, it has been indicated in this chapter that the National Plan includes programmes costing over Rs. 8,000 crores although financial resources to the tune of Rs. 7,500 crores are alone likely to be available. Since the extent to which deficit financing can be resorted to is extremely limited, a climate of austerity has to be built up under which increased taxation and larger savings will be possible, so that as the plan progresses, additional resources are available, and it is possible to execute the physical programmes without any significant shortfall.

29. The successful implementation of the Third Plan schemes depends on the response from the people in the State, not only in the shape of a willingness to bear the additional tax burden and to save still more than hitherto, but in many other ways. The measures to increase agricultural production can be successful only with the willing co-operation of millions of farmers who are scattered all over the State; in other fields also, the joint efforts of large sections of the people employed on the projects, or otherwise associated with them, will be necessary. Small-scale and village industries can be assisted by the Government, directly or through special Boards set up for the purpose, but the initiative and continued efforts for efficient performance have to come from enterprising sections of the people themselves. The Third Plan of the State, as of the country, is a programme of action based on the recognition of the urgent needs of the people; its success will, therefore, also depend on them, on the extent to which they are willing to put forth the necessary effort themselves and to make available to the Government the resources essential for the execution of the programme in the public sector.

CHAPTER IV

THE THIRD PLAN PROGRAMMES IN OUTLINE

The size of the outlay proposed in the Third Plan of the State and the distribution of the outlay among the major heads of development have been indicated in Chapter III. An outline of the programmes included in the various sectors is given in the following paragraphs and details of the programmes will be available from the Chapters in Part II of this volume.

Agriculture.

2. It has been stated earlier that the first priority in the Third Plan has been given to agriculture programmes, the object of the national plan being to achieve self-sufficiency in foodgrains and increase the production of other crops which serve as industrial raw materials or help to earn foreign exchange. The production of foodgrains, that is, cereals and pulses, in the country is estimated to be 76 m. tons in 1960-61 and it is proposed to increase the production to 100 million tons, namely, by 32 per cent by 1965-66. At the time the discussions were held with the Planning Commission in 1960, foodgrains production in Bihar was estimated at 62.62 lakh tons; and even this figure was higher than the potential that had been built up by the Agriculture Department. Later estimates suggest an even higher production in 1960-61, in the neighbourhood of 70 lakh tons. The programmes included in the Third Plan envisage an additional production potential of 20.27 lakh tons. Due to seasonal variations from year to year, the production fluctuates sharply, and there is always a degree of uncertainty about the base to be adopted for any plan period. The annual production of foodgrains in the five years of the Second Plan has been, respectively, 51.75, 39.17, 68.76, 66.09 and 70.00 (estimated) lakh tons, the average for the five years being 59.15 lakh tons. The Planning Commission have, however, estimated the production in 1965-66 in Bihar at 82.89 lakh tons, taking the first estimate of production, namely, 62.62 lakh tons as the base. 82.89 lakh tons of foodgrains per year at the end of the Third Plan, while assuring 17.5 oz. per adult, the accepted standard for the nation, will not suffice to provide sufficient cattle feed, which is usually calculated at 10 per cent of the food requirements of the human population. This is because the preliminary census figures of 1961 have revealed a high rate of increase of population in the decade after 1951; if the same rate continues, the population at the end of the Third Plan will be about 51.2 million in Bihar and the requirement of foodgrains, so as to provide 17.5 oz. per day per adult and 10 per cent for livestock feed, will exceed 86 lakh tons.

3. There is, however, some cause for optimism since during the Second Plan period it was seen that, while a severe drought could depress the production sharply, in years of normal rainfall the actual production considerably exceeded the potential claimed. It has been stated earlier that the revised estimate for 1960-61 is as high as 70 lakh tons. With sustained effort, therefore, the programmes included may enable the State to reach the goal of self-sufficiency early in the Fourth Plan, if not at the end of the Third Plan itself, especially since assured irrigation will have been made available to large areas and the dependence on rains will be minimised.

4. Apart from an increase in production potential of foodgrains to the tune of 20.27 lakh tons, the agricultural programme also aims at an increase of about 6 lakh tons in the production of non-food crops. The table below gives a comparative picture for food-grains and some important crops for Bihar and India :—

TABLE 1

Comparative statement regarding increase in agricultural production.

Commodity.	Additional production during Third Plan.		Percentage of increase in production to estimated production of 1960-61.	
	India.	Bihar.	India.	Bihar.
Foodgrains	236.05 (lakh tons)	20.27	31.6	32.4
Sugarcane (Gur)	2010 (thousand tons)	45	25.1	6.6
Oilseeds	2627 (thousand tons)	66	36.9	110.0
Jute	2151 (thousand bales)	441	53.4	52.6

5. The Agricultural Programme includes intensive efforts in several directions to achieve the targets. Irrigation schemes, both major and minor, are expected to build up an additional potential of 5.03 lakh tons of foodgrains and 2.10 lakh tons of non-food crops. In a separate section below an outline of the major irrigation schemes proposed to be taken up has been given. Minor irrigation schemes will continue to receive importance since they can be executed quickly without large investment per scheme, and also yield benefits quickly. During the Second Plan period, a Unified Minor Irrigation Agency has been set up under the administrative control of the Agriculture Department, to ensure co-ordinated effort in providing minor irrigation facilities. Apart from a provision of Rs. 8.39 crores under the head

Minor Irrigation, it is also expected that about Rs. 8.71 crores will be available from the block budgets under the head Community Development for the execution of minor irrigation schemes.

6. With the provision of irrigation facilities and with the estimated improvement in the supply position of chemical fertilisers in the Third Plan period, it is expected that farmers can be induced to adopt intensive use of manures and fertilisers and an ambitious programme in this regard has been drawn up. Manures and fertilisers are expected to increase the production of food crops by 8.64 lakh tons and non-food crops by 3.13 lakh tons. This item of the agricultural programme is a basic effort since about 40 per cent of the increase in foodgrains production and about 50 per cent of the increase in the production of non-food crops will depend on its success. The table below gives the comparative picture at the end of the Second and Third Plans regarding the use of fertilisers and manures:—

TABLE 2.
Statement regarding consumption of fertilisers and manures.

	Unit,	Estimated consumption.	
		1960-61.	1965-66.
Chemical Fertilisers—			
Ammonium Sulphate	.. Thousand tons	50	4,00
Superphosphate	.. Ditto ..	15	1,20
Muriate of Potash	.. Ditto ..	1	20
Organic manures and green manures—			
Urban compost	.. Ditto ..	75	1,77
Rural compost	.. Ditto ..	10,00	77,56
Green manuring	.. Thousand tons	10,95	30,95

7. The multiplication and distribution of improved seeds constitutes another important part of the programme for increasing agricultural production. A provision of Rs. 125.92 lakhs has been made in the Third Plan for seed multiplication and distribution and it is estimated that by 1965-66 an area of 118 lakh acres will be covered by improved seeds as against 26 lakh acres in 1960-61. Improved seeds are expected to increase the production of foodgrains by 4.37 lakh tons and of non-food crops by 0.22 lakh tons during the Third Plan. The plant protection organisation will also be strengthened.

8. Land development and soil conservation measures are estimated to increase food production in the Third Plan by 0.39 lakh tons. The target is to reclaim 45,000 acres of waste land by manual labour and 30,000 acres by tractors. The Pilot Soil Conservation Demonstration Project on watershed basis will cover 24,000 acres; and demonstration on waste and eroded agricultural land is to be conducted on 50,000 acres. As a result of these demonstrations, farmers are themselves expected to take up conservation measures on 2.14 lakh acres. Dry farming technique is to be demonstrated on 10,000 acres. The Third Plan contains a provision of Rs. 168 lakhs for reclamation of waste lands and Rs. 250 lakhs for soil conservation, etc.

9. The introduction and popularisation of improved agricultural implements will be given greater importance in the Third Plan. A scheme has been drawn up which includes provision of adequate supply of iron and steel for the manufacture of implements, selection by State experts of implements to be popularised, one research training and testing centre in each State (besides four regional centres), and the popularisation of the implements through the extension agency. The adoption of improved cultural practices including the use of improved implements is expected to increase food production by 1.84 lakh tons and the production of non-food crops by 0.55 lakh tons during the Third Plan.

10. All families in the village will be involved in the agricultural effort through the co-operative societies, which will attend to the problems of credit, supply of fertilisers and seeds, marketing of produce, etc., and through the Panchayats which will shoulder a greater share of responsibilities for all developmental efforts as a result of the programme of democratic decentralisation. Through its extension workers, the community development organisation, for which the three tiers of "local government", the Panchayats, Block Panchayat Samitis, and Zila Parishads will be responsible after democratic decentralisation, otherwise known as Panchayat Raj, has come into being, will mobilise rural effort and will have to ensure that "supplies, services and technical assistance are available at the right time and place and in the most effective manner possible". The administrative structure of the Agriculture Department will also be strengthened to ensure that trained personnel and other resources, etc., are available at the proper place, according to necessity. The Third Plan also provides for expansion of facilities for agricultural education, training and research, so that the farmer may be given expert guidance in his effort for increasing production.

11. An important constituent of the agricultural programme would be the Intensive Agricultural District Programme, popularly known as the "Package Programme", which seeks to intensify the efforts of the community development and co-operative agencies in areas in which irrigation facilities are available. In Bihar, this programme, for which a provision of Rs. 1.50 crores is available, has been initiated in Shahabad district. The object is to take up for intensive work an area of

20 Community Development Blocks within the command of the Sonc Canal System; while 6 blocks have been taken up during the Rabi season of 1960-61, all the rest would be covered by 1961-62. The level of technical help to the farmers will be specially stepped up in these areas and necessary staff has been sanctioned for the purpose. In the Intensive Programme Area, there will be three more agricultural specialists for every block in addition to the normal strength and the number of Village Level Workers will be increased to 20 per block, as against ten elsewhere. Apart from necessary technical help, a net work of co-operative societies will be built up for timely supply of credit, seeds, fertilisers, etc., in adequate quantity. These co-operatives will also construct 180 rural godowns at a cost of Rs. 18 lakhs, for stocking both the supplies needed and the grains produced. Selected farms will be taken up for continuous observation where the results would be judged on the basis of accurately maintained data. This programme alone will lead to an estimated additional production of about 2.14 lakh tons.

Animal Husbandry.

12. With a view to improve the quality of cattle, it is proposed to distribute 2,190 bulls and it is expected that nearly 3.5 lakhs improved bullocks would become available by the end of the Third Plan. Measures will also be taken to improve Goshalas, provide better veterinary aid to sick cattle and improve the nutritional standards of livestock by popularising the production of fodder grasses. One hundred and forty-two veterinary hospitals and dispensaries owned by Local Bodies were taken over in the last year of the Second Plan and it is proposed to provide them with staff, instruments and appliances to bring them on a level with the four hundred and ninety hospitals and dispensaries which were State-owned at that time. Three additional Animal Husbandry Schools will be set up for the training of Stockmen and it is also proposed to start a course of training in artificial insemination. The Animal Husbandry Programme of the State includes schemes for upgrading the quality of indigenous sheep and pigs and the improvement and expansion of poultry farming. As a result of these measures it is expected that, by the end of the Third Plan, the availability of milk will increase to 6 ounces *per capita* per day and the population would be assured of greater quantities of mutton, pork, poultry meat and eggs, so that the *per capita* consumption of animal protein may be increased.

Dairying and Milk Supply.

13. Apart from the raising of milk production so as to assure 6 ounces *per capita* per day at the end of the Third Plan, it is also proposed to make effective arrangements for the supply of milk to all towns with a population of 50,000 and above. The rural creamery set up at Barauni will be expanded and a Dairy Extension Service

will be started in seven selected places, where arrangements for water-supply, fodder and improved breeding methods would be available. It is further proposed to constitute a Milk Board to supervise the working of these schemes and the marketing, distribution and quality control of milk products and other related matters.

Fisheries.

14. The development of fisheries is important not merely because of the possibility of adding to the animal protein content of food of a large section of the population in the State, but also because of the opportunity offered for expanding the existing trade in fresh water fish, which is exported outside the State, specially towards Calcutta. Schemes drawn up during the Third Plan are designed not merely for the production of more fish but also towards the amelioration of the economic conditions of fishermen. It is expected that the annual production of fish, estimated at 40,000 tons during the Second Plan, will increase to 60,000 tons during the Third Plan. The total provision in the Third Plan, including Rs. 8 lakhs which is the State Government's contribution towards the fisheries schemes of the Damodar Valley Corporation, is Rs. 89.43 lakhs.

Forests.

15. In the forest sector, it is proposed to carry out afforestation work on 41,000 acres of land and raise economic plantation of teak, matchwood and bamboo on 26,000 acres. From the experience gained in teak and bamboo cultivation during the Second Plan it is proposed to plant 10,000 acres with teak and 15,000 acres with bamboo in the Third Five-Year Plan period. On the basis of the land-use survey, being conducted in North Bihar, possibilities of increasing bamboo plantation in North Bihar are being exploited so that bamboo may become one of the raw materials for the paper mills to be set up in North Bihar. The principal raw material for these paper mills will be bagasse, waste-product of the sugar mills, but a certain minimum proportion of firmer wood with strong fibres, such as bamboo, will be essential. Intensive management through working plans of 2,500 square miles of forests is also proposed. In addition to the National Park near Hazaribagh it is proposed to establish another National Park near Palamau. New forest roads are to be extended over 1,600 miles. Soil conservation measures to be taken up in the Third Plan include afforestation of 53,400 acres in the Damodar catchment, 56,800 acres outside the catchment, and another 6,600 acres in the catchment of the various irrigation projects in the State.

Community Development.

16. Two hundred and nineteen blocks will be set-up in the Third Plan by 1963 covering 25,250 villages with an area of 25,026 square

miles and a population of 14.44 millions. This will extend the programme over the entire State, which has been subdivided into 575 Community Development Block units. The Community Development Programme has already been re-arranged according to the recommendations made by the Balwant Rai Mehta Committee. Steps have also been taken for increasing the authority of the Block Development Committees which now include all the Mukhiyas of the Gram Panchayats of the area. It is proposed to give the greatest emphasis to irrigation and agricultural production for which purpose funds of minor irrigation provided under the schematic programme of the Community Development Blocks would be utilised through the unified minor irrigation agency set-up in the State. An attempt would be made to provide, either by construction or by repair, one good drinking water well for every village lying within the blocks to be opened in the Third Plan. This programme would provide satisfactory supply of drinking water in practically every village in Bihar by the end of the Third Five-Year Plan.

17. The scheme of democratic decentralisation with the Zila Parishads at the district level, the Panchayat Samitis at the block level and the Panchayats as primary units will be put through in the Third Plan. The Bill to provide for the constitution of Zila Parishads and Panchayat Samitis and to enumerate their powers, duties and responsibilities, is at present before the legislature.

Co-operation.

18. For providing larger amounts of long-term credit to agriculturists a contribution of Rs. 10 lakhs is to be made to the share capital of the State Land Mortgage Bank whose operations are to be extended through 30 branches to be set up in the Third Plan. Necessary managerial assistance is proposed to be given free of cost with departmental staff. The proposed total credit including short, medium and long-term loans to agriculturists has been kept at Rs. 38.4 crores in the Third Plan as against Rs. 1.42 crores during 1960-61. 7,000 small-size multi-purpose societies are to be organised by the end of the Third Plan. In the field of co-operative marketing, apart from a contribution of Rs. 20 lakhs to the share capital of the State Warehousing Corporation, fifty primary co-operative marketing societies would be set up. One hundred and fifty primary consumers' co-operative stores are proposed to be organised and 500 rural godowns constructed. One thousand additional canegrowers' societies are to be organised and 50 godowns for the use of cane-marketing unions are to be constructed. The Third Plan also aims at setting up 250 joint co-operative farming societies on a pilot basis.

Gram Panchayats.

19. By the end of the Second Five-Year Plan, there were 10,525 Panchayats constituted under the Bihar Panchayat Raj Act, 1947 and the remaining 236 to cover the entire State with Gram Panchayats will

be constituted in the Third Plan. Elections would be conducted in about 5,000 new Panchayats and re-elections in about an equal number. After this carry-over is exhausted the Panchayats would have a cycle of 3,000 re-elections every year. Training of the Panchayat Sevaks and non-official leaders of Panchayats is to be stepped up in the Third Plan and construction of a Training Institute at Rikhia is proposed. In view of the larger responsibilities given to Panchayats it has been found necessary to provide for the construction of 750 Panchayat Bhawans, at an estimated cost of Rs. 15 lakhs, during the Third Five-Year Plan.

Irrigation.

20. Since piecemeal planning of available resources hampers the systematic development of irrigation, a master plan has been prepared on the basis of available data including schemes costing up to Rs. 500 per acre. It is envisaged that assured irrigation facilities over 104 lakh acres can be created at a total cost of Rs. 184 crores, after full exploitation of the available water resources. In the light of this perspective planning, it is proposed to spend a sum of Rs. 61.57 crores on major and medium irrigation schemes (excluding Rs. 9.00 crores to be spent on flood control) creating potential for an additional area of 27.82 lakh acres by the end of the Third Plan period, out of which the actual utilization by 1965-66 is expected to be 19.87 lakh acres (or say 20 lakh acres). The table below gives the figures of irrigation potential to be created and to be utilised through major and medium irrigation schemes up to the end of the Third Five-Year Plan :—

TABLE 3.

Irrigation potential created and utilised or proposed to be created and utilised at the end of plan period.

(In lakh acres.)

	Pre-plan.	By the end of First Plan.	By the end of Second Plan.	By the end of Third Plan.
1. Potential created	9.97	14.59	20.68	48.48
2. Potential utilised	9.97	12.62	18.69	33.56

21. The irrigation plan consists of nine spill-over schemes and 19 new schemes, the spill-over schemes costing Rs. 47.12 crores. The bulk of the expenditure on spill-over schemes would be on the Kosi, Gandak and Sone Barrage schemes. The irrigation benefits from the Kosi East Canals, as initially sanctioned are estimated at 1.4 million acres on completion of the barrage as well as the canal system. After completion of the eastern canal system, which would be 1,300 miles in length, additional yield of food crops and non-food crops of the order of about 4 lakh tons is expected. Apart from the estimated irrigation potential from the part of the Kosi Irrigation Scheme already sanctioned, it is necessary to take full advantage of the barrage

by extending irrigation to the west bank and those areas on the east bank, which had not been originally included in the scheme due to certain technical difficulties, which have now been removed or solved. This will be in the nature of fuller utilization of the potential already created by the barrage. These extension schemes have been included as new schemes, but against the total estimated cost of Rs. 17.00 crores, a provision of Rs. 4.50 crores only could be made in the Third Plan.

22. Work on the Gandak Project will also be continued in the Third Plan. The project is intended to provide irrigation facilities to a gross command area of 31.62 lakh acres in Bihar, out of which 25.50 lakh acres are culturable, 8.31 lakh acres in Uttar Pradesh and 1.4 lakh acres in Nepal. The project will not be completed within the Third Plan period and, therefore, a provision of Rs. 20 crores only has been made out of the total estimated cost of Rs. 38.45 crores.

23. The Sone Barrage Scheme has been taken up as the present Anicut across the river Sone was found to be inadequate and a new barrage six miles upstream was considered necessary. The scheme consists of the barrage, two high level canals and remodelling of the distribution system. Work on the last is already on hand and about 90 per cent of the remodelling is estimated to have been completed by the end of the Second Plan. Approval for the Sone Barrage Project alone, not including the high level canals, is already available, and preliminary work has commenced. The total estimated cost of the project, including the high level canals, would be Rs. 20.69 crores out of which it is proposed to spend Rs. 12 crores during the Third Plan period. The additional irrigation potential that would be created by the end of the Third Plan would be 3.07 lakh acres. The existing irrigation command of the Sone canal system will be stabilized in addition.

Flood Control.

24. An expenditure of Rs. 5.61 crores was incurred on flood control measures during the First Plan period followed by an estimated expenditure of Rs. 17.69 crores in the Second Plan, including that part of the cost of the Kosi Project which is allocable to flood control. During the two plans, an area of 20.75 lakh acres is likely to have been protected from floods. Flood control and drainage are to be taken up to cover the remaining flood-affected areas in the Third Five-Year Plan at a total cost of Rs. 9.00 crores and are likely to afford flood protection to an additional area of about 3.5 lakh acres. Out of this provision, an amount of Rs. 6.00 crores is to be spent on Kosi.

Power.

25. The programme for power development, which has been given very high priority in the Third Plan, is estimated to cost Rs. 79.95

crores, of which an amount of Rs. 70.62 crores has been provided in the State Plan and the balance of Rs. 9.33 crores in the Central Plan. The State's share of expenditure on the power projects of the Damodar Valley Corporation would be Rs. 20.04 crores, and of this amount only Rs. 15.04 crores would form part of the State Plan and the remaining Rs. 5 crores would come from the Central Plan of Rs. 9.33 crores.

26. Generation of additional power on a large scale is being taken up by the State Electricity Board in the Third Plan. In the Second Plan, work was commenced for the installation of 2 units of 15 MW each at Barauni and 2 units of 50 MW each at Pathratu. These schemes will be completed during the Third Plan; apart from the completion of these schemes, there will be considerable extension of capacity at both the power stations, on account of the heavy and continually increasing demand for power. Proposals sanctioned by the Planning Commission include the augmenting of the capacity at Barauni by 75 MW ($1 \times 15 + 2 \times 30$ MW) and that at Pathratu by 250 MW (5×50 MW). The Kosi Hydel Project is designed for a capacity of 20 MW and the Gandak Project for 15 MW.

27. Along with generation of power, the Board will also lay Extra High Tension Transmission lines both in North Bihar and South Bihar including Chotanagpur. It is estimated that about 630 miles of E. H. T. lines will have to be constructed, involving also the setting up of about 162 sub-stations. High tension transmission and distribution lines will cover nearly 500 miles. The rural electrification programme will be continued and about 1,037 villages electrified, bringing the total to over 3,080. The plan also includes a provision of Rs. 10 lakhs for acquisition of derelict undertakings and of Rs. 40 lakhs for small hydel projects and investigation.

28. Even with the additional generation detailed above, estimates disclose that the State will continually face a shortage of power, throughout the Plan period and at the end of it. It has been proposed now to sanction 2 units of 50 MW each at Barauni as against 2 units of 30 MW each included in the plan. It is apprehended that even with this increase, the shortage by 1965-66 will be about 129 MW. There will be a sharp increase in the *per capita* consumption of power in Bihar in the Third Plan. The consumption is expected to rise from 36.9 units in 1960-61 to 74.9 units *per capita* in 1965-66; in the corresponding period, the consumption in the country will rise from 49.2 units to 83.4 units. The all-round social and economic progress in the country, and in the State, is naturally resulting in a sharp increase in the demand for power, which can be met satisfactorily, without having to face the hurdle of foreign exchange difficulties, only when the Plants begin to be manufactured within the country which will happen when the existing and future Heavy Electrical Units go into full scale production.

Industries.

29. In the large-scale industries sector, it is proposed to expand the State Superphosphate Factory at Sindri and the High Tension Insulator Factory near Ranchi. The production capacity would be raised to 50,000 tons of superphosphate and 4,800 tons of insulators during the Third Plan period. It is also considered necessary to establish on a sound footing certain primary co-ordinating agencies for industrial development of the State. A Bihar State Industrial Development Authority is to be constituted which will have the responsibility of looking after the industrial development of areas such as Mokameh, Barauni, Ramgarh, Barkakana, Bokaro and other areas, close to the heavy industries located as part of the public sector. The Bihar State Industrial Development Corporation, registered under the Companies Act in November, 1960, would be in charge of the large-scale industries established by the State Government.

30. In the small-scale industries sector, it is proposed to provide two large industrial estates for towns with a population of 50,000 and above, four small industrial estates for towns with a population of 20 to 50 thousand, 10 smaller industrial estates for townships with a population of 5 to 20 thousand and 50 workshop sheds for rural towns of less than 5,000 population. The Industrial Extension Service is proposed to be augmented by the Small Industries Servicing Institute of the Government of India which will open more branch institutes for small-scale industries and additional extension centres. The State Government will also set up an Institute of Engineering Designs as a service organisation to help the designing of industrial products, especially in the light engineering industries. A directory of goods produced in the small-scale industries sector is to be made and the sale of the goods organised through emporia. Among the cottage industries in Bihar, handloom weaving has already been successfully organised. However, the three textile factories together with handlooms in the State have a production capacity of not more than six crore yards, which represents 10 per cent of its requirements. Even with the development proposed in the Third Plan, it is anticipated that nearly 80 per cent of the demand for cloth will have to be met from outside the handloom sector. The Tasar Silk Industry in Bihar provides livelihood for a number of persons belonging to the scheduled tribes in Chotanagpur and Santhal Parganas. It is proposed to set up a seed supply station, expand the research station at Chaibasa, and establish suitable production-cum-training centres. With a view to develop handicrafts in brass, bell-metal work, and fibre products, expansion and reorganisation of the Industrial Designs Institute and bulk purchase of raw materials for sale to craftsmen at reasonable rates are proposed. In the Second Plan, facilities were created for the training of 5,000 craftsmen in the various Industrial Training Institutes. On a modest estimate of 12 craftsmen for every diploma-holder, the craftsmen who would require training at the end of the Third Plan are estimated to be of the order of 40,000. A physical target of 8,948 additional seats for craftsmen's training has been proposed for the Third Five-Year Plan.

Roads.

31. The total mileage of P. W. D. roads in Bihar by 1961 would be 8,069 miles, including metalled roads of the District Boards, as against the Nagpur Plan target of 10,211 miles. According to the Road Development Plan recommended by the Chief Engineers' Conference, held in 1958, the State should have about 20,000 miles of main metalled roads, and 35,000 miles of District Board and classified village roads by 1981. The total cost of achieving this result has been worked out to be Rs. 366 crores. It is, however, proposed to incur an expenditure of only Rs. 19.00 crores during the Third Plan which would enable the construction of 1,250 miles of new roads. The carry-over from the Second Five-Year Plan is likely to cost Rs. 7.94 crores. The increasing industrialisation of the southern regions of Bihar has led to a very sharp increase in the transport load and it is absolutely essential to replace as many of the older roads as possible and strengthen the weak and narrow bridges. However, since the task would be immense, emphasis has been laid on strengthening or reconstructing bridges on the old and important trunk roads only during the Third Five-Year Plan. Provision for research and training has been made and a sum of Rs. 1.50 crores has been provided for purchase of tools and plants.

Road Transport.

32. The nationalisation of road passenger transport in the Third Five-Year Plan would require an additional fleet of 478 vehicles involving Rs. 2.25 crores. The total cost of the expansion programme would be Rs. 3.05 crores, out of which Rs. 38 lakhs would come from the surpluses of the Bihar State Road Transport Corporation itself and Rs. 67 lakhs from the Ministry of Railways. A sum of Rs. 2 crores would be required as the State Government's share during the Third Plan. The total mileage done by the Corporation by the end of the Third Plan would be 310.58 lakh miles per annum as against 170 lakh miles by 1961. By the end of the Third Plan, nationalisation would, however, have extended only to all areas south of the Ganges and would touch only a few places in North Bihar.

Education.

33. The total outlay of Rs. 34.03 crores proposed for Education is to be spent in the following manner:—

				(Rupees in crores.)
(i) Elementary Education	..	..	..	19.44
(ii) Secondary Education	..	..	..	7.14
(iii) University and Research	..	..	..	5.37
(iv) Social and Audio-Visual Education	..	..	..	0.47
(v) Physical Education	..	..	..	0.94
(vi) Miscellaneous	..	..	..	0.24
(vii) Scientific and Cultural Education	..	..	..	0.43
TOTAL	..	..	..	34.03

34. Taking into account the constitutional directive for providing free universal and compulsory primary education and the high percentage of wastage or stagnation in enrolment, a target of 48 lakhs (including 30 lakh boys and 18 lakh girls) for enrolment to primary classes in 1965-66 has been laid down. This would mean that 93.5 per cent of the boys and 56.4 per cent of the girls would be enrolled and the constitutional objective would be fulfilled partially by providing free educational facilities for 75 per cent of the children of age-group 6 to 11. This would represent an increase of 19.3 per cent during the Third Plan period against the all-India target of 20 per cent. It is proposed to construct nearly 12,000 class rooms out of the requirement of 27,000 class rooms, by spending Rs. 1.56 crores during the plan period; public contribution to the tune of Rs. 84 lakhs is expected in the plan period. As regards teachers, it is estimated that there would be 1.35 lakh teachers by the end of the Third Plan, out of whom one lakh would be trained from the 112 training schools with an annual enrolment capacity of about 21,000.

35. As regards secondary education, the number of high schools is expected to increase from 1,500 in 1961 to 1,850 in 1966, to take in nearly 5 lakhs of students of age-group 14 to 17 by the end of the Third Plan period. The output of matriculates by 1965-66 is expected to rise from 55,000 to 85,000. Special measures for girls' education will be taken on hand by strengthening the existing non-government girls' schools into State-subsidised high schools. The total number of teachers in secondary schools would rise to 18,000 by the end of the Third Plan out of whom 10,000 would be trained from the six training colleges having an intake capacity of 1,200 each.

36. The universities in Bihar have been reorganised into four regional universities with jurisdictions co-terminus with those of the administrative divisions. It is proposed to raise the annual intake capacity in degree courses of all the science colleges to nearly 5,000 by 1965-66. In addition, the Sanskrit University, which has been established at Darbhanga, would be expanded to conduct necessary post-graduate teaching and research in Sanskrit language and literature. The various historical and linguistic research organisations in the State would be strengthened. A total outlay of Rs. 5.37 crores has been proposed for University education and research schemes. The social education programme during the Third Plan is mainly consolidation of the different social education centres already established and emphasis would be laid on the adult literacy programme, under which nearly 14 lakh adults are expected to be made literate. In the field of technical education it is proposed to provide for an increase of 134 seats in the degree courses and 1,080 seats in the diploma courses.

Health.

37. The Health Department would continue the malaria eradication scheme and take up also the new scheme for the eradication of small-pox.

The expansion of the lymph production factory at Ranchi and the starting of another factory for making dry lymph are proposed. There is a proposal to increase the number of beds in each of the hospitals at divisional headquarters to 300 and increase the district hospital bed strength to 150 each. It is proposed to make available to hospitals the benefit of increased specialised services, by attaching a T. B. Clinic at every district and subdivisional headquarters. It is expected that the number of beds would increase from 10,161 in 1961 to 13,071 in 1966.

38. The number of additional health personnel available at the end of the Third Plan would be 1,300 Medical Officers, 200 Nurses, 250 Lady Health Visitors, 750 Auxiliary Midwives and 1,500 Dais. For augmenting medical education facilities, admission to the three Medical Colleges has already been increased to 150 each. A new Nurses' Training School would be started along with the Ranchi Medical College Hospital and seven more Auxiliary Nurses Midwives' Training School would be started. By the end of the Third Plan, the available number of doctors in the State would be 8,095. Efforts are to be made to construct a Homeopathy College and take over three private Ayurvedic Colleges. It is also proposed to start one Ayurvedic and one Unani Dispensary in each subdivision.

Welfare of Scheduled Castes, Scheduled tribes and other Backward Classes.

39. The main effort in this sector will be on education. Stipends are proposed to be granted on a very liberal scale to 15,000 students belonging to the Scheduled Tribes, 77,850 belonging to the Scheduled Castes and 20,000 belonging to other Backward Classes. In addition, stipends for technical education would be granted to a total of 2,875 students belonging to the three communities. Moreover, book-grants are proposed to be given to 4,000 Scheduled Tribe and 5,000 Scheduled Caste students. The education grants to be given to middle school students and primary school students would help about 51,000 Scheduled Tribe, 18,500 Scheduled Caste and 20,000 Backward Class students. On the economic side, it is proposed to strengthen the organisation of grain-golas which have worked successfully in the scheduled tribe areas. As part of the Third Plan programme, 600 grain-golas will be established in the scheduled tribe areas.

40. Two statements are being given at the end of this chapter. The first statement shows the estimates by the different heads of both the anticipated outlay during the Second Plan and the proposed outlay during the Third Plan. The second statement gives the phasing of the State Plan outlay, according to various heads, in the five years of the Third Plan period. Moreover, the estimated capital content of the outlay proposed in each year has also been shown. For the purpose of comparison the anticipated outlay during 1960-61 and also during the entire Second Plan period have also been given. Further, the estimates of foreign exchange requirements during the Third Plan period under each head have also been shown.

41. A study of the figures given in Statement II will reveal that in the third and fourth years of the Third Plan period the outlay per annum will exceed even Rs. 70 crores. All attempts are being made to complete the large projects specially in the irrigation and power sectors, as early as possible and this accounts for the comparatively large outlays in those years. The phasing of projects is of great importance during the Third Plan period since the total amount of outlay involved is very large and it is essential that there is close co-ordination in planning and execution of projects of related sectors, as for example, industry, transport and power. The completion of schemes within the shortest possible time will enable the State to acquire the potential for growth early in the plan period and thus make easier the execution of schemes proposed to be taken up in the later years of the Third Plan period.

EMPLOYMENT.

42. Co-ordinated execution of schemes is also essential for solving the problem of unemployment, which is one of the major objects with which the Third Plan has been drawn up. The National Plan expects to provide employment for only about 14 million people, as against an estimated addition of 17 million to the labour force, and absorb the remaining 3 million through special work projects in the rural areas. On account of the large rural sector and because of the prevalence not merely of unemployment but also of under-employment on an extensive scale in the rural areas, the estimation of the employment opportunities offered by plan schemes as also the further leeway to be made up is beset with serious difficulties. Certain estimates have, however, been attempted, according to which, the backlog of unemployment in the State at the end of the First Plan was of the order of 5 lakh. The preliminary census figures for 1961 disclose that the fresh entrants to the labour market during the Second Plan might have been 13.82 lakhs. The Second Plan was however able to provide only 8 lakh jobs, according to very rough estimates; and thus, at the beginning of the Third Plan, the backlog of un-employment might have been as high as 10.82 lakhs. During the Third Plan period, the entrants to the labour market are estimated at 16.9 lakhs and hence the total requirements of jobs, in the Third Plan period, would be of the order of 27.72 lakhs. Certain all-India norms have been adopted by the Planning Commission to arrive at rough estimates regarding employment opportunities of plan schemes and according to these about 9.72 lakh jobs will be created in the Third Plan, as shown below:—

	Lakhs.
(1) Construction employment	2.88
(2) Continuing employment	2.97
(3) Employment in trade and commerce, etc., at 16 per cent of (1) and (2) above.	3.28
(4) Employment resulting from agriculture schemes	0.59
TOTAL	9.72

43. On the basis of the figures given above, it will be seen that the backlog at the end of the Third Plan may be as high as 18 lakhs. However, it is important to emphasise that, in the calculation above, the employment opportunities offered only by those schemes forming part of the State Plan or likely to arise as a result of those schemes, have been taken into account. A large number of projects will be set up in the State as part of the Central Plan during the next five years. The Barauni Oil Refinery will be completed and the Heavy Engineering Corporation will also complete the construction of the heavy machinery plant and the foundry forge at Hatia. Moreover, the Centre will also set up the fourth steel plant of the public sector at Bokaro. Apart from the employment opportunities directly offered by these projects, it is further anticipated that the heavy industrial units set up will draw ancillary industries to Bihar, thus offering further scope for employment. In fact, in the industries sector of the State Plan, there is a proposal to establish an industrial development authority only with a view to plan properly the growth of industrial areas with the heavy industrial units as their nuclei. With the generation and distribution of power on a large scale, small-scale industrial units are also likely to be set up in various parts of the State and these are also likely to add to the employment opportunities that would be available. The mineral development programme of the nation includes large increase in the output of coal and other minerals found in the State including the deposit of pyrites which are being developed by a Government of India undertaking. The mineral development programme will also offer additional opportunities for employment to people in the State. The Railways will complete the electrification up to Mogalsarai and will also construct new lines like Ranchi-Bondabunda, Garhwa-Robertsganj, etc. These programmes of the railways will also offer large opportunities for employment during the construction phase. In fact, in the context of the estimate of only 3 million backlog in the entire country, by the Planning Commission, at the end of the Third Plan, it is only reasonable to presume that when all these factors, including of course the possibility of development of the private sector, is taken into account, the State backlog at the end of the Third Plan will not in any case exceed 3 lakhs.

44. The Government of India have also drawn up a scheme of pilot projects for works programmes for utilising rural man-power. These projects will include schemes for irrigation, afforestation, soil conservation, drainage, land reclamation and improvement of communications. It is estimated that the pilot projects will offer employment to about 2.5 million people in the last year of the plan in the country as a whole. In Bihar, three such pilot projects are being taken up, in Madhavpur Block in Darbhanga, Bodh Gaya Block in Gaya and Patamda Block in Singhbhum district. All these pilot projects will be financed entirely by the Central Government. The Central Government has provided a total amount of Rs. 150 crores for all such

projects in the country, and more projects are expected to be taken up in the State on the basis of the study of results of the projects already chosen.

ADMINISTRATION OF THE PLAN.

45. The Third Plan of the State envisages an outlay which is about 35 per cent higher than that in the First and Second Plans put together. The problems that the execution of the plan will present will also be correspondingly immense in size. It is however with some amount of confidence that the State Government are launching their plan effort. As mentioned in Chapter II, a community development organization has already been built up and schemes are on hand for recruitment and training of the personnel required for extending the organization throughout the State. Proposals for meeting the man-power requirements, especially of technically qualified personnel, in such sectors as Agriculture, Irrigation, Power, Education, Health, etc., have been carefully drawn up. The execution of the plan will call for a co-ordination of the efforts of the various State agencies and periodic evaluation of progress will be taken to spot the deficiencies in the working of any agency and apply remedial measures immediately. A marked enthusiasm for the completion of projects according to schedule, coupled with a belief in Planning as an article of faith essential for the betterment of the nation, will have to characterise the actions of the vast number of officials of the State Government and other agencies, participating in the development effort.

46. The Third Five-Year Plan constitutes only a landmark on the road to planned development of the State and the country. The necessity for perspective planning has earlier been emphasised and both in the framing of plan schemes and in assessing their contribution to the welfare of the nation, a serious handicap has been the paucity of reliable statistical information. Successful framing of plan schemes and their administration requires the collection of valuable data not merely on the economic activities of the nation but also on social and other aspects. As an instance, it may be stated that the Central Statistical Organisation of the Government of India computes figures regarding national income and in this manner some attempt to assess the levels of investment and income growth, for the nation as a whole, is possible. There are, however, no such figures regarding the States; and the computation of "State income" will be attempted in the Third Plan by the Central Statistical Organisation with the help of similar bodies in the States. Hence although at present it is not possible to forecast the rise in *per capita* income in the State, it is hoped that data in this regard would be available during the Third Plan. With the availability of such statistical indicators, it would be possible to improve in future the plan administration in the State, as regards both framing and execution.

PUBLIC CO-OPERATION.

47. There can be no doubt that the range and magnitude of the tasks set before the State during the Third Plan are immense. However, these tasks are essential and have to be carried out with a sense of urgency. The success of the plan will depend on the efforts of everyone of the 46 million people who inhabit the State. If they set about the work in a spirit of challenge, there need be no doubt whatever regarding the success of the Third Plan.

The Third Five-Year Plan will strain to the utmost the physical efforts of the citizens and the financial resources of the State, which again have to be gathered from the citizens themselves; and yet it can be confidently hoped that the efforts necessary would be forthcoming.

STATEMENT I.

Distribution of State Plan Outlay by heads.

(Rupees in lakhs.)

Head.			Second Plan anticipated outlay.	Third Plan proposed outlay.
1. Agricultural Programme—				
1.1. Agricultural Production	..	..	13,42.66	19,35.61
1.2. Minor Irrigation	..	..	8,27.00	8,38.91
1.3. Soil Conservation	..	..	1,61.56	2,50.04
1.4. Animal Husbandry	..	..	3,66.15	4,68.00
1.5. Dairying and Milk Supply	..	..	41.27	2,11.61
1.6. Forests	..	..	1,76.30	2,95.00
1.7. Fisheries	..	..	30.98	89.44
1.8. Warehousing	..	..	11.00	20.00
1.9. Marketing	..	..	5.57	30.00
		TOTAL	29,62.50	41,38.61
2. Co-operation and Community Development—				
2.1. Co-operation	..	..	2,79.71	5,18.00
2.2. Community Development	..	..	21,46.50	35,00.00
2.3. Panchayats	..	..	97.45	92.00
		TOTAL	25,23.66	41,10.00
3. Irrigation and Power—				
3.1. Irrigation	..	..	25,82.08	61,57.10
3.2. Flood Control	..	..	..	9,00.00
3.3. Power	..	..	31,24.48	70,62.00
		TOTAL	57,06.56	1,41,19.10
4. Industry and Mining—				
4.1. Large and medium industries	..	..	2,12.78	2,80.00
4.2. Mineral development	..	..	10.67	20.00
4.3. Village and small industries	..	..	6,84.22	11,03.00
		TOTAL	9,07.67	14,03.00
5. Transport and Communications—				
5.1. Roads	..	..	13,33.00	19,00.00
5.2. Road Transport	..	..	30.18	2,06.00
5.3. Ports and Harbours	..	..	..	..
5.4. Inland water transport	..	..	..	30.00
5.5. Tourism	..	..	1.26	10.00
		TOTAL	13,64.44	21,40.00

(Rs. in lakhs.)

Head.	Second Plan anticipated outlay.	Third Plan proposed outlay.
6. Social Services—		
6.1. General Education	16,96.95	34,03.00
6.2. Technical Education	1,93.63	5,04.00
6.3. Scientific research .. .. .	..	..
6.4. Health	12,94.00	21,50.00
6.5. Housing	3,90.67	5,75.00
6.6. Welfare of Backward Classes	4,33.97	7,23.00
6.7. Social Welfare	31.95	35.24
6.8. Labour and Labour Welfare	1,06.00	2,80.00
6.9. Public Co-operation .. .. .	..	0.25
TOTAL ..	41,47.17	76,75.49
7. Miscellaneous—		
7.1. Statistics	35.85	18.18
7.2. Information and Publicity	38.24	50.00
7.3. Local Bodies .. .. .	..	50.00
7.4. State capital projects .. .. .	..	..
7.5. Others .. .. .	..	..
TOTAL ..	74.09	1,13.18
GRAND TOTAL ..	1,76,86.09	3,97,04.88

NOTE.—(1) 'Agricultural Production' includes 'Land development' and 'Consolidation of holdings'.

(2) 'Soil Conservation' includes 'Dry farming'; 'Panchayats' covers outlay for training, organisation, etc.

(3) 'General education' includes 'cultural programmes'.

(4) 'Health' includes 'urban water-supply and sanitation' and 'rural water-supply'.

(5) 'Local Bodies' includes grants and loans for development schemes to urban as well as rural local bodies not covered under other heads.

STATEMENT II.

Phasing of Total State Plan Outlay.

(Rupees in crores.)

Heads.	Anti-	Anti-	1961-62.		1962-63.		1963-64.		1964-65.		1965-66.		Third Plan, 1961—66.		Estimat- ed Foreign exchange.
	cipated outlay, 1956— 61.	cipated outlay, 1960- 61.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I. Agricultural Production—															
1.1. Agricultural Pro- duction.	13.43	3.60	3.06	0.96	3.51	1.21	4.01	1.49	4.26	1.64	4.52	1.96	19.36	7.26	0.05
1.2. Minor Irrigation	8.27	2.00	0.75	0.75	2.73	2.73	3.13	3.13	0.92	0.92	0.86	0.86	8.39	8.39	..
1.3. Soil Conservation	1.62	0.44	0.30	0.02	0.49	0.02	0.54	0.03	0.57	0.03	0.60	0.03	2.50	0.13	..
1.4. Animal Hus- bandry.	3.66	1.33	0.56	0.16	1.11	0.35	1.15	0.40	0.92	0.20	0.94	0.15	4.68	1.26	0.07
1.5. Dairy and milk supply.	0.41	0.25	0.24	0.21	0.37	0.27	0.45	0.31	0.53	0.20	0.53	0.24	2.12	1.23	0.24
1.6. Forests ..	1.76	0.51	0.35	0.15	0.56	0.27	0.63	0.33	0.67	0.36	0.74	0.40	2.95	1.51	0.003
1.7. Fisheries ..	0.31	0.07	0.08	0.01	0.15	0.01	0.17	0.01	0.19	0.02	0.22	0.02	0.89*	0.07	0.01
1.8. Warehousing ..	0.11	..	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.20	0.20	..
1.9. Marketing ..	0.06	0.03	0.03	..	0.05	..	0.07	..	0.07	..	0.08	..	0.30	..	0.004
TOTAL ..	29.63	8.23	5.41	2.30	9.01	4.90	10.19	5.74	8.17	3.41	8.53	3.70	41.39	20.05	0.377

2. Co-operative and Community Development—

2.1. Co-operation ..	2.80	0.60	0.61	0.19	1.30	0.63	1.08	0.29	1.10	0.26	1.09	0.25	5.18	1.62	..
2.2. Community Development.	21.47	6.62	5.00	1.57	5.95	1.87	7.35	2.30	8.05	2.52	8.65	2.71	35.00	10.97	..
2.3. Panchayats ..	0.97	0.39	0.13	..	0.16	..	0.19	..	0.21	..	0.23	..	0.92	..	..
TOTAL ..	25.24	7.61	5.74	1.76	7.41	2.50	8.62	2.59	9.36	2.78	9.97	2.96	41.10	12.59	..

3. Irrigation and Power—

3.1. Irrigation ..	25.82	8.63	9.70	9.70	14.98	14.98	13.61	13.61	11.72	11.72	11.56	11.56	61.57	61.57	3.25
3.2. Flood Control ..	..	5.92	3.27	3.27	3.41	3.41	1.44	1.44	0.44	0.44	0.44	0.44	9.00	9.00	0.20
3.3. Power ..	31.24	..	8.50	8.50	10.41	10.41	13.25	13.25	15.68	15.68	9.56	9.56	70.62	70.62	39.60†
TOTAL ..	57.06	14.55	21.47	21.47	28.80	28.80	28.30	28.30	27.84	27.84	21.56	21.56	141.19	1,41.19	44.76

4. Industry and Mining—

4.1. Large and Medium Industry.	2.13	0.71	0.34	0.16	0.51	0.22	0.59	0.25	0.64	0.27	0.72	0.30	2.80	1.20	0.32
4.2. Mineral Development.	0.11	0.04	0.02	0.005	0.03	0.006	0.04	0.006	0.05	0.004	0.06	0.001	0.20	0.02	0.05
4.3. Village and Small Industries.	6.84	1.68	1.32	0.78	1.98	1.00	2.29	1.02	2.57	0.96	2.87	1.02	11.03	4.78	0.09
TOTAL ..	9.08	2.43	1.68	0.94	2.52	.	2.92	1.28	3.26	1.23	3.65	1.32	14.03	6.00	0.46

STATEMENT II—concl'd.

Phasing of Total State Plan Outlay—concl'd.

(Rupees in crores.)

Heads.	Anti- cipated outlay, 1956— 61.	Anti- cipated outlay, 1960— 61.	1961-62.		1962-63.		1963-64.		1964-65.		1965-66.		Third Plan, 1961—66.		
			Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Total.	Capital.	Estimat- ed Foreign exchange.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5. Transport and Com- munication—															
5.1. Roads ..	13.33	2.99	2.75	2.75	3.43	3.43	3.88	3.88	4.31	4.31	4.63	4.63	19.00	19.00	0.52
5.2. Road Transport	0.30	0.17	0.50	0.50	0.58	0.58	0.73	0.73	0.17	0.17	0.92	0.02	2.00	2.00	..
5.4. Inland Water Transport.	..	..	..	..	..	..	..	..	..	..	..	..	0.30‡	0.30	..
5.5. Tourism ..	0.01	..	0.01	0.01	0.03	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.10	0.07	..
TOTAL ..	13.64	3.16	3.26	3.26	4.04	4.03	4.63	4.62	4.50	4.50	4.67	4.66	21.40	21.37	0.52
6. Social Services—															
6.1. General Educa- tion.	16.97	5.94	4.18	1.37	5.63	1.62	6.88	1.66	8.08	1.64	9.26	1.68	34.03	7.97	0.65
6.2. Technical Edu- cation.	1.94	0.50	0.71	0.47	0.90	0.47	1.01	0.49	1.16	0.39	1.26	0.32	5.04	2.14	0.24
6.3. Health ..	12.94	4.00	3.31	1.43	4.74	2.28	4.96	2.30	4.33	2.26	4.16	1.58	21.50	9.85	0.71

6.4. Housing ..	3.91	1.21	0.70	0.70	1.00	1.00	1.26	1.26	1.34	1.34	1.45	1.45	5.75	5.75	..
6.5. Welfare of Backward Classes.	4.34	1.25	1.02	0.13	1.37	0.24	1.50	0.23	1.63	0.29	1.76	0.28	7.23	1.22	..
6.6. Social Welfare and Public co-operation.	0.32	0.10	0.05	..	0.03	..	0.04	..	0.04	..	0.04	..	0.35	..	..
6.7. Labour and Labour Welfare.	1.06	0.40	0.39	0.29	0.47	0.27	0.55	0.12	0.65	0.10	0.74	0.07	2.80	0.35	0.30
TOTAL ..	41.48	13.40	10.36	4.39	14.14	5.88	16.20	6.11	17.23	6.02	18.67	5.38	76.75	27.78	1.30
7. Miscellaneous—															
7.1. Statistics ..	0.36	0.10	0.02	..	0.04	..	0.04	..	0.04	..	0.04	..	0.18	..	..
7.2. Publicity ..	0.38	0.09	0.06	..	0.10	0.02	0.12	0.03	0.10	..	0.12	..	0.50	0.05	0.03
7.3. Local Bodies ..	..	..	0.06	0.06	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.08	0.50	0.05	..
TOTAL ..	0.74	0.19	0.14	0.06	0.26	0.14	0.28	0.15	0.26	0.12	0.24	0.08	1.18	0.55	0.03
GRAND TOTAL ..	1,76.87	49.57	48.06	34.18	66.18	47.48	71.14	48.79	70.62	45.90	67.29	39.66	3,37.04	2,29.53	47.45

Remarks—

*Includes Rs. 0.08 crores for D. V. C.'s share. The yearwise break-up of which is not available.

†The break-up of D. V. C.'s share for 1962-63 onwards is not available.

‡Yearwise break-up is not available.

CHAPTER V

AGRICULTURAL PROGRAMME

1. AGRICULTURAL PRODUCTION.

First Plan.—The various Grow More Food Schemes executed in the First Five-Year Plan period provided for an additional production potential of 7.22 lakh tons of cereals and pulses as shown in Table 1 below:—

TABLE 1.

	(In lakh tons.)
1. Minor Irrigation	3.22
2. Major Irrigation	0.53
3. Flood protection scheme	1.66
4. Land development and reclamation	0.77
5. Fertilizers and manures	0.72
6. Improved cultural practices	0.32
TOTAL ..	7.22

On the basis of the approved yardsticks of additional production for the various kinds of Grow More Food Schemes included in the First Plan, it was estimated that the target was fulfilled. The actual production in 1955-56 was, however, of the order of 55.33 lakh tons.

Altogether, there were 57 schemes in the agricultural sector including seven schemes of fisheries development with a total provision of Rs. 11,89.5 lakhs. The activities of the Agriculture Department which were formerly limited to research and a few demonstrations were considerably enlarged to cover a wider field of operations. The total expenditure in the First Plan exceeded the provision made originally by about Rs. 23.01 lakhs, and this was due to increase in the level of development research in certain fields of activities.

Second Plan appraisal.—As advised by the Planning commission and the Government of India, the average of the food production over the five years of the First Plan period was adopted as the base for the Second Plan so as to eliminate any variations on account of seasonal factors. The base for the Second Plan worked out to 52.08 lakh tons for old Bihar. The adjusted figure for new Bihar, i.e., after the reorganisation of States came to 49.03 lakh tons, which was accepted as the base for the Second Plan. The various Grow More Food Schemes provided for in the Second Plan were originally estimated to secure an additional production potential of 15 lakh tons of foodgrains. The anticipated achievement at the end of the Second Plan is, however, likely to have been of the order of 11.75 lakh tons only, particularly because of short supply of chemical fertilizers, delay in the establishment of seed multiplication farms and lack of a suitable agency to

ensure exchange of improved seeds among the different classes of registered growers. Adding this additional potential estimated to have been created to the base of 49.03 lakh tons, the expected production potential at the end of the Second Plan period should be of the order of 60.78 lakh tons. It may be stated here that the actual production of foodgrains in the year 1958-59 was estimated at 68.76 lakh tons. In that year there was a record yield of both Kharif and Rabi crops because of the favourable seasonal conditions, apart from the special measures taken for increased agricultural production. The achievement of 1958-59 will show that a conservative estimate has been made of the production potential created and that with favourable seasonal conditions actual production is likely to exceed the estimated potential. The actual production in 1959-60 is estimated at 66.09 lakh tons. In 1960 when discussions were held with the Planning Commission for finalising the Third Plan, the production in 1960-61 was estimated at 62.62 lakh tons ; revised figures indicate that actual production in that year may be about 70 lakh tons.

Good progress has been achieved in the execution of the schemes in the sector. Against the original plan provision of Rs. 8,10.30 lakhs for the schemes, the actual expenditure is estimated to have been of the order of 11,76.49 lakhs. Thus, the actual expenditure in the Second Plan is likely to exceed the plan provision by Rs. 3,66.19 lakhs. The excess expenditure is, *inter alia*, attributable to the following:—

- (1) Higher cost of land acquisition for establishment of seed multiplication farms.
- (2) Large-scale control measures undertaken to fight out the widespread attack of Gundhi bugs and cut worms, etc.
- (3) Introduction of the two-year diploma course in agriculture in all Agricultural schools instead of the one-year course originally provided for and establishment of two new Gram Sevikas' Training Centres.
- (4) Additional sugarcane development schemes.
- (5) Development of roads in jute-growing areas.
- (6) Additional funds required for the Ranchi Agricultural College.

Self-sufficiency in foodgrains in the Third Plan.—In its 14th meeting held on March 19-20, 1960, the National Development Council decided that one of the main tasks to be undertaken during the Third Plan should be to achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports. For this, the Council emphasised the need for rapid increase in agricultural production and agreed that the first priority during the Third Plan should be given to agriculture. In planning for increased agricultural production and, more particularly, foodgrains production in the Third Plan, we have not only to provide for the progressively increasing

population but also to meet the increased demand on account of the anticipated rise in the *per capita* income and help in building up stocks to cover shortages which may occur in lean years. The preliminary result of the census has indicated the population of Bihar in 1961 at 46.5 millions. Assuming the rate of increase to be the same, the population is likely to be 51.2 millions by 1966. The requirement of foodgrains should be worked out on the basis of the anticipated increase in population and the net *per capita* consumption of 17.5 oz. of foodgrains, namely, cereals and pulses, the level that has been taken by the Planning Commission as the availability by 1965-66. On this basis, the requirement of cereals and pulses for the projected population in 1965-66 (assuming 100 as equivalent to 86 in adult units) comes to 7,842 lakh tons. Adding 10 per cent for livestock feed, etc., the total requirement of foodgrains in 1966, would work out to 86.26 lakh tons. Along with foodgrains, production of commercial crops, which provide raw materials for our expanding industries, or are also important as export commodities, has also to be increased to keep pace with the requirements of our developing economy.

Third Plan of agricultural production.—The various agricultural production schemes included in the Third Plan are estimated to create an additional production potential of 23.27 lakh tons out of which 20.27 lakh tons are for foodgrains. Its break-up by broad heads both for foodgrains and non-foodgrains is given in Table 2 below:—

TABLE 2.
Additional Potential to be Created in the Third Plan

(In lakh tons.)

	Food.	Non-food.	Total.
1. Minor Irrigation	1.28	0.85	2.13
2. Major Irrigation	3.75	1.25	5.00
3. Manures and fertilizers ..	8.64	3.13	11.77
4. Land development including soil conservation.	0.39	..	0.39
5. Improved seed	4.37	0.22	4.59
6. Cultural practices	1.84	0.55	2.39
TOTAL ..	20.27	6.00	26.27

Doubts have been expressed whether the target proposed for chemical fertilizers for the Third Five-Year Plan are realistic. There is no doubt that chemical fertilizers hold the key to attaining the self-sufficiency in foodgrains in this country. According to a recent survey conducted

by the Indian Institute of Public Opinion, "the yields of fertilized farms in this country are comparable with those anywhere in the world. But properly fertilized farms in this country are too few and that accounts for the average yield in this country being among the lowest in the world." Most of our soil has been depleted of plant nutrients through centuries of cultivation. The recurring annual deficit of the various plant nutrients in the Indian soil has been estimated to be of the order of nearly 11.6 million tons. If the yield has not fallen owing to this recurrent loss of fertility, it is due to considerable increase in the use of improved seeds and scientific methods of cultivation. Ours is not a case of artificial fertilizers *versus* organic manures. It is only through the use of both that we can arrest the deterioration in the fertility of our soil and raise our agricultural output in consonance with the growing demands of our rapidly multiplying population and steadily developing industries. The application of inorganic manures in Indian agriculture today is, however, far behind their use in the advanced countries of the world. India consumes only 1.39 kilograms of all the three artificial fertilizers—nitrogen, phosphoric acid and potash—per hectare of land under cultivation as against 446.52 kilograms in Netherlands, 268.92 kilograms in Japan, 246.39 kilograms in West Germany, 143.50 kilograms in U. K. and 30.33 kilograms in U. S. A. Not only is the total quantity used negligible, but the proportion in which the three nutrients are applied in this country is also improper. In order to rectify this defect it is proposed to go in for preparation and distribution of mixed fertilizers. Doubts have been expressed if the State Co-operative Marketing Union with the existing arrangements would be able to distribute large quantities of chemical fertilisers. It is, therefore, proposed that with regard to mixed fertilizers private trade should be allowed to manufacture and distribute fertilizers in a number of districts side by side with the Co-operative Marketing Union doing the same work in other districts. This is expected to infuse a spirit of healthy competition between the Union and private trade. If necessary, distribution of the various fertilizers separately could also be entrusted to private trade in selected districts so that the competitive distribution arrangements could together cope with the work in this field of activity. If self-sufficiency in foodgrains is to be attained by the end of the Third Five-Year Plan, there is no other simpler and cheaper way to do so. The shortfall in attaining the target of self-sufficiency in foodgrains will be in proportion to the extent the supply of fertilizers falls short of the requirements proposed in the Third Plan.

With the execution of these schemes, the estimated production of foodgrains at the end of the Third Plan is expected to be of the order of 82.89 lakh tons only for Bihar which is less than the anticipated requirement of 86.26 lakh tons, which as indicated above, includes 10 per cent for livestock feed, etc., also. The requirements of the human population will be met fully though not those of the livestock in the State.

The main production targets for the other agricultural commodities are proposed as in Table 3 below:—

TABLE 3.

(In lakh tons.)

	Estimated production at the end of Second Plan.	Additional production in the Third Plan.	Estimated production at the end of Third Plan.
1. Sugarcane ..	68.50	4.50	73.00
2. Oilseeds ..	0.60	0.66	1.26
3. Tobacco ..	0.15	..	0.15
4. Fruits ..	8.08	3.00	11.08
5. Vegetables ..	31.76	10.00	41.76
6. Jute ..	8.39 (lac bales)	4.41 (lac bales)	12.80 (lac bales).

Proposed outlay on the schemes of the Third Plan.—On the basis of the broad objectives indicated in the preceding paragraph, the organisational and other implications of the agricultural production programme in the Third Plan have been worked out and necessary schemes formulated at a total estimated cost of Rs. 17,47.61 lakhs as shown in Table 4 below :—

TABLE 4.

Outlay proposed for Agricultural Production Schemes.

(Figures in lakh rupees.)

I. See Multiplication and Distribution Schemes	1,25.92
II. Supply Schemes—	
(a) Fertilizers and Manures Schemes	2,83.27
(b) Expansion of Plant Protection Scheme	80.00
III. Development of Commercial Crops and Horticulture—	
(a) Horticultural Development Schemes including Seed Certification ..	60.00
(b) Sugarcane Development Schemes	2,91.18
(c) Jute Development Schemes	34.73
(b) Oilseed Development Schemes	11.71
(e) Tobacco Extension Scheme	3.89
(f) Lac Development Scheme	12.70
IV. Agricultural Education Schemes including Extension Training Centres and District Agricultural Schools.	2,68.95
V. Agricultural Research and Statistics Schemes	2,08.34
VI. Administrative including Extension Schemes	1,51.31
VII. Miscellaneous—	
(a) Others	65.61
(b) Intensive Agricultural District Programme (Package)	1,50.00
TOTAL	17,47.61

Agricultural Education.—During the First Five-Year Plan only one agricultural college was functioning at Sabour. To meet the increased requirement of technical personnel for the expanded activities of research and extension of the Agriculture Department the second agricultural college at Ranchi was established at the end of the First Plan itself although originally intended to be started in the Second Plan. It was also felt that the quality of training of the Village Level Workers should be improved and, therefore, two years' diploma course in all the 17 Basic Agricultural Schools in the State was introduced in a phased manner during the Second Plan period. The successful candidates from these Basic Schools receive six months' training at Extension Training Centres before they are appointed as Village Level Workers in the C. D. Blocks. The period of training of the Village Level Workers was thus increased from 18 months to 30 months. To provide Gram Sevikas for Home Science work in the C. D. Blocks, four Home Science Training Centres were started during the Second Plan period. To increase the efficiency of the technical staff of the department, 94 selected persons from amongst the staff were deputed for the post-graduate course in the Sabour Agricultural College. Besides, 40 selected staff were also deputed to the post-graduate course and the Ph. D. course at the Indian Agricultural Research Institute, New Pusa, Delhi. In addition to these, 17 selected personnel were deputed to foreign countries for higher training, on scholarships or loans granted by the State Government. Advantages were also taken of the opportunities given by the Colombo Plan and by the T. C. M. and 10 persons were trained under these schemes during the Second Plan.

It was also felt necessary that progressive farmers should also be trained in recent techniques of improved agriculture. A training course lasting for about six weeks was conducted at the Bihar Agricultural College, Sabour for the benefit of farmers. The number of such farmer trainees is 249.

Even with the running of two agricultural colleges in the State about 230 technical posts remained vacant by the end of the Second Plan in the Agriculture Department. During the Third Plan, the research and extension organisations of the Agriculture Department are being expanded with a view to achieve the high targets fixed for additional foodgrains production. The Education Department of this State are going to introduce agriculture as one of the subjects for vocational training in a number of Multi-purpose Schools of High Secondary standard. The Co-operative Department also require agricultural graduates for attending to the development of co-operative farming during the Third Plan. Considering these demands it became imperative to start the third agricultural college under the Third Plan, at Dholi in Muzaffarpur, ahead of its schedule and the college has already started in the last year of the Second Plan. The total seats in the B. Sc. course in the two colleges at Sabour and Ranchi had to be increased from 150 to 200 (including both the colleges). The third college has started with

100 seats. In the Ranchi Agricultural College, post-graduate studies in five subjects are being introduced to provide technical personnel for research sections. In addition, it is proposed to take advantage of the training facilities available at the Indian Agricultural Research Institute, New Pusa, Delhi. A provision has also been made for deputing a few selected staff to foreign countries for higher training.

The Diploma Course in agriculture in the 17 schools in the districts will continue and the product of these schools will just be sufficient to meet the requirements of the new C.D. Blocks and Agricultural Extension Blocks to be started in the Third Plan. A large number of diploma holders are required by the Education Department to man the teaching posts at the middle standard. Due to limitation of funds and the technical personnel it would not be possible to meet the entire demand of the Education Department.

The scheme for reorientation of progressive farmers would continue. Side by side, a refresher course training for the higher grade staff and the Village Level Workers would also continue in the colleges and the Extension Training Centres, respectively. All the four Gram Sevikas' Training Centres would continue to function and a fifth one added during the Third Plan period.

Research.—The four Regional Research Institutes started functioning at the end of the First Plan as a readjustment scheme for work during the Second Plan. The Regional Institute of North Bihar has now been located separately at Dholi in Muzaffarpur district for which land was acquired during the Second Plan period. The construction of buildings for the Regional Research Institute at Ranchi was completed and that at Sabour was taken up. The lands for Regional Research Institute buildings and Farm for Patna region and for the State Horticultural Garden have been acquired in Patna during the Second Plan period. The buildings are proposed to be completed in the first few years of the Third Plan. The Sugarcane Research Station at Pusa has continued to function. Four Irrigation Research Sub-stations have been established—one in the Sone Canal region and three in the Kosi Command Belt.

During the Third Plan all the Regional Research Institutes are proposed to be strengthened so that each region has an Assistant Specialist for the important crops. The office of the State Specialist in a particular crop is located in the region where the crop is most widely grown. Rice and Cereal Research Specialists are functioning at the Patna Regional Research Institute. The Fruit Regional Research Station sponsored by the Government of India towards the end of the Second Plan would continue to function in the Third Plan. This station is located at Sabour. The Banana and Citrus Research Sub-stations are functioning on permanent basis.

Extension.—The extension work has to be intensified during the Third Plan to achieve the objective of additional production.

The Panchayat Organisations at the various levels would be coming into existence during the Third Plan period and through them people's participation in the agricultural production programme is expected to be available in a considerable measure. The role of the Co-operative Organisation in handling supplies and channelising short or medium-term credit needed for agricultural production is expected to be expanded, so that the agricultural production programme envisaged for the Third Plan could be achieved.

During the Second Plan, a beginning was made in horticultural development work for production of fruits and vegetables. This work will be intensified during the Third Plan. Horticultural staff would be posted in selected blocks where horticultural work can be easily intensified. Provision for extension staff has been made for developing vegetable and fruit cultivation around industrial towns and big district and sub-divisional headquarters so that vegetables could be available in adequate quantity. Development of nurseries in the blocks to provide vegetable seeds and grafts and seedlings for development of fruit and vegetable cultivation has been emphasized.

Provision for adequate expansion of the Plant Protection Service has been made. The expansion of Commodity Committees to achieve the desired targets has also been provided for.

LAND DEVELOPMENT.

WASTE LAND RECLAMATION AND LAND SETTLEMENT AND COLONISATION.

Bihar has about 32 lakh acres of culturable waste lands which include nearly 8 lakh acres of impoverished pastures. Out of this, about 18 lakh acres are lands affected by soil erosion and mostly located in the plateau of South Bihar, viz., Chotanagpur and Santhal Parganas regions. Unlike the lands in the Gangetic plain which generally give a satisfactory yield of crop after reclamation and for which the cost of reclamation is comparatively low without any post-reclamation measures involved in it, the lands in the hilly parts of South Bihar affected by soil erosion are of poor quality and the cost of reclamation is also much higher. The policy of the State Government, however, in this behalf has always been to reclaim as much culturable waste lands as possible either directly by themselves or by giving such assistance as may be required to the tenants for developing these lands. During the First Five-Year Plan 1.61 lakh acres of waste lands mostly in the North Bihar districts were reclaimed by manual labour through assistance of Land Improvement Loans. In South Bihar also some lands were reclaimed through assistance of grants given to the tenants for developing their lands into paddy fields. The State Tractor Organisation also reclaimed 7,000 acres, mostly *Kans*-infected lands in the North Bihar plains. In the Second Five-Year Plan, under the two major schemes, viz., scheme for reclamation of waste lands by manual labour and the scheme for reclamation of waste lands by tractors, about 18,000 acres and 26,000 acres, respectively have already been reclaimed.

During the Third Five-Year Plan period it is proposed to spend Rs. 168 lakhs, which includes a token provision of Rs. 3 lakhs for schemes of Land Resettlement and Colonisation. A provision of Rs. 45 lakhs is made for reclamation of waste lands by manual labour and Rs. 120 lakhs for reclamation of waste lands by tractors. The corresponding targets are 45,000 acres and 30 000 acres, respectively. In the provision of funds under scheme for reclamation of waste lands by tractors, Rs. 12 lakhs have been included for supervisory staff to ensure effective execution of work.

A scheme for reclamation of *Kans*-infested lands by State Tractor Organisation in the Kosi belt of Darbhanga and Saharsa districts in North Bihar has also been included at a total cost of Rs. 11 lakhs during the Third Five-Year Plan. The cost of reclamation will be recovered from the tenants whose lands will be reclaimed.

CONSOLIDATION OF HOLDINGS.

Consolidation of holdings has been considered as an essential measure of land reforms for increasing agricultural production. In Bihar consolidation of holdings has been taken up as a pilot project under the Bihar Consolidation of Holdings and Prevention of Fragmentation Act, 1956 in four Community Project Blocks, one in each division, viz., Ekangarsarai (Patna), Sakra (Muzaffarpur), Sabour (Bhagalpur) and Topchanchi (Dhanbad).

Consolidation of holdings requires a good deal of tact and patience since it involves almost a fundamental change in the traditional system of land holdings, but the initial difficulties have now been overcome to a great extent and the work is progressing smoothly.

In order to encourage consolidation, different departments of Government have decided to provide special facilities in the consolidated villages such as—

- (i) priority in the matter of providing electric connection for installing pumping sets ;
- (ii) priority in the matter of taking up minor irrigation schemes as well as setting up Health Sub-centres, Community Halls, Libraries, Animal Husbandry Centres, etc.

The District Officers have also been requested to ensure that suitable schemes are taken up in accordance with the above decisions.

So far, the scheme has been given effect to in 30 villages and the raiyats have been given possession of their new consolidated holdings. The work is in progress in about 400 villages at different stages. About 50,000 acres are likely to have been consolidated by the end of the Second Five-Year Plan. During the Third Five-Year Plan

period the proposed target is to consolidate an area comprising 5 lakh additional acres at a cost of Rs. 20.00 lakhs.

2. MINOR IRRIGATION.

It is an accepted fact that Minor Irrigation Schemes give results quickly, inasmuch as the schemes are utilised as soon as the potential is created. Then again, the conditions obtaining in this State are such that it would not be possible to bring the entire irrigable area of this State under major and medium schemes and, therefore, as of necessity recourse has to be taken to the execution and maintenance of minor irrigation schemes. These schemes have come to stay in the agricultural economy of this State.

During the First Five-Year Plan period from the budgets of the Agriculture and the Revenue Departments minor irrigation schemes at a total cost of Rs. 7.35 crores benefiting an area of 16.4 lakh acres were taken up. The Irrigation Department utilised a special loan of Rs. 1.5 crores from the Government of India, by executing 26 minor irrigation schemes irrigating 0.51 lakh acres. An area of 0.40 lakh acres was irrigated by tube-wells of the pre-plan period. Thus at the end of the First Plan 0.91 lakh acres were irrigated from the State-owned minor irrigation schemes.

During the Second Five-Year Plan period, it was proposed to spend Rs. 399.91 lakhs on the minor irrigation schemes under Grow More Food Schemes and Rs. 662.51 lakhs under National Extension Service and Community Development Programme. As a result of this an additional irrigation potential of 29.12 lakh acres was expected to be created. The rate of subsidy on all minor irrigation schemes except the scheme for the distribution of electric pumps was 50 per cent during 1956-57. It was, however, revised to 50 per cent for backward and hilly areas and 25 per cent for other areas in the beginning of 1957-58. But the drought and other conditions that prevailed in the State created a situation considering which the State Government decided to raise the subsidy to 50 per cent on all the minor irrigation schemes except the schemes for distribution of electric pumps for which 25 per cent subsidy was permissible during 1957-58 and throughout the remaining period of the plan. Originally it was proposed not to distribute Diesel pumping sets on subsidy basis under the Grow More Food Schemes. But later on, owing to drought conditions referred to above during the year 1957-58, the distribution of pumping sets on subsidy basis was resumed. Further the targets of surface percolation wells, open borings with and without strainers were also considerably increased due to their immediate usefulness.

On account of these factors, the total expenditure on minor irrigation schemes under Grow More Food Schemes is expected to have been Rs. 827.00 lakhs by the end of the Second Plan. This is slightly

more than double the proposed expenditure under this item for the Second Plan (Rs. 399.91 lakhs). An additional amount of Rs. 469.30 lakhs is estimated to have been spent under the C. D. sector for minor irrigation schemes.

During the Second Plan, the minor irrigation schemes were being executed by the Revenue Department, the Agriculture Department and the Irrigation Department. The Irrigation Department executed the State-owned minor irrigation schemes through which 1.40 lakh acres were brought under irrigation. It was felt during the plan period that an integrated agency for the investigation and execution of minor irrigation schemes in the entire State was necessary. As a result of this, a Unified Minor Irrigation Agency was created with one Superintending Engineer, designated as Additional Director of Agriculture (Engineering) with necessary complement of the Executive Engineers and their supporting staff. The sanctioned posts of the Assistant Agricultural Engineers and the Assistant Irrigation Engineers of National Extension Service and Community Development were merged and placed under this Agency. The Agency works under the technical control of the Chief Engineer, Irrigation and the administrative control of the Agriculture Department.

Drainage.—The sector also includes the drainage schemes costing less than Rs. 50,000 each. Large number of local depressions known as *chauras* are inundated during the rainy season and remain water-logged thus resulting in the areas being left uncultivated. In the pre-plan period 0.37 lakh acres were drained. During the First Five-Year Plan 2.28 lakh acres and during the Second Plan 1.71 lakh acres of water-logged areas were reclaimed.

Third Plan.—As already noted above, speedy execution and maintenance of minor irrigation schemes are an inevitable feature of agricultural development in the State. The Unified Agency is to continue and expand in the Third Plan and would be responsible for investigation and execution of minor irrigation schemes, except the State-owned minor irrigation schemes which will still be the responsibility of the Irrigation Department and supply of electrical pumping sets which would be done by the State Electricity Board. A sum of Rs. 839 lakhs is available in the proposed Third Plan under his head. An additional sum of Rs. 870.83 lakhs is likely to be available from the C. D. programme. The subsidy allowed during the Second Five-Year Plan is proposed to be continued during the Third Five-Year Plan except in the case of minor *ahars*, *pynes* and *bundhs* costing less than Rs. 1,000 where the subsidy will be 25 per cent in the areas outside backward and hilly regions. The additional production potential to be created by execution of minor irrigation schemes would be 1.28 lakh tons of foodgrains and 0.85 lakh tons of non-foodgrains by providing irrigation to 10.64 lakh acres. The execution of drainage schemes costing less than Rs. 50,000 each would also benefit an area of 0.85 lakh acres.

It might be mentioned that only the State-owned minor irrigation schemes provide fairly assured and stabilised irrigation. Privately-owned minor irrigation schemes, which are not maintained depreciate and go out of use. Hence allowance has to be made for such depreciation and also for the schemes which have subsequently been or are replaced by major or medium irrigation. Accurate information on this aspect is not available. On some rough calculation it has been estimated that the stabilised area under the minor irrigation scheme was 7.75 lakh acres in 1955-56. It increased to 17.75 lakh acres in 1960-61 and would be 22.72 lakh acres at the end of the Third Five-Year Plan (1965-66).

3. SOIL CONSERVATION.

The plateau region, comprising of the Chotanagpur Division, Santhal Parganas district and some portions of Bhagalpur, Monghyr, Gaya and Shahabad districts, is such that soil erosion is going on from a long time and it has given rise to peculiar agricultural conditions. The area receives quite a heavy rainfall between 50" and 60" annually during the monsoon period, and this instead of bestowing better agricultural conditions in the region, has rather adversely affected it. The rainfall coupled with the topography has led to severe soil erosion. This area is inhabited by tribal and backward people. Due to bad existing agricultural conditions, the inhabitants are economically poor and consequently backward. It is high time that soil conservation measures are adopted to develop the productive capacity of the land and thereby to improve the economic and social circumstances of the population inhabiting the region. Besides specific soil conservation measures, the problem of agricultural development has to be viewed and tackled in the broader aspects of proper land use. Research as well as extension methods of demonstration is to be undertaken for helping the population in adopting better soil conservation measures and land use, even by giving subsidy, where necessary.

A major part of the forests of Chotanagpur falls in the catchment areas of important river valley projects like the Damodar, the Mayurakshi, the Ajay and others. In addition, a large number of irrigation projects aiming at creating reservoirs are being planned and executed. The watersheds of these irrigation projects generally fall in the forest tracts. It has been increasingly recognised that soil conservation in the watersheds of such schemes must proceed side by side, if not precede, the execution of the schemes. There are large areas of barren, denuded, eroded and gullied lands within the demarcated forest blocks, and outside, which need special attention from the soil conservation point of view. Soil conservation schemes like afforestation, reclamation of eroded and gullied lands by building check dams and by vegetative means are, therefore, essential items of the development programme.

The expenditure during the Second Plan period is estimated at Rs. 161.56 lakhs. With the sanction of soil conservation schemes the dearth of technical personnel was felt. The full training facilities provided by

the Government of India for technical personnel were utilised and during the Second Plan period about 183 Extension Supervisors and nine Extension Officers have received training at the different training centres run by the Government of India. The schemes for Survey and Plan, and soil conservation measures on agricultural and waste land could only be undertaken towards the end of the second year of the plan period, i. e., in 1957-58. 67,000 acres are expected to be surveyed and soil conservation measures would be taken on about 59,000 acres of agricultural and waste land during the Second Plan period besides dry farming technique on 1,000 acres. One Research Station at Araria for surveying the problem of land-use of the vast tract of Araria plains lying uncultivated has been started. 58,000 acres were afforested in the eroded, gullied and hilly waste lands in the Damodar catchment and other areas of Chotanagpur and Santhal Parganas. 8,000 acres of eroded and gullied lands were fenced. Special mention might be made of the Pilot Soil Conservation and Demonstration Scheme of the Harharo catchment near Koderma. The idea is to take up the catchment of a river and fully develop it along all aspects of soil and water conservation and also land management. After complete survey, land-use which will be best suited to the land in the catchment from all considerations has been proposed. Farmers are persuaded to change their land-use from the existing pattern to the one best suited. Since all types of lands are being tackled various departments of Government, namely, Agriculture, Animal Husbandry, Irrigation and Forest are co-operatively working this scheme. Land-use Board, Bihar, with the Development Commissioner as its Chairman meets periodically to review and co-ordinate the activities of the various departments of the State Government regarding land-use programmes including soil and water conservation.

Third Plan.—Rs. 250 lakhs have been provided for the soil conservation programmes during the Third Plan. Provision has been made for soil conservation survey plan and mapping of 1.50 lakh acres, Pilot Soil Conservation Demonstration Project on watershed basis of 24,000 acres, two Integrated Soil Conservation-cum-Demonstration Centres covering 2,000 acres of waste land, demonstration of dry farm technique on agricultural land of 10,000 acres, construction of 140 percolation tanks and high level *bundhs*. Demonstration on agricultural and waste and eroded land is to be conducted on 50,000 acres. As a result of various demonstrations, it is expected that the farmers would undertake soil conservation measures on about 2.14 lakh acres. The cost of soil conservation measures on agricultural land is expected to be Rs. 50 per acre. 50 per cent subsidy would be given to farmers for the purpose for which a sum of Rs. 53.54 lakhs has been provided. The proposals include the afforestation of hilly, eroded and gullied waste lands in the Chotanagpur and Santhal Parganas. For soil conservation and afforestation work provision has been made in the Central Plan for execution by the D. V. C. It is expected that about 40,000 acres would be afforested in the Damodar catchment in Bihar, 30,000 acres through the Bihar Forest Department and 10,000 acres by the

D.V.C. Forest Section. In areas of Chotanagpur and Santhal Parganas outside the Damodar catchment, it is proposed to afforest 56,800 acres at a cost of Rs. 80.00 lakhs. In the catchment areas of other Irrigation Projects, 6,600 acres would be afforested at a cost of Rs. 10.00 lakhs. As regards research, one Soil Conservation Research Unit is being attached to the Regional Research Unit of Chotanagpur region, where research on crop manuring has to be done with soil conservation measures as the main background. As a result of land development through soil conservation schemes, an additional production potential of 0.14 lakh ton would be created.

The river Kosi has been shifting its course every year. During the course of a century it has shifted over 65 miles. The vagaries of the river have been ascribed to the heavy coarse sediment load which the river brings down from the Himalayas. In order to reduce the load of silt and detritus, and to increase the effectiveness and life of the control works, soil conservation measures are vitally important. The Project administration had taken up preliminary works and an organisation was being set up. But following the advice of the Central Soil Conservation Board, the work was suspended and the entire planning was placed in their hands. A Research-cum-Demonstration Centre has been set up at Chatra in Nepal. Rs. 25 lakhs have been provided for the execution of various soil conservation measures in the Kosi catchment.

4. ANIMAL HUSBANDRY

General.—In the agricultural economy of Bihar, livestock play a very important role. They contribute materially to agricultural production in two ways, namely (1) by supplying motive power and (2) by providing organic manure. According to an estimate nearly half of the national income of the country is derived from agriculture and about 90 per cent of the agricultural production is dependent on bullock power. Any scheme of agricultural development must, therefore, simultaneously concentrate on the provision of good bullock power through improved animal husbandry unless agriculture is completely mechanised. In addition to increasing agricultural production livestock also supply essential protective foods in the form of meat, egg and poultry. Another source of protective foods is milk and milk products. This is specially important in India where a good part of our population refrains from consuming any kind of servitural food. Livestock also provide other important commercial products like bones, wool, hides, skins, etc.

Pre-Plan Position.—According to the 1940 Census, Bihar's cattle population was 15 millions. There was, however, considerable shortage of milk in rural and more markedly in urban areas. Pedigreed dairy herds were maintained at Kanke and Patna farms and a small pedigreed buffalo herd was maintained at Sepaya, and bulls were sold to Local Bodies and Associations for service at concessional rates. These herds had, however, made little or no impression on the improvement of milk

production or any appreciable increase in the bullock power. As a rule, no land was set apart for growing fodder crops, except to a very limited extent by a handful of well-to-do planters, Zamindars and cultivators. The area under cultivable waste was very limited and most of it was needed to grow food-crops to support the rapidly increasing human population. The 15 million head of cattle were thus competing with the demands of the growing population for the limited amount of cultivable waste available in the State. The prospect of growing fodder crops on an extensive scale being doubtful, what was needed was an overall reduction in the number of uneconomic animals and their replacement by better livestock in order to provide better return to the owner.

First Plan Review.—In 1951, Bihar's cattle population rose to 18.6 millions. This constituted about 9 per cent of the total bovine population in the country. Roughly, the State had thus, on an average, one head of cattle for every two human beings. Although numerically large, their performance, both with regard to draught power and production of dairy and other products, was poor, because of their low genetical productivity, lack of adequate feeding and diseases. Of the total bovine population, milch animals in the State numbered as many as 56 lakhs, but their average annual milk production was 7.5 maunds per cow and 20 maunds per buffalo. There was such an extreme shortage of cattle feed in the State that majority of animals was kept on sub-maintenance ration especially during the summer months. The objective of the State First Plan was to make a systematic beginning for a general improvement of livestock in a limited way by better breeding, better feeding and proper management of the numerous uneconomic cattle population. The total expenditure over the various improvement schemes launched to achieve this objective amounted to Rs. 1.05 crores during the First Plan period.

Veterinary Education and Research.—The greatest obstacle encountered in implementing the various schemes of development as also in other sectors was the acute shortage of technicians, *i.e.*, trained veterinarians. For this, the existing facilities for veterinary education were enlarged by increasing the number of admissions in the degree course and introducing a double shift degree course and a condensed diploma course in Veterinary Science at the Bihar Veterinary College, Patna and a short course of one year's duration for training of Stock Supervisors at Bhagalpur. The number of admissions to another short course of one year's intensive practical training in elementary animal husbandry subjects to stockmen at Darbhanga was also increased from 60 to 80. Thus 88 Veterinary graduates, 93 Stock Supervisors and 437 Stockmen were trained during the First Plan period. In order to provide better facilities for investigation and research work, a scheme for the establishment of a Livestock Research Station at Patna was sanctioned. For lack of suitable buildings, equipment and trained personnel, only a small beginning with two research sections could be made during the First Plan period.

Cattle Breeding.—Improvement by breeding is a long-term process and a colossal effort is required to be made for the upgrading of the extremely poor, non-descript animals. For raising of improved bulls, while the three existing farms were strengthened, two new farms were set up at Gauriakarma and Seraikella. Altogether, 1,336 bulls were raised on all these farms during the First Plan period. For the upgrading of village cattle, 1,013 improved bulls, including those procured from outside, were distributed and 478 were under breeding from pre-plan period and 13 Key Village Blocks, each consisting of 4 Key Villages were opened. It was estimated that the State would require over 25,000 improved bulls for the upgrading work. Since it was not possible to meet this requirement, the technique of artificial insemination was introduced for accelerating the progress and reducing the requirement of improved bulls to 13,000 only. Under this programme, 52 Artificial Insemination Centres and 140 Sub-Centres were started. A total of 1,54,932 cows and buffaloes were inseminated during the First Plan and 22,091 were inseminated in the pre-plan period.

Veterinary Services.—For disease control, 72 class I Dispensaries and 5 Mobile Units were set up, with the result that while at the beginning of the First Plan, there was one veterinary dispensary for 1.10 lakh head of cattle spread over an area of 416 square miles, at the end of the First Plan the proportion stood at one dispensary for nearly 0.79 lakh head of cattle spread over an area of 219 square miles.

Poultry Development.—In the field of poultry development lack of adequate number of good foundation stock and knowledge of poultry management were two of the main reasons for the backward state of poultry industry in the State. In order to encourage the people to maintain improved poultry for better egg production, a Central Poultry Farm was started at Patna where large-scale production of eggs and young birds was undertaken. Besides, 7 Poultry Development Centres and 7 hatcheries were opened at suitable places in the State. The poultry development programme proved quite popular, and, although 2.70 lakh eggs were produced during the First Plan period, the average annual output stood at 2.3 eggs *per capita* because of the large increase in human population.

Sheep and Goat Development.—In the field of sheep and goat development, a small beginning was made with the establishment of a combined sheep and goat breeding farm at Gaya for evolving fine fleeced woolly strains of sheep by selective breeding and cross-breeding with Bikaneri breed of sheep and Jamunapari goats. In this farm, 478 sheep and 219 goats were reared during the First Plan period.

Fodder Development.—With the starting of the National Extension Service and Community Development Programme, demonstration work on cultivation of suitable fodder crops for the different areas was taken

up together with a programme for construction of silo-pits for preserving excess of green fodder by way of demonstration. This programme, however, made little or no effect during the First Plan period.

Second Plan Appraisal.—According to the 1956 cattle census, the State's cattle population was 17.8 millions, excluding the cattle population of territories ceded to West Bengal as a result of the reorganisation of States on linguistic basis.

Acknowledging the importance of animal husbandry a larger plan outlay of Rs. 565.41 lakhs was provided in the Second Plan, *i.e.*, Rs. 518.34 lakhs for animal husbandry and Rs. 47.07 lakhs for dairying and milk supply schemes. Previously, there was no gazetted officer of the department at the district and subdivisional levels. In order to cope with the progressively increasing volume of work in this field of activity, provision was made for a Class II (Senior) Officer in each district and a Class II (Junior) Officer in each subdivision. On account of the continuing shortage of qualified trained personnel, this had to be done according to a phased programme based on the availability of qualified personnel from time to time. Primarily because of the continuing shortage of key personnel, the National Extension Service and Community Development Programme had also to be staggered so as to cover the entire State by 1963 instead of March, 1961 as originally contemplated. The total outlay during the Second Five-Year Plan (1956—61) is anticipated to be Rs. 407.42 lakhs including the Dairying and Milk Supply Schemes. The shortfall in expenditure is due to the following:—

- (i) Imposition of austerity cut during 1957-58 and low annual plan ceilings in the subsequent years.
- (ii) Lack of trained veterinary personnel for execution of the approved schemes. About 332 sanctioned posts to be manned by veterinarians remained vacant at the end of the Second Plan period.
- (iii) Shortage of good bulls for distribution under the Key Village Scheme and the scheme for distribution of approved bulls in Community Development Blocks.
- (iv) Delay in finalising the terms and conditions for provincialisation of Veterinary Hospitals belonging to Local Bodies.
- (v) Delay in construction of sanctioned buildings for veterinary dispensaries, poultry centres and other veterinary institutions.
- (vi) Unsatisfactory progress in regard to the execution of dairying and milk supply schemes until a Special Officer was appointed and entrusted with the execution of these schemes in the fourth year of the Second Plan.

Veterinary Education and Research.—In order to meet the growing requirement of trained stockmen, the number of admissions to the existing training centre at Darbhanga was increased so as to admit 160 trainees and a second stockmen training centre has been started at Gauriakarma. In view of the increased outturn of degree and diploma-holders, fresh admissions to the second shift degree course and diploma course were discontinued. Also because of the fact that the stock supervisors were not fully qualified for skilled technical work, the stock supervisors' training centre started at Bhagalpur in the First Plan was discontinued. Instead, a short orientation training course in extension and administration for subordinate veterinary personnel has been started at Bhagalpur. A second Veterinary College has been started in 1960, admitting 100 students. For the present it is being held in the premises of the Bihar Veterinary College, Patna, but will be shifted to Ranchi as soon as buildings are constructed there. This second Veterinary College is expected to meet the requirement of veterinary graduates in the Third and the subsequent plans. There is also a proposal for the introduction of a two years' condensed degree course for diploma-holders.

Two important steps taken to upgrade veterinary education are the initiation of the post graduate M. Sc. course at Patna and setting up of an extension wing in the college. A post-graduate refresher course has also been started at the Research Station. Facilities for higher training in foreign countries under F.A.O., T.C.M. and Colombo Plan have been made full use of by the department. Six officers received training abroad during the First Plan period and 30 in the Second Plan. Considerable amount of equipment and books were received under the T.C.M. programme for strengthening the College and Research Station. For livestock research work, the Livestock Research Station at Patna started towards the end of the First Plan, was fully organised and is now functioning with eight full fledged sections representing the various branches of Animal Husbandry and Veterinary Science. The Biological Products Section was organised with the assistance of an F.A.O. Expert and the bulk of sera and vaccine is now manufactured and supplied to the moffasil area from this section instead of importing them from outside.

Cattle Breeding.—The non-availability of improved bulls in adequate number has been the greatest obstacle in the execution of the programme of cattle improvement by breeding. For this, the working of the existing five cattle farms has been improved and a new cattle farm established at Purnea for the upgrading of the Red Purnea Cattle with the Red Sindhi bulls. Another farm has been sanctioned at Hotwar in the district of Ranchi, and is functioning from the end of the Second Plan period. On all these farms, a total number of 1,000 pedigree bulls is likely to be raised during the Second Plan period. In addition, key villages have already started producing good quality graded bulls in fairly large numbers. The target is to distribute 3,370 bulls by the end of the Second Plan period so as to provide 10 improved bulls in each Community Development Block for natural service

according to the phased programme of the starting of these blocks. Besides, the artificial insemination programmes have also been intensified and against the target of 57 additional centres with three to four sub-centres each, 36 additional centres have already been set up and the remaining additional centres are likely to be set up during 1960-61. In addition to these, improved rams, bucks, boars and sows have also been supplied to Community Development Blocks for upgrading the breeding of these animals. The total Plan target and the achievement during the first four years of the Second Plan in respect of these are given below :—

		Bulls.	Bucks.	Boars and Sows.	Rams.
Target	..	3,370	1,010	500	600
Achievement	..	2,395	529	500	600

Assessment of long-term potentialities in the Third and subsequent plans.—

An assessment has been made of the long-term possibilities of development in the different fields relating to animal husbandry as indicated by physical and technological considerations, so that the formulation of the future plans could proceed in an integrated manner. A comprehensive programme of animal husbandry development providing for improved breeding, improved feeding and improved management including disease control, etc., has been drawn for the Third Plan period, involving a total financial outlay of Rs. 468.00 lakhs, with the following broad objectives :—

- (1) To produce improved bullocks for agriculture and to increase per capita availability of milk to 6 oz. per day.
- (2) To make available good poultry meat and to increase the *per capita* availability of eggs to 12 per annum.
- (3) To upgrade the indigenous sheep with Bikaneri for better wool and mutton production.
- (4) To upgrade the indigenous pigs for increased production of pork and for bettering the economic condition of the poor people such as scheduled castes and scheduled tribes.
- (5) To improve the Goshalas for increased production of milk and better bulls.
- (6) To provide better veterinary aid to the sick cattle by improving the condition of the existing veterinary hospitals and dispensaries and to eradicate rinderpest from the State.
- (7) To improve the nutritional level of livestock by popularising the production of fodder grasses and by introducing methods of conservation of surplus grasses and developing pastures.

- (8) To ensure the training of veterinary and animal husbandry personnel to post-graduate level in different subjects and to produce more veterinary graduates for manning the various schemes included in the plan and to arrange for the training of stockmen and other subordinate staff.
- (9) To find out solutions for the various problems in the field of veterinary and animal husbandry science by regular research.

For the sake of convenience, the proposed Third Plan has been classified under the following sub-heads:—

1. Administration.
2. Training and Education.
3. Research, Survey and Statistics.
4. Cattle and Piggery Development.
5. Fodder Development.
6. Disease Control (Veterinary Hospitals and Dispensaries).
7. Goshalas and Gosadans.
8. Wool Development.
9. Poultry Development.
10. Miscellaneous.

Administration.—During the First Plan, the Veterinary and Animal Husbandry Department had no supervisory staff at district and sub-divisional levels. The staff at the State headquarters was also very meagre. In the Second Plan, therefore, supervisory staff at district and sub-divisional levels and a few additional supervisory staff at the State level were provided.

With the increased activities proposed for the Third Five-Year Plan period, it would not be possible for the existing staff to cope with the increased volume of work. For adequate and proper supervision of the working of the various schemes in the Third Plan, adequate strengthening of the supervisory staff at different levels is essential. Provision has, therefore, been made in the Third Plan for different categories of supervisory staff at State, district and sub-divisional levels. In addition provision has also been made for the additional districts and subdivisions which are expected to be created during the Third Plan period.

The main burden of execution of the Plan schemes will be at the district level. In order that no aspect of animal husbandry activities is neglected and solution of the day-to-day problems brought by the district is found at the district level, a small unit of subject-matter specialists has been provided at the district level. The unit may have to be further strengthened later, if the position so demands it. The total cost involved on administration has been estimated at Rs. 36.72 lakhs.

Training and Education.—Notwithstanding the steps taken to meet the requirement of veterinary personnel in the Second Five-Year Plan period the total output of veterinarians has not been adequate to meet the requirement of the Second Plan and as many as 332 sanctioned posts of veterinarians in the Second Plan have remained vacant at the end of the Second Plan.

The requirement of veterinary graduates for implementing the schemes of the Third Plan is 523. At present, there is only one Veterinary College in the State. The total output of veterinary graduates from this college comes to 408 during the Third Plan period. There will be thus a shortage of about 447 graduates in the Third Plan. In order to meet the requirement of veterinary personnel in the Third and the subsequent plans provision has been made for the establishment of a second Veterinary College in the Third Plan, which has started functioning from 1960.

There was one Animal Husbandry School in the First Plan for the training of stockmen. With the increased demand for trained stockmen during the Second Plan, one additional school was started and the capacity of the first one was expanded from 80 to 160 admissions per year. These steps ensured production of 944 stockmen during the Second Plan period as against the total requirement of 1,850 stockmen. Thus there remained a shortage of 906 trained stockmen in the Second Plan period. Besides, the requirement of trained stockmen for the Third Plan schemes has been estimated at 1,006. Against this the total output of trained stockmen from the existing schools is expected to be of the order of 1,000 only during the Third Plan period. It has, therefore been proposed to set up three Additional Animal Husbandry Schools (including one set up at Gauriakarma with 80 admissions) with 100 admissions per school per year. These will ensure a total output of 1,000 trained stockmen during the Third Plan period.

In order to meet the requirement of technicians with higher training in the different branches of veterinary science, it is proposed to arrange for the training of 130 persons in India and 12 abroad during the Third Plan. In the Second Plan 30 officers have been trained abroad and 97 in India. In order to cope with the progressively growing requirement of veterinary personnel with post-graduate training, an M.V. Sc. course has been started at the Bihar Veterinary College, Patna, with 20 admissions per year. A post-graduate refresher course has also been instituted at the Livestock Research Station, Patna and an Extension Training Centre at Bhagalpur. Both of these will be continuing in the Third Plan period. Besides, provision has been made in the Third Plan for starting a course of training in artificial insemination. The total cost under this sub-head comes to Rs. 83.41 lakhs.

Research, Survey and Statistics.—The State Livestock Research Station which was initiated in the First Plan period and strengthened in the Second Plan has to be expanded further. It is proposed to provide two new sections to it in the Third Plan.

Acknowledging the importance of finding out solutions on a systematic basis to the various problems coming up in the field of animal production, it is also proposed to set up a Research Institute of Animal Production in the State on one of the existing Government Farms.

For quick investigation and diagnosis of contagious diseases, provision was made in the Second Plan for a small well-equipped laboratory at the divisional level. Experience has shown that these laboratories have not been able to meet the increased demands from the fields. In the Third Plan, therefore, provision has been made for a small laboratory to be set up at each district headquarters for speedy investigation of contagious diseases and their diagnosis.

For critical evaluation of the progress made in the various schemes and for analysis of the results of research, it is proposed to set up statistical unit at the headquarters with sub-units at the Livestock Research Stations and farms. The agricultural personnel committee set up by the Planning Commission recently reviewed the existing position of statistical personnel in Agriculture and Animal Husbandry Departments and recommended the setting up of such statistical units.

In order to provide for matching grants for the research schemes of the Indian Council of Agricultural Research, a lump sum provision of Rs. 8 lakhs has been included in the financial outlay proposed for the Third Plan period.

Cattle Development.—According to the Livestock Census, 1951, Bihar had nearly 65.3 lakh cows of over 3 years of age of which only 56 lakhs were milch animals. In the First Plan 13 Key Village Blocks and 52 Artificial Insemination Centres were set up and 1,491 bulls were provided under the improved breeding programme, as a result of which 1,77,023 cows and she-buffaloes were bred, which produced nearly 70,000 first grade female progeny. In 1951, the total annual milk yield was estimated at 470 lakh maunds (vide Livestock Census, 1951), and the human population was 388 lakhs. The *per capita* availability, therefore, worked out to 4.4 oz. per day.

According to the Livestock Census, 1956, the total breedable cows and she-buffaloes were 59.20 lakhs, of which only 53.50 lakhs were milch animals. In the Second Plan, 33 more Key Village Blocks and 57 Artificial Insemination Centres were started and the continuing 11 Key Village Blocks of the First Plan were expanded. Besides, 2,395 bulls have already been distributed for natural service in the Second Plan. The estimate of annual production of milk in 1956 comes to 502 lakh maunds (Livestock Census, 1956) when the human population was 428 lakhs. The *per capita* availability, therefore, worked out to 4.3 oz. per day.

A study of the trend of increase in cattle population on the basis of previous Livestock Census Reports and Techno-Economic Survey Report of Bihar (1958) reveals that the increase in the bovine population

will not be more than 1 per cent per year. The number of breedable cows and she-buffaloes, therefore, would have risen from 59.20 lakhs to 62.21 lakhs by 1960-61. In 1961, the total milk yield is estimated to be 681.49 maunds when the human population is expected to rise to 471 lakhs. The *per capita* availability of milk will thus be nearly 5.0 oz. per day.

It is proposed to raise the *per capita* availability of milk to 6 oz. per day in the Third Plan. And to achieve this it is proposed to bring nearly 6.30 lakh additional non-descript cows under improved breeding programme by opening three new semen banks besides the target of distributing 2,190 bulls.

As a result of improved breeding and other associated factors (i.e., better feeding, management and disease control) during the Second and the Third Plans the total annual milk yield is expected to rise to nearly 846.8 lakh maunds by the end of the Third Plan, when the human population is expected to reach 520 lakhs. The *per capita* availability of milk should thus work out to approximately 6 oz. per day in 1966.

Through improved breeding in the First Plan, nearly 70,000 improved bullocks were produced and 1.60 lakh in the Second Plan. With the steps proposed to be taken during the Third Plan for improved breeding, it is expected that nearly 3.5 lakh improved bullocks would become available for agricultural purposes by the end of the Third Plan.

The total outlay proposed for cattle development comes to Rs. 115.27 lakhs.

Piggery Development.—According to the Licoctock Census of 1956, the total population of pigs is 6.84 lakhs. By 1960-61 the pig population is expected to rise to 7.4 lakhs, on the assumption that there will be 2 per cent net increase in the population per year. In the Second Plan, three piggery units have been started for producing stud boars and 200 boars have been distributed for upgrading the local pigs in four development blocks. Besides, 500 boars and sows have been distributed under welfare schemes for the tribal people and under the Community Development programme. It is assumed that they will have produced quite an appreciable number of improved and graded animals by the close of the Second Plan.

The marketing report of the Senior Marketing Officer, Bihar, 1950 shows that pork contributed 2.6 per cent of the total meat consumed in Bihar. Pork is a very rich source of animal protein at low cost. There is, therefore, considerable scope for development of pig industry in the State for not only increasing the availability of more pork within the State but also for earning revenue from outside. Pig industry is mostly in the hands of economically backward people in this State and, therefore,

any improvement in this field of activity is also expected to raise their economic condition. Provision has, therefore, been made in the Third Plan for intensifying the development of pigs by opening one more piggery unit for production of stud boars and 11 development blocks for upgrading the local stock by distributing 550 stud boars. The total outlay proposed for piggery development scheme is Rs. 5.90 lakhs.

Fodder Development.—Bihar is deficient in feeds and fodders. Most of our livestock live on subsistence diet. Their performance is, therefore, very low. In the circumstance, development of fodder is of paramount importance, if the breeding programme of livestock is to succeed and show satisfactory results.

Fodder development programme comprises of popularisation of fodder crops and grasses, conservation of surplus grasses for the lean periods, economical use of fodders and the development of pastures. In the First Plan very little work was done towards fodder development. In the Second Plan, steps were taken on a small scale for popularisation and conservation of fodders, and development of pastures. Demonstrations were carried out in the National Extension Service and Community Development Blocks by supplying roots, cuttings and seeds of fodder grasses and by setting up fodder nurseries and construction of silo-pits in the villages. This programme has started gathering momentum. But it requires intensification of the programme for increasing the total population of fodders for livestock. Provision has, therefore, been made in the Third Plan for the purpose at a total estimated cost of Rs. 15.76 lakhs.

Disease Control.—At the beginning of the First Plan, there were 168 veterinary dispensaries and hospitals in the State, which meant one hospital or dispensary for every 416 square miles and 1.10 lakh head of cattle. By the end of the First Plan period the total number of hospitals and dispensaries came to 240, which meant one dispensary or hospital for every 0.79 lakh head of cattle spread over an area of 291 square miles. By the close of the Second Plan there would be 632 hospitals and dispensaries in the State which would mean one dispensary or hospital for every 28 thousand head of cattle spread over an area of 113 square miles.

Out of the 632 hospitals and dispensaries which would be functioning in the State at the close of the Second Plan, 490 are State-owned and 142 are of the local bodies. The condition of the latter has been far from satisfactory in the matter of accommodation, staff and equipment. In order to bring them at par with the State-owned hospitals and dispensaries, arrangements were made to take them over in the last year of the Second Plan. These dispensaries and hospitals have, however, yet to be provided with proper accommodation, staff, instruments and appliances for which necessary provision has been made in the Third Plan.

A campaign against the eradication of rinderpest was initiated in 1956-57 and its immunization programme is expected to be completed by the end of the Second Plan. The coverage, however, has been only to the tune of 60 to 80 per cent of the total susceptible population. In order, therefore, to immunize all the uncovered animals including the subsequent crops of susceptible animals, it is proposed to initiate a "follow-up" programme and continue it for at least two years in the Third Plan, so that the likelihood of picking up chance infection by the susceptible cattle may be avoided. Provision has, therefore, been made for a skeleton staff of 8 units for carrying out the "follow-up" programme in the Third Plan. The total outlay proposed for disease control comes to Rs. 50.90 lakhs.

Goshalas and Gosadans.—Considering the importance of Goshalas in the field of cattle development and supply of milk in urban areas, a scheme for development of Goshalas was initiated during the First Plan. Under this scheme 200 bulls were distributed to Goshalas for breeding purposes. Besides, improvement was also made in other aspects of their activities with Government aid to the tune of Rs. 1.01 lakhs. In the Second Plan 70 Goshalas have been taken up for development at an estimated cost of Rs. 14.13 lakhs.

In the Third Plan, it is proposed to take up three additional Goshalas for development on the pattern of the Second Plan schemes. The financial outlay proposed for the purpose in the Third Plan comes to Rs. 4.67 lakhs.

In order to reduce the chances of competition for available feeds and fodders with the productive animals, the useless and unproductive cattle are segregated in the concentration camps, popularly known as "Gosadans". In the First Plan, three Gosadans were started each with an ultimate capacity of 500 useless animals.

In order to utilise economically the hides, bones, hoofs, etc., of the animals after death, three Charmalayyas have been set up during the Second Plan. In the Third Plan it is proposed to set up one Gosadan with attached Charmalayyas at an estimated cost of Rs. 2.50 lakhs.

Wool Development.—According to the Livestock Census, 1951, the sheep population in the State was 10.50 lakhs. The average annual wool production per sheep was estimated at about 1 lb. only. A Sheep Breeding Farm was started in the First Plan for producing and supplying stud rams. Its output was, however, very small and only 295 rams could be distributed for the upgrading work. The sheep population however, increased to 10.51 lakhs in 1956 (vide Census Report of 1956). Provision was, therefore, made in the Second Plan for purchase of stud rams from outside the State for upgrading the local stock. Four Wool Extension Centres were set up for this purpose and 600 rams have so far been distributed. At the beginning of the Third Plan, thus, approximately 29,000 improved sheep are expected to be available in the State. This will mean that nearly 4.3 per cent of the total breedable ewes has been brought under the improvement programme. On the basis of statistical studies it has been found that the average annual

yield of wool in the improved sheep has risen to nearly 2 lbs., and, in addition, the medullation percentage has been reduced to nearly, 50 on an average, from 75. Due to increase in the size of the crosses, the mutton yield has also increased from an average of 30 lbs. in the local ewes to 45 lbs. in the crosses.

In order to bring more sheep population under the improvement programme, provision has been made in the Third Plan for establishment of 16 additional wool extension centres. Each of the centres will, as usual, look after breeding and other extension programmes in respect of nearly 8,000 ewes and one ram would be provided for every 30 ewes.

In order to meet the requirement of stud Bikaneri rams during the Third Plan and to avoid purchase from outside the State, provision has been made for establishing a second sheep breeding farm in the Third Plan. The total outlay proposed for sheep development comes to Rs. 10.44 lakhs.

Poultry Development Scheme.—According to the Livestock Census, 1956, the total poultry population in Bihar including ducks was 86,36,494. Assuming that the number of laying birds is about 3/8ths of the total population there were 32,38,625 laying birds in the year 1956. By the end of 1955-56 the addition of improved birds was so small that they could hardly have any impact on the total increased production of eggs in the State. Thus, the total estimated number of eggs produced in the year 1955-56 at 50 eggs per bird per year was 1,619 lakhs. Allowing 20 per cent of the eggs laid for hatching purposes for replenishment of stock and loss due to other causes, 1,295 lakhs of eggs were available for human consumption in 1956, which works out to 3.6 eggs per adult per year for 353 lakhs of adult unit of a total estimated human population of 426 lakhs that year.

Normally, there is an increase of 15 per cent in the poultry population during the course of a five-year period. When efforts are made to saturate pockets with improved breeds of poultry and to upgrade indigenous stock, the rate may go up to about 18 per cent in the course of a five-year period. Thus the number of laying birds in 1960-61 is expected to reach about 40 lakhs.

A number of improved birds and hatching eggs were distributed for multiplication, during the First Plan period. This programme was intensified during the Second Plan period and three Range Farms, six District Farms and 21 Extension Centres were established for production of birds and eggs for distribution.

Although the total impact of the work so far done is small, it is expected that by the year 1961 about five lakh improved breed birds were available in the State. On the basis of 50 eggs per *deshi* and 120 eggs per upgraded laying hen per year there will be 2,083 lakh eggs for table use by the end of 1960-61 allowing 20 per cent of eggs for hatching purposes in case of *deshi* hens and 30 per cent in case of improved ones. Thus for 36 lakhs of adult unit of total estimated

population of 464 lakhs in Bihar the availability works out to 5.1 eggs per adult per year.

It is proposed to intensify the poultry development programme in the Third Plan in such a manner as to raise the *per capita* consumption of eggs per adult per year to 12 eggs. In order to achieve this target, a number of schemes have been proposed in the Third Plan at an estimated cost of Rs. 51.74 lakhs only.

Miscellaneous.—There are a number of small schemes which have been grouped under this sub-head. The scope of activities and the nature of work under each of the following schemes will be apparent from their titles:—

- (a) Establishment of Zoological Garden at Patna.
- (b) Scheme for expansion of Animal Husbandry Information and Extension Service and Cattle Shows.
- (c) Scheme for improvement of existing slaughter-houses and meat markets.
- (d) Scheme for control of wild and stray animals.
- (e) Salvage of dry cattle.
- (f) Scheme for assistance of animal welfare work.
- (g) Scheme for establishment of mixed farming.
- (h) Increasing efficiency of veterinary college and provision of residential accommodation to teaching staff.

Financial implications.—On the basis of technological considerations the various working groups set up to assess the long-term possibilities of development in the field of animal husbandry, so that the formulation of the future plans could proceed in an integrated manner, suggested a large number of schemes involving a total financial outlay of Rs. 20,16.08 lakhs. On physical and financial considerations, however, a number of schemes were deleted and others were pruned, so as to reduce the aforesaid financial outlay to Rs. 828.08 lakhs. This was subsequently reduced to Rs. 650 lakhs and finally to Rs. 468 lakhs. Its groupwise break-up is given in the table below:—

Sub-head.	Outlay. (Rs. in lakhs.)
Administration	36.72
Training and Education	83.41
Research, Survey and Statistics	25.11
Cattle and Piggery Development	125.17
Fodder Development	15.76
Disease Control	50.90
Goshalas and Gosadans	7.17
Wool Development	10.44
Poultry Development	51.74
Miscellaneous	61.57
Total ..	468.00

The financial outlay of Rs. 468 lakhs proposed for the Third Plan includes Rs. 6.77 lakhs in foreign exchange. In view of the foreign exchange difficulty, the requirement under this head has been kept to the minimum.

5. DAIRY AND MILK SUPPLY.

(1) MINIMUM REQUIREMENT AND AVAILABILITY OF MILK.

According to the Nutrition Advisory Committee of the Indian Council of Medical Research, the balanced diet for an adult in our country should include 10 oz. of milk. The daily *per capita* supply of milk in Bihar during 1955-56 was approximately 4.30 oz. and by the end of the Second Five-Year Plan, it is estimated to increase to 5.2 oz.

The production of milk has to be increased to meet the demand for milk which is growing with the raising of the standard of living in the State and the growth of its population.

(2) PRESENT POSITION ABOUT PRODUCTION AND MARKET OF MILK AND NEED FOR IMPROVEMENT.

At present, milk from rural areas is not properly marketed due to lack of proper communications. Only a small quantity of rural milk produce finds its way to the urban areas through *Makhaniyas* (or milk vendors) and the bulk of it is converted into *ghee*. The method of *ghee*-making is defective, resulting in considerable loss of butter-fat. The low recovery of butter fat and the exploitation by the *Makhaniyas* give a poor return to the primary producers with the result that there is no incentive to produce more.

The supply of milk to urban areas in this State is more or less in the hands of the milk vendors or town *gowalas* who keep their cattle in the towns. The conditions under which these cattle are kept in towns are far from satisfactory and hygienic. The higher cost of feeds and fodder in the urban areas affects adversely the proper maintenance of these cattle and at the same time swells up the cost of production of milk. This condition along with the high demand for milk in the urban areas against inadequate production and supply from the rural areas leads to adulteration of milk with water.

In the rural areas also, proper maintenance of the cattle, which is so vital for improvement of our cattle and increased production of milk, has not been receiving as much attention as it deserves. Pressure on land to produce food and cash crops is too acute to admit of its utilization in any reasonable proportion for production of fodder for the cattle. 50 per cent increase in production of milk can be achieved only through proper feeding of our milch animals. This naturally requires a change in the existing system of farming which raises the

vital question of economics. Unless and until production of milk proves remunerative, it is difficult to get the farmers to take to it. The producers have to be assured of a ready market and fair price for the increased quantity of milk produced by them and this is possible only by setting up well organised dairy units.

As mentioned above, it is necessary to bring about a change in the farming pattern. The emphasis has, so far, been on the production of more and more cereals and little on production of other foods. Since protective foods like milk, fish, etc., are essential for a balanced and more nutritive diet, increased attention needs to be paid to the production of these protective foods.

(3) DAIRY DEVELOPMENT : FIRST FIVE-YEAR PLAN REVIEW.

During the First Five-Year Plan, a sum of Rs. 5.58 lakhs was spent on dairy development work. Survey of the milk producing and consuming areas was started and Milk Unions were organised at Patna, Bhagalpur and Muzaffarpur. The amount was mostly spent as loans to these Milk Unions, which were also given requisite grants for maintaining the minimum required number of technical personnel. These Milk Unions have since been engaged in the procurement of milk from the rural areas and its distribution to the town people. Their efforts have resulted in improving the situation with regard to the supply of good quality milk in these towns. In view of their limited resources, however, they could not show any spectacular results.

(4) DAIRY DEVELOPMENT : SECOND FIVE-YEAR PLAN APPRAISAL.

During the Second Five-Year Plan, more assistance was given to these Milk Unions in the shape of equipments, vehicles, etc., to increase their handling capacity. The Patna Co-operative Milk Union received the largest share of the provision and a scheme for its reorganisation and expansion at a total estimated cost of Rs. 15.76 lakhs was taken up. The scheme is designed to handle 250 maunds of milk per day. Similar expansion schemes for Bhagalpur and Muzaffarpur Co-operative Milk Unions have been proposed during the Third Five-Year Plan.

The total provision for dairy projects during the Second Plan was Rs. 47.07 lakhs. The plan envisaged the execution of the following projects:—

- (a) Establishment of three milk supply schemes each for handling 150 maunds of milk per day.
- (b) Expansion of Patna and Muzaffarpur Co-operative Milk Unions and other dairies.
- (c) Establishment of one Rural Creamery.
- (d) Establishment of a Milk Powder Factory.
- (e) Training of dairy personnel.
- (f) Reorganisation and expansion of the Dairy Development Section.

Out of the aforesaid three milk supply schemes, two have already been taken up—one at Gaya and the other at Hotwar (Ranchi). Both these are being organised to handle 150 maunds of milk every day. The estimated cost of these two milk supply schemes itself has exceeded the provision for the milk supply schemes in the Second Plan. The third milk supply scheme, located at Jamshedpur, is being taken up by the TISCO, Limited and necessary assistance and technical advice was extended to them for its implementation. The TISCO, Limited are expected to bear the entire cost of this project.

The establishment of approved creamery factory at Barauni at an estimated cost of Rs. 7.60 lakhs is well under way and that of the Milk Powder Factory is also expected to be taken up shortly. The creamery is designed to handle 500 maunds of milk per day. The Milk Powder Factory envisages a composite plant with a handling capacity of 1,000 maunds of milk per day and this scheme will also take care of the requirement of liquid milk of the growing industrial town of Barauni.

The total estimated cost of the Second Plan schemes exceeds the provision in the Second Plan for the Dairy Sector and these could be taken up by utilising the savings in the Animal Husbandry Sector. Due to foreign exchange difficulty for the foreign equipment, however, it is apprehended that some of these schemes would have to be carried over to the Third Plan for their completion. The present rough estimate indicates that a sum of Rs. 25.00 lakhs would be required during the Third Plan only for the completion of the Second Plan Schemes.

Neither in the First Plan nor in the Second Plan, the dairy husbandry work in the milk-sheds of the dairy projects received adequate emphasis. The dairy sector confined its activities mostly to more procurement of milk from the rural areas and its distribution in towns. It is considered necessary to carry out dairy husbandry work in the milk-sheds of the various dairy projects on a much more intensified scale than the animal husbandry wing has so far been doing, for more rapid increase in milk production in these areas and to that extent, the dairy development programme in the Third Plan includes the improvement of milk production.

The Dairy Development Section which was started in the First Plan period with the creation of the post of a Dairy Development Officer with a small staff to assist in the *ad-hoc* survey of the milk producing and consuming areas, and formulation of the dairy schemes, was only slightly expanded during the Second Plan. With the fast expanding dairy development work, the need for the further expansion of the dairy development section is being acutely felt.

To overcome the shortage of trained dairy personnel, a training programme was carried out in the Second Plan. Twenty-one officers have already received training in milk collection, processing and distribution at Aarey Milk Colony (Bombay), Haringhata Milk Colony (West Bengal) and the Kaira District Co-operative Producers' Milk Union (Anand) under this programme. A few more are expected to be trained

at the close of the Second Plan period. Still there will be shortage of trained personnel even for continuing our Second Five-Year Plan Schemes. It is, therefore, proposed to accelerate the training programme so that adequate number of trained personnel may be available to man the various projects which are rapidly coming up.

(5) TARGET FOR THE THIRD FIVE-YEAR PLAN.

In this background, the target for the Third Five-Year Plan has been kept as follows, based on the long-term objectives of achieving by the end of the Fifth Five-Year Plan (i) milk production of 10 oz. *per capita*, (ii) supply of pure milk to the industrial towns and all towns having population over 50,000, (iii) removal from cities with a population of one lakh and above of all milch animals to improve their sanitary condition and (iv) production of butter, *ghee* and other milk products of standard quality, and (v) the growth of Milk Producers' Co-operatives. The total estimated expenditure of the Third Five-Year Schemes comes to Rs. 211.61 lakhs exclusive of the committed expenditure. The estimated cost of each scheme has been indicated below:—

Administration—

	Rs. in Lakhs
Reorganisation and expansion of the Dairy Development Section.	5.80
Survey and statistics	2.00
<i>Training of personnel—</i>	
Training of Dairy Personnel	2.98
<i>Establishment of Milk and Dairy Units—</i>	
Spill over (completion of the schemes started during the Second Five-Year Plan period).	25.00
Setting up of Dairy Extension Units	15.47
Removal of milch animals from urban areas (Esstt. of cattle colonisation centres).	40.00
Esstt. of new milk supply schemes	45.00
<i>Expansion of the existing Dairy Projects—</i>	
Expansion of the existing Dairy Projects	65.00
<i>Miscellaneous—</i>	
Financial assistance for purchase of better milch animals and for setting up Dairy Farms.	8.00
Setting up a State Milk Board	0.75
Milk Co-operative Societies	1.61
TOTAL	211.61

(6) REORGANISATION AND EXPANSION OF DAIRY DEVELOPMENT SECTION.

With the progressively increasing activities of the dairy development programme, need is acutely felt for provision of adequate technical and administrative staff at the State headquarters level as also for expansion of the section in the field for successful implementation and execution of the various dairy projects. The estimated cost on account of the proposed expansion comes to Rs. 5.80 lakhs.

(7) SURVEY AND STATISTICS.

For planned development of the dairy industries in the State, it will be essential to make provision for a survey unit with adequate number of survey parties for collection, compilation and publication of dairy statistics. Considerable difficulties were felt during the Second Plan period in the absence of a regular unit of this type. This is estimated to involve a total cost of Rs. 2.00 lakhs during the Third Plan period.

TRAINING OF DAIRY PERSONNEL.

A large number of technical personnel will be required for the various dairy projects of the Third and the successive Plans. It is, therefore, necessary to train an adequate number of personnel in the various branches of Dairy Science every year. The total number of trained personnel available at the close of the Second Plan and the estimated requirement of additional trained personnel for the dairy projects in the Third Plan are as shown under—

	Available at the close of Second Plan.	Total requirement during Third Plan.
(1) I. D. D.	35	121
(2) B. Sc. (Dairying)	18
(3) B. E.	8
(4) B. V. Sc.	2
(5) B. Sc. (Agri.)	1
(6) B. V. Sc. with A. I. Training	10
(7) Agriculture Overseer	11
(8) Livestock Supervisors	11
(9) Livestock Overseers	11
(10) Stockmen	14

Candidates will be trained at the appropriate institutions in this country. For B. Sc. (Dairy Technology), B. Sc. (Dairy Husbandry) and Dairy Engineering, the candidates may be sent abroad to countries, like the United Kingdom, the United States of America, Newzealand and Australia for training. In-plant training of the dairy personnel at suitable milk processing and manufacturing organisations in this country will be also necessary besides the practical training of short duration to dairy farmers, plant operators and extension staff. The total cost on training is estimated at Rs. 2.98 lakhs.

(8) COMPLETION OF THE SCHEMES OF THE SECOND PLAN.

The completion of the schemes of the Second Plan will receive top priority. As mentioned above, a sum of Rs. 25.00 lakhs is required for this purpose. A major part of this amount will be needed for completion of the Hotwar Milk Supply-cum-Dairy Farm Scheme.

(9) SETTING UP DAIRY EXTENSION UNITS.

The dairy development programme is dependent on the production of milk and it is, therefore, necessary that extension units are set up for intensified animal husbandry work in the milk-sheds of the dairy projects to ensure more rapid increase in milk production. For this, extension service will have to be provided to help improvement of the cattle by better breeding, better feeding and better management and will include arrangement of water-supply, feeds and fodders, veterinary aid, improved breeding, construction of common milking-shed, etc. It is proposed to set up seven such units in the Third Five-Year Plan at an estimated cost of Rs. 15.47 lakhs.

(10) ESTABLISHMENT OF CATTLE COLONISATION CENTRES.

The need for removal of milch animals from towns has already been emphasised above. In the interest of both the cattle wealth as also the sanitation of the towns, it is considered necessary to bring out the animals from the towns. The rearing of cattle in towns has developed mainly due to lack of facilities for quick transport of milk produced in the rural areas and also because of inadequate production. Until we have sufficiently developed the production of milk in the rural areas and have provided adequate facilities for its quick transport to the town, which may take many years, it is not possible to drive out the animals from the towns. The only alternative left in the circumstances is to provide secluded space in the Master Plan for each town for cattle colony and provide necessary facilities for keeping the cattle there. With this object in view, a scheme of cattle colonisation has been proposed during the Third Five-Year Plan and a provision of Rs. 40.00 lakhs has been made for this purpose, which may suffice for a maximum number of three such centres during the Third Five-Year Plan period. If necessary, the provision may have to be increased by adjustment. The scheme envisages acquisition of land outside the town and its subdivision after development into smaller plots to be allotted to individual milk-producers. The construction of cattle-sheds, quarters for cattle-attendants, etc., by the Government or the milk-producers for each cattle colonisation centre will depend upon the conditions obtaining in the town/towns selected for the purpose. In the former case, it is intended to charge reasonable rent from the milk-producers (licensees) for the facilities provided and in the latter, loans may be advanced to them for doing the construction work themselves. In each case, provision of free veterinary aid and improved breeding

will be made and the entire milk produced at the colony will be purchased by the milk supply scheme of the town in question for transport to and distribution in the town.

(11) ESTABLISHMENT OF NEW MILK SUPPLY SCHEMES.

It is proposed to organise four new milk supply schemes, each with a handling capacity of 150 maunds of milk during the Third Five-Year Plan. These schemes are intended for urban area /areas with a population of over 1,00,000 (not covered by the Second Five-Year Plan) and some rapidly growing industrial towns. The estimated cost for these schemes is Rs. 45.00 lakhs at Rs. 10 lakhs for each scheme. As is being done in the existing dairy projects, the milk-producers in the milk-sheds of these new milk supply schemes also will be organised into village co-operatives for production and collection of milk. It is proposed to develop them ultimately on the "Anand pattern".

(12) EXPANSION OF THE DAIRY PROJECTS.

It is proposed to increase the handling capacity of Muzaffarpur and Bhagalpur Co-operative Milk Unions in the Third Five-Year Plan. Besides, the Gaya Milk Supply scheme will need expansion and the Barauni Creamery will be expanded into a composite plant. Provision of facilities in the existing dairies for preparation of toned milk for distribution among school children and to the low income groups is also considered necessary.

The requirement for expansion of the existing dairy projects is estimated at Rs. 65.00 lakhs.

(13) FINANCIAL ASSISTANCE FOR PURCHASE OF BETTER MILCH ANIMAL AND SETTING UP DAIRY FARMS.

With a view to increase the production of milk in the milk-shed of the dairy project, it is proposed to provide financial assistance for procurement of better milch animals and also for setting up dairy farms, wherever feasible. For procurement of milch animals, it is proposed to extend loans through the dairy projects which may be entrusted with the responsibility of their recovery by suitable adjustment against the milk supplied to them by the loanee milk-producers. For setting up dairy farms, however, the amount will be extended to the intending individual farmers, or co-operatives, partly as grant and partly as loans. The proportion of the loan and grant will be decided after the pattern of Central assistance is known. The total requirement for financial assistance has been estimated at Rs. 8.00 lakhs.

(14) MILK BOARD.

For efficient management of the dairy projects, it is considered essential to establish a Milk Board for each scheme which should

ultimately take over its management from the Government on the pattern of Electricity Board, etc. Besides these local Milk Boards an apex Milk Board at the State level may also be necessary to co-ordinate the working of the former. In the Third Five-Year Plan, provision is, for the present, being made only for the State Milk Board. The expenditure on this Milk Board should ultimately be met by a levy on the quantity of milk handled by the milk supply schemes and other dairy projects. In the initial stages of the dairy projects, however, it is proposed that the entire cost may be met by the Government as subsidy. Provisionally, a sum of Rs. 0.75 lakh has been kept in the plan for this purpose. The State Milk Board may consist of the representatives of the milk-producers, the consumers, the dairy projects and the local bodies concerned with them. The main functions of the Milk Board may be as follows:—

- (i) To supervise the work of the milk supply schemes and to have full control on marketing and distribution of milk in the town;
- (ii) to exercise strict control on the quality of milk and milk products;
- (iii) to formulate rules and regulations for allowing the sale of milk only under licenses issued by the Milk Board;
- (iv) to fix prices;
- (v) to advise Government on the question of fixation of legal standards for milk-products;
- (vi) to conduct propoganda and publicity for increasing the sale of milk;
- (vii) to decide the quantity of milk to be diverted for liquid sale and manufacture of products.

The exact pattern and function of the Board will be finalised in due course.

Depending upon the handling capacity of milk by the dairy projects and the availability of funds, steps may be taken also to set up Milk Board for each one of them.

(15) MILK CO-OPERATIVE SOCIETIES.

It is proposed to organise 50 Primary Milk Co-operative Societies and 10 Milk Co-operative Unions during the plan period at the rate of 10 primaries and one Union each year. 10 Primary Societies will be federated into a Union and Rs. 2,000 per milk Co-operative Society has been provided under this scheme. It is also necessary to provide for Managerial assistance for the Milk Union at the rate of Rs. 1,200 in the first year, Rs. 900 in the second year and Rs. 600 in the third year (total Rs. 2,700).

The total estimated cost over this scheme during the plan period will be Rs. 1.61 lakhs. The scheme is sponsored and will be executed by the Co-operative Department. The scheme does not provide for engagement of any staff.

(13) EMPLOYMENT POTENTIAL.

The employment potential of the plan is assessed as follows:--

Administrative	..	..	..	39
Technical	..	..	..	211
Skilled	..	..	..	1,068
Unskilled	..	..	..	3,386

6. FORESTS.

Out of about thirteen thousand square miles of the existing forests, eleven thousand square miles constitute the erstwhile private forests which came under Government management only some ten years ago. These forests were in a very degraded and denuded condition when their control was taken over. They failed to fulfil the task as conservers of soil and moisture. Erosion was found common in these private forests, the main reason for this being unplanned and unrestricted cutting, incessant heavy grazing and recurring annual hot season fires. Along with these private forests extensive areas of blank eroded lands and scrub jungle came under the Forest Department. The development plan of the Forest Department necessarily, therefore, took into consideration these conditions of the private forests which constituted about 85 per cent of the total forest area in this State.

The First Five-Year Plan of the department which was a very modest one, naturally provided for the consolidation of these private forests. The three schemes included in the First Plan were—

- (1) Management of Private Forests,
- (2) Education and training, and
- (3) Research.

The total allocation on these three schemes for the period of the First Five-Year Plan was only Rs. 125.00 lakhs.

Management of Private Forests.—After having completed the demarcation of these private forests, provisional felling schemes for the forests were prepared, and preparation of working plan for major part of the private forests was started. 16-inch cadastral maps showing the forests taken over and their boundaries were completed for all the forests. Most of the newly taken over private forests lacked in communication facilities. Roads (1,100) miles were, therefore, constructed in important areas. Buildings were constructed for the accommodation of the staff.

One Afforestation Division was created at Hazaribagh for afforesting waste lands and eroded private forest lands in the areas south of the Ganga. The total expenditure under this scheme amounted to Rs. 1,09.95 lakhs.

Education and training.—The Forest Department had to face great difficulty during the First Five-Year Plan due to the non-availability of trained staff required to manage the recently taken over private forests. The number of Forest Guards had to be increased from 4,21 to 2,300, that of Foresters from 1,02 to 3,88, that of Forest Rangers from 21 to 94, that of Gazetted Officers from 17 to 33. To train up the Forest Guards and the Foresters, four Forest Guards' Training Schools at Mahilong, Betla, Kathikund and Kodarma were established which impart training by six-monthly courses and turn out 200 trained Forest Guards annually. The Bihar Foresters' Training School trains up 20 Foresters annually. During the First Five Year Plan ten seats annually were secured at the adjoining Foresters' Training School at Champua, and also at Shivapuri School in Gwalior (Madhya Pradesh). Forest Rangers and Gazetted Forest Officers continue to be trained at Dehra Dun. 28 Forest Rangers and 12 Gazetted Forest Officers were trained during the First Five-Year Plan period at the Northern Forest Rangers' College and the Indian Forest College, Dehra Dun. The total expenditure under this Scheme came to Rs. 11.39 lakhs.

Research.—Forest research received priority during the First Plan. Instead of one division for Forest Research and Working Plans, one full-fledged division for research and two separate divisions for working plans started functioning. A triennial programme for forest research was drawn and launched. The importance of the use of secondary timbers after suitable treatment with preservative also received attention. Two Ascu treating plants were established at Latehar—one of the main centres of pole production. Poles and fencing posts are treated in these plants and supplied to Electricity, Postal and other departments. The total expenditure under this Scheme was Rs. 3.16 lakhs.

THE SECOND FIVE-YEAR PLAN.

Having consolidated the private forest management, compiled plans for their working, provided at least partially housing accommodation for the staff and taken steps for their gradual training, the next major task was to tackle the extensive wastes and derelict forest lands. The Second Five-Year Plan, therefore, provided mainly for afforestation of these waste lands on a large scales and fencing of derelict forest lands and regeneration areas.

Forestry Development Schemes.—The Forestry Development schemes aim at improving the growing stock in the existing forests and also at intensifying the management in these forests.

The expenditure on these schemes during the Second Five-Year Plan is anticipated to be Rs. 176.30 lakhs. Anticipated achievement of targets : 2.08 lakh acres survey for afforestation, 25,000 acres of waste land afforestation in South Bihar and North Bihar regions and afforestation of 6,000 acres of waste land blocks inside forest areas; fencing of 12,000 acres of regeneration areas, 2,000 acres of matchwood plantation and 1,000 acres of commercially valuable timbers like teak.

Amongst the Forestry Development schemes improvement of communication in forest areas and housing accommodation for staff received attention. 1,395 miles of roads and the following buildings have been constructed by the end of the Second Plan:—

Conservator of Forests' residence—2.

Divisional Forest Officers' residence—6.

Forest Rest Houses—64.

Range Officers' quarters—43.

Range Inspection huts—107.

Foresters' quarters—109.

Forest Guards' quarters—558.

The Utilisation Division which has been created in the Second Five-Year Plan has as its main objective supply of good quality timber to consumers and better utilisation of existing forest resources of the State. A seasoning-*cum*-saw mill at Ramgarh and a treating plant at Gailkera have recently been installed.

In order to create interest of the general public in wild life and also to increase tourism a National Park covering an area of 71 square miles has been created in Hazaribagh Forest Division. 71 miles of roads, two rest houses for tourists, several view towers, and water reservoirs have been constructed. A part of the National Park has been extended to Betla reserves in Palamau.

THIRD FIVE-YEAR PLAN.

1. *Economic Plantations*.—A sizeable part of the forest area of the State contains less valuable miscellaneous species or valueless scrub. Experience has shown that such and other blank areas can be successfully planted with teak, *semal*, bamboo and other valuable species. A moderate scheme for plantation of valuable species was taken up during the Second Five-Year Plan with success. This has to be enlarged and accelerated.

(i) Development of Teak Plantation.

(a) The physical targets are as below:—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
	1	2	3	4	5	6	7
Annual target in acres		900	1,700	2,300	2,500	2,600	10,000

(b) Anticipated expenditure:—

						(Rupees in lakhs.)
1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
1	2	3	4	5	6	7
1.00	1.98	2.42	2.75	2.85	11.00	

(ii) Development of Bamboo Plantation.

(a) Physical targets:—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
	1	2	3	4	5	6	7
Annual target in acres		1,800	2,700	3,000	3,750	3,750	15,000

(b) Anticipated expenditure:—

						(Rupees in lakhs.)
1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
1	2	3	4	5	6	7
1.00	2.05	2.25	2.85	2.85	11.00	

*(iii) Development of Matchwood Plantation.**(a) Physical targets —*

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
	1	2	3	4	5	6	7
Annual target in acres	..	250	250	250	250	1,000	

(b) Anticipated expenditure —

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	0.25	0.25	0.25	0.25	1.00

*(iv) Afforestation in North and South Bihar.**(a) Physical targets —*

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
	1	2	3	4	5	6	7
Annual target in acres		7,500	7,500	8,500	8,500	9,000	41,000

(b) Anticipated expenditure —

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
10.11	11.00	11.43	12.35	13.25	58.14

2. Consolidation.—(i) *Topographical Survey.*—Maintenance of proper maps forms an essential part of forest management. 1"=1 mile scale topo sheets generally available are completely insufficient for use in forest

management. During the compilation of working plans for these forests the need for proper topographical map was keenly felt. The forests of Ranchi district have been recently surveyed by the Survey of India and topographical maps prepared on 2.5" = 1 mile scale. On the same line topographical survey for rest of the forests, for which such maps do not exist, is called for.

(a) Physical targets —

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	6
Annual target in sq. miles	..	500	500	500	500	2,000

(b) Anticipated expenditure—

(Rupees. in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	1.25	1.25	1.25	1.25	5.00

(ii) Consolidation of boundary lines.—Although demarcation of the private forests was generally completed in the First Five-Year Plan, the boundary pillars are all *kacha*. Encroachment for cultivation within the demarcated forests has not been infrequent. One of the reasons of this is the *kacha* boundary post, which can be demolished easily and re-erected easily too. As a first step to consolidation of these forests, it is essential to make the boundary posts *pucca*.

(a) Physical targets —

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	6
No. of pillars in lakhs	..	0.25	0.25	0.25	0.25	1.00

(b) Anticipated expenditure —

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	1.40	1.40	1.40	1.41	5.61

3. *Forest Resources Survey*.—We are still unaware about the total forest resources in the State except that we know the area under forest. Timber, firewood, bamboo and a host of other valuable minor forest produce exist in our forests. Working Plans have been compiled and more are under compilation. Some local statistics have been collected for these areas. Since, however, these plans constitute the first attempt at introducing some sort of systematic management, the data collected could not naturally be very complete. We do not as yet know definitely the extent of the area over which various kinds of produce are found and in what quantity. A detailed Forest Resources Survey seems, therefore, called for.

(a) Physical targets—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	7
Annual target in sq. miles	..	450	450	500	600	2,000

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	0.75	0.75	0.85	1.00	3.35

4. *Working Plans*.—The first Working Plans for the erstwhile private forests had necessarily to be somewhat general in character. Statistical data could not be collected in very great detail. Suitable arrangements have to be made in view of the intensive management of forest proposed to compile detailed working plans.

(a) Physical targets— 2,500 square miles.

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	1.35	1.35	1.35	1.35	5.40

5. *Rehabilitation of degraded forests*.—Due to past mal-treatment, uncontrolled grazing, recurring fires and repeated cuttings, extensive areas in the erstwhile private forests have been reduced to a stage where only

bushy growth is found on the ground. Experience has shown that such areas respond remarkably to closure to grazing and protection against fire after some initial cultural operations. This has to be an important item of the development programme.

According to the working plans, coppice coupes have to be protected against grazing for a period of five years after felling. In spite of the best efforts it has not been possible to prevent cattle from entering the regeneration areas without proper fencing. The necessity and urgency of protecting the regeneration areas of the erstwhile private forests cannot be overemphasised. Therefore, a scheme for fencing such of the regeneration areas as, due to their proximity to habitation, are most vulnerable to damage by grazing, has to be taken up.

(i) *Rehabilitation of rooted wastes.*

(a) Physical targets—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	7
Annual target in lakh acres	0.02	0.03	0.03	0.03	0.04	0.15

(b) Anticipated expenditure—

(Rupees in lakhs.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	6
	1.00	2.00	2.30	2.70	2.75	10.75

(ii) *Fencing of regeneration areas.*

(a) Physical targets—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	7
Annual target in lakh acres	..	0.02	0.022	0.024	0.024	0.09

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	1.10	1.20	1.35	1.35	5.00

(iii) *Intensification of management.*—The problems which have to be dealt with have been briefly discussed above. In order to implement a development programme that caters for progress on all fronts, it is necessary to have a suitable organisation. Some idea of the increase, even in the normal organisational work, due mainly to the taking over of the private forests can be had from a perusal of the table below:—

Particulars.	1946.	1951.
	(Before taking over private forests.)	(After taking over private forests.)
1	2	3
Forest Area	2,608 sq. miles	13,314 sq. miles.
Length of artificial boundary lines to be maintained.	6,477 miles	68,526 miles.
Yield of timber, firewood	76,20,000 c. ft.	1,93,33,000 c. ft. *
Yield of bamboo	8,140 tons	80,500 tons.
Yield of minor forest produce value	Rs. 2,31,620	Rs. 20,70,932
Expenditure on roads	Rs. 58,740	Rs. 2,84,491
Expenditure on buildings	Rs. 32,252	Rs. 2,50,984

The present set up of the Forest Department is wholly inadequate to cope with the normal organisational work, let alone the heavy development programme envisaged. In the State itself, the credit for the good management of the old reserved and protected forests is largely due to the sizeable units of administration in these forests. The following table will show the average forest area per unit of administration in the old reserved and

protected forests as compared to the newly taken over private forests. Some relevant figures from a few of the other States are given below:—

Administrative unit.	Uttar Pradesh.	Kerala (1958).	Bihar.	
			Old R.Fs. and P.Fs. (1946).	New P.Fs. (1958).
1	2	3	4	5
	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Sub-beat .. ..	..	4.7	6.0	6.3
Beat .. ..	..	13.2	25.5	40
Range .. ..	..	76	124	175
Division	318.0	250	260	950
Circle	1,900.0	1,160	2,600	6,650 including old R.Fs. & P.Fs.

The intensity of management resulting from smaller and sizeable units of administration is reflected in the revenue per acre, which is rupees 5.5 for U. P., 13.2 for Kerala and 1.4 for our State. The urgent need for intensification of management with a view to making the units more sizeable and wieldy is obviously called for.

The existing cadre consists of 59 gazetted personnel. On recent examination it was found that for better management of the forests and for better execution of Second Plan projects, there was the need for 69 more officers. It has been calculated that due to increased target, the Third Plan would need 19 more officers. The situation reduces itself to the total requirement of $59 + 69 + 19 = 147$ in the gazetted rank, but for practical reasons of recruitment difficulties, provision is being made for 126 only.

The expenditure proposed in each of the five years of the plan period is shown below:—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
5.00	2.00	2.15	2.50	2.50	14.15

6. *Grazing, etc.—(i) Development of fodder and pasture resources.*—Large quantities of fodder grass not only go waste in the forests, but add to the fire hazards. At the same time the cattle population continue to be underfed. This paradoxical situation can be remedied to a great extent by exploiting the existing fodder resources of the forests. Certain areas within demarcation and some new afforestation areas may have to be profitably developed primarily as fodder reserves through introduction of grasses of better fodder species. Schemes for the proper development and management of fodder reserves including cutting and bailing have to be taken up.

(a) Physical targets—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6	7
Annual target in lakh maunds ..		0.50	0.50	0.50	0.50	2.00

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	0.25	0.25	0.25	0.25	1.00

7. *Nature Conservation.*—The value of Wild Life for increasing tourist traffic, for biological studies and for sport and beauty, has been increasingly recognised. Bihar has a variety of interesting fauna. A modest beginning has been made in the Second Five-Year Plan for preservation of Wild Life by opening a nucleus of National Park, initially in Hazaribagh district, but subsequently extended to Palamau. There are, however, other areas also which have a concentration of Wild Life. So far nothing substantial could be done for their preservation.

Establishment of a National Park in Palamau.—

(a) Total physical target—75 square miles of forests.

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
1.03	1.01	1.02	1.02	1.02	5.10

8. *Minor Forest Produce.*—So far, the major items of produce extracted from the forests have been *sal* timber, firewood and bamboo. The forests contain a large number of miscellaneous products like myrobalans, honey, silk cotton, medicinal herbs, etc., which all have immense commercial possibilities. Unless attempts are made to find full use for these products and arrangements made for their collection, exploitation and marketing, forestry cannot be said to have achieved its full objective. An estimated expenditure of Rs. 0.80 lakh will be incurred in the Third Plan for the exploitation of minor forest produce.

9. *Timber operations and Seasoning and Preservation Plants.*—The forests contain a host of the so-called inferior species, which are not fully exploited so far. Experience has shown that with proper seasoning and application of preservative treatment, such timber can be made quite durable and consequently acceptable to the market. It is proposed to establish a Pressure Treatment Plant at an estimated cost of Rs. 72,000.

Large quantities of firewood at present remain unutilised notably in the forests of Singhbhum adding considerably to the fire hazard. These need to be made available to the populated agricultural tracts of North Bihar and at such other places of the State where the local supply of fuel and small timber is not adequate. Seventeen departmental depots in Chotanagpur and South Bihar and three in North Bihar are proposed to be established at a total cost of Rs. 10.48 lakhs.

10. *Training of Personnel.*—Forestry is a developing science and a forest officer has to keep in touch with the latest developments in the field. The experiences of other States in India and of other countries particularly in Europe and America where forest management has made great strides, will be very useful in developing latest techniques and programmes. A phased and accelerated training (including specialised post-graduate training) programme and study tours for the officers of the department is, therefore, essential for maintaining a high degree of professional efficiency. Similarly facilities for the training of Forest Rangers and Foresters have to be enlarged.

As part of the Third Plan scheme it is proposed to impart training to 15 Assistant Conservators, 80 Rangers and 300 Forest Guards at a cost of Rs. 10.00 lakhs. Almost an equal outlay will also be spent outside the plan provision in order to have trained staff in all ranks. For improvement of training facilities that exist at present a provision of Rs. 5.00 lakhs has been made in the plan. An amount of Rs. 1 lakh is proposed to be spent on specialised training and study tours of two officers per annum on an average.

11. *Forest Research Institute.*—Forest Research is of great importance for the ultimate development of the forest on proper scientific lines. So far the Forest Research Institute, Dehra Dun, has been responsible for carrying out fundamental research in forestry. Research organisation in the State has so long been rather rudimentary in nature. The Forest Department has not even the basic arrangements for soil analysis. Setting up of a Soil Laboratory as a first step towards organising a State Research Institute seems essential.

Establishment of a Soil Laboratory.—

(a) Physical targets— Establishment of a Soil Laboratory.

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
..	0.40	0.20	0.20	0.20	1.00

12. *Communications.*—Quite a large proportion of the forests are still not accessible. The result is that the heaviest pressure of demand falls on the accessible areas, which seldom get chance of improvement. On the other hand, forests in the interior are still untapped depriving the State of forest produce and the Government of much needed revenue. The lack of adequate communications adversely affects supervision and control and gives a chance to the dishonest forest staff of harassing the local people. Improvement of communications has, therefore, to form one of the important items of the development programme in these forests.

(a) Total physical targets—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	
	1	2	3	4	5	6	7
Annual target in miles—							
Construction of new roads		160	275	350	400	415	1,600
Improvement	..	75	150	175	200	200	800

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
8.00	15.15	18.90	20.60	22.55	85.20

13. *Buildings*.—Subordinate field staff have to reside in the interior areas. They should be provided with suitable accommodation to enable them to apply themselves fully to their work. Under departmental regulations they have to be provided with departmental quarters or have to be paid rent for hiring private houses. In most of the places, suitable private houses are not available and these men have to undergo very great hardship. A sustained effort has to be made to provide the officers and men of the department with suitable accommodation. Similarly facilities for inspection bungalows in the interior have to be provided.

(a) Physical targets for the plan period—

- (1) Conservator of Forests' offices and residences—3.
- (2) Divisional Forest Officers' offices and residences—10.
- (3) Attached Officers' quarters—10.
- (4) Forest Rest Houses—30.
- (5) Range Inspection huts—75.
- (6) Forest Rangers' quarters and offices—20.
- (7) Foresters' quarters—75.
- (8) Ministerial Officers' quarters—75.
- (9) Forest Guards' and other quarters—1,000.

(b) Anticipated expenditure—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
6.00	8.30	9.70	10.60	11.60	46.20

14. *Labour Amenities*.—There are a number of forest villages in the districts of Singhbhum and Palamau. The inhabitants of these villages constitute the permanent gangs of labour for forest work. At present the living conditions in these villages are far from satisfactory. Housing conditions need improvement and facilities for schooling and medical assistance are almost negligible. It will be in the interest of increased output of work if arrangements are made to provide these villages with better houses and with facilities for schooling and medical assistance. A mobile dispensary and 10 schools will be established at a total cost of Rs. 1 lakh.

15. *Publicity*.—It has been mentioned earlier that the erstwhile private forests are heavily burdened with rights and are interspersed with habitation. The social and economic life of the local population also is so intimately connected with these forests that a proper understanding between the local people and the forest administration is absolutely essential for the success of the forest management programme. This understanding between the administration and the population can only be achieved if there is a suitable Publicity Section in the Forest Department to carry to the people the why and the wherefore of the forest rules and regulations, and to make them understand the benefits and the advantages of scientific forest management. An expenditure of Rs. 2.10 lakhs is proposed in the Third Plan for this purpose.

16. *Fire Protection*.—Fire causes immense damage to the forests. It has become almost an annual feature particularly in the erstwhile private forests. The adverse effects of fire are well known. The ground vegetation including young seedlings and saplings is killed outright, and even the grown-up trees get a serious set back and lose major part of their annual growth. The watersheds lose their soil and water conservation value. In the absence of ground cover rich fertile top soil is washed away in subsequent rain and new regeneration is hard to establish. Ultimate effects are becoming apparent in parts of Palamau and Hazaribagh where young and middle aged *sal* trees are dying in large numbers. The tribal hunts, and the habit of lighting fire underneath *mihua* trees for facility of collecting *mahua* flowers, careless throwing of *Biri* stubs, etc., are the main causes of forest fire. The future of the forests will continue to be gloomy so long as serious steps are not taken to combat the menace of forest fires. In the Third Plan it is proposed to protect from fire 2,500 square miles of forests at an estimated cost of Rs. 5 lakhs.

7. FISHERIES.

There is a great scope for development of fresh water (inland) fisheries in this State. Fish is a nutritive item of diet and is economically produced, since a fish fry which has practically no weight in the beginning develops into a fish of about a pound in just a few months. Fresh water fish is also exported outside the State to Calcutta

and other markets, from fishing centres lying around Buxar, Patna, Sahebganj and Khagaria of this State. Fisheries Development Schemes have been taken up with the idea of producing more fish as well as to help in the amelioration of the economic conditions of the communities of fishermen. Fisheries Research Works are designed to develop the techniques of spawn transport, improvement of fish seed nurseries, breeding and rearing of fries and fingerlings under existing conditions of water of lakes and tanks, etc.

First Plan.—The supply potential of 69.00 lakhs of fish fry distribution annually was created by the end of the First Plan. 36 Khasmahal tanks were taken up for fisheries development work. Against a plan outlay of 8.59 lakhs the expenditure was 7.38 lakhs.

Second Plan.—The following schemes were undertaken during the Second Plan period :—

- (1) Intensive fish seed collection and distribution.
- (2) Building up a supply potential of 150 lakhs of fish fry annually.
- (3) *Development and exploitation of Government tanks.*—It was proposed to cover a total area of 50,000 water acres under this scheme. During the last year of the Second Plan, Revenue Department decided to hand over all reservoirs, tanks, under their control to the Fisheries section.
- (4) *Fish sanctuaries in the Sone and the Burhi Gandak.*—Sanctuaries in these two rivers are being developed under provisions of the Indian Fisheries Act of 1897, to augment supply of fish seed which are mainly collected from rivers for stocking water areas.
- (5) *Development of Hazaribagh lakes into fish farms.*—The Hazaribagh lakes covering about 50 acres have been taken up and they are expected to produce ultimately a large quantity of fish annually.
- (6) *Extension methods on fisheries collection work.*—This is being carried on and it includes mainly demonstration work on fish farming, demonstration of paddy-cum-fish culture, manuring of fish ponds and education of fish farmers in fish-farm techniques.
- (7) The lagoon formed on account of the construction of the Ganga Bridge is being worked as a fish farm. The area is about 100 acres.
- (8) Fish-carp breeding farms are in process of establishment.
- (9) *Fishermen schcols.*—About 20 night schools have been organised for the benefit of fishermen.
- (10) Five Pilot Projects are being worked for intensive fisheries development work in selected N. E. S. Blocks.

- (11) *Research*.—Systematic fisheries research was organised with its headquarters at the Patna Regional Research Institute under a Fisheries Biologist.

The total expenditure on fisheries schemes is estimated to be Rs. 30.29 lakhs during the Second Plan against the original provision of Rs. 55.24 lakhs. The shortfall was mainly due to late decision for the transfer of Khasmahal tanks to the Fisheries Development Section towards the end of the Second Plan. A Fisheries Training School proposed for imparting training to lower Supervisory and Extension staff could not be started. A production level of 40,000 tons of fish annually has been built up during the Second Plan.

Third Plan.—During the Third Plan, schemes running in the Second Plan have to be expanded. The water acreage in the blocks would be utilised to the utmost and it is proposed to give an extension staff for blocks having 200 water acres. The exploitation work will be intensified in all fresh water areas and particularly in rivers. For conditions prevailing in Chotanagpur, extension work on fisheries development techniques would be taken up so that all tanks and ponds and impoundments where the water remained after irrigation could also be utilised for fish production. The work on development of mussel fishing, used for manufacture of buttons, would be undertaken. Simultaneously, research on fisheries would be extended to cope with the increased work. These schemes are expected to raise the annual production from 40,000 tons during the Second Plan to 60,000 tons in the Third Plan. It is also proposed to organise 50 Fishermen's Co-operative Societies during the Third Plan period. A total provision of Rs. 89.43 lakhs is made in the Third Plan. This includes Rs. 8 lakhs as State Government's contribution towards Fisheries Scheme of the Damodar Valley Corporation.

8. AGRICULTURAL MARKETING.

To ensure fair prices to the farmer for his extra labour involved and the expenditure incurred in producing additional yield, it is but expedient that proper facilities for marketing be made available to them.

2. The Agricultural Marketing Section in this State existed in a nucleus form, even prior to the First Plan and the activities were confined to survey and collection of basic data and specific information regarding trend of production, utilisation, prices, etc. The section undertook grading of agricultural commodities on a limited scale in respect of *ghee*, *gur*, tobacco and mango.

3. During the First Plan period there was no expansion of the section and no additional work was undertaken.

4. During the Second Plan the section was strengthened by appointing a Deputy Director of Agriculture (Marketing) in Class I, B. A. S.,

for expanding the scope of survey and studies and to organise the section for the introduction of the Bihar Agricultural Produce Markets Act which was to be enacted during the early part of the Second Plan. However, the relevant State Act could be passed only in the fifth year of the Second Plan. After its enactment the necessary staff, for being deputed for training and for making preparation for the implementation of the Act, has been sanctioned. The main work in this connection will be undertaken in the Third Five-Year Plan when all important wholesale markets are proposed to be regulated.

5. Besides, it is proposed to undertake grading of agricultural commodities under the Agricultural Produce (Grading and Marketing) Act, 1937, on a much larger scale and grade *ghee*, *gur*, tobacco, mango, chillies, potatoes, eggs, jute, rice, *a'a*, etc.

During the Third Five-Year Plan collection of prices will form an important function as the regulation of markets will form the pivot of all market intelligence service. The proposed outlay during the Third Five-Year Plan period is Rs. 30.00 lakhs.

9. WAREHOUSING.

It is proposed to contribute Rs. 20 lakhs to the share capital of the State Warehousing Corporation at the rate of Rs. 4 lakhs each year. The Corporation is expected to construct about 30 warehouses during the plan period.

CHAPTER VI.

CO-OPERATION AND COMMUNITY DEVELOPMENT.

1. CO-OPERATION.

The ten schemes of co-operative development proposed to be implemented under the Third Five-Year Plan are both for the expansion of schemes of the Second Plan, and some new schemes. The total financial outlay on the above schemes is Rs. 5,18.02 lakhs of which Rs. 3,55.88 lakhs will be on revenue account and Rs. 1,62.14 lakhs on capital account. The relevant details are being furnished below :—

(RUPEES IN LAKHS.)

Serial no.	Name of the scheme.	Proposed outlay in the plan period.		
		Revenue.	Capital.	Total.
1	2	3	4	5
1	Administrative staff	31.58	..	31.58
2	Training of personnel	43.54	6.00	49.54
3	Research, Survey and Statistics	1.68	..	1.68
4	Co-operative Societies—Multi-purpose	2,07.23	37.50	2,44.73
5	Co-operative Societies—Credit	20.43	..	20.43
6	Co-operative Societies—Marketing and Supply.	26.59	62.25	88.84
7	Co-operative Societies—Farming	8.59	24.33	32.97
8	Co-operative Societies—Sugarcane	3.07	27.63	30.70
9	Co-operative Societies—All others	3.17	4.38	7.55
10	Miscellaneous	10.00	..	10.00
GRAND TOTAL ..		3,55.88	1,62.14	5,18.02

Credit.—During the plan period all the villages would be covered with Co-operative Societies and expanded credit facilities would be made available for increasing agricultural production. Provision has accordingly been made for the organisation of 7,500 Small-sized Multi-purpose Co-operative Societies. The total number of such

societies would come to about 23,000 by the end of the Third Plan period. Each society will serve on an average 1,700 individuals, or about 300 potential members. In other words, there would approximately be two such societies in the area of operation of each Gram Panchayat, since the number of notified Gram Panchayats is going to be about 11,000. The target for membership has been set at 20 lakhs by the end of the Third Plan. In other words, Co-operative Societies would serve about 23 per cent of the agricultural population as against 10 per cent at the end of the Second Plan.

It is proposed also to pay particular attention to consolidation and revitalisation of the existing societies, since more than half the number of societies are not working at a profit and one-third are actually working at a loss. To make these societies viable, provision has been made in the plan for assisting and revitalising 16,000 small-sized societies, including 7,500 new societies to be organised during the plan period, in addition to 1,660 societies already taken up for revitalisation in the Second Plan. Each society will be given a total subsidy of Rs. 900 in the course of three years, to enable it to engage trained clerical staff. The total outlay under this head is estimated at Rs. 1,38.26 lakhs during the plan period.

A provision of Rs. 5.00 lakhs has also been made for the grant of rebate to Co-operative Societies on timely repayment of loans borrowed by them from the Central Banks. This is a continuing scheme, taken up for the first time for implementation in 1959-60, and is of special significance for the situation obtaining in Bihar.

In order to provide greater facilities for short and medium-term credit to the agriculturists, provision has also been made for State participation in the share capital of the co-operative credit organisations at the primary, Central and State levels. A sum of Rs. 1,80.00 lakhs has been earmarked for this purpose.

It is proposed to set up 30 Branch Land Mortgage Banks and to augment the share capital of the State Land Mortgage Bank through Government contribution of Rs. 10.00 lakhs. This would be in addition to the contribution of an equal amount made in 1956-57.

The target for provision of agricultural credit of all types has been put at Rs. 38.40 crores during the five years.

Marketing and Processing.—The target for the organisation of 220 Primary Marketing Societies, setting up of two jute baling plants and the establishment of the State Warehousing Corporation with 20 warehouses have been achieved by the end of the Second Plan. Co-operative Marketing is a new experiment in this State, and the existing marketing organisations have yet to gain experience and develop their business. Keeping this in view, a small target for the organisation of 50 Primary

Marketing Societies during the Third Plan period has been kept so that greater attention can be paid towards consolidation and expansion of the activities of the existing marketing societies. It is also proposed to provide cold storage plants to such of the marketing societies or unions which are functioning in the potato-growing areas and are in need of this facility. The State Warehousing Corporation has proved to be useful and it has, therefore, been proposed to open 30 warehouses in addition to the 20 set up under the Second Plan period during the Third Plan period and to augment the share capital of the State Warehousing Corporation through State contribution of Rs. 20.00 lakhs. It is also proposed to set up four Jute Baling Plants under this scheme. Organisation of Fruit Preservation and Canning Societies and new Consumers' Co-operative Stores, besides revitalisation of existing ones, also find place in the Third Plan.

Cane Societies.—There are a large number of Canegrowers' Co-operative Societies and their Unions which have been languishing for want of assistance and support. It is proposed to convert 50 unions into marketing societies and to provide the usual incentives in the shape of managerial assistance and help for construction of godowns to organisations which agree to market other agricultural produce, besides sugarcane. Moreover, one Co-operative Sugar Factory is in the process of organisation and one more is proposed to be set up during the Third Plan.

Administrative staff.—(i) Provision has been made to strengthen the administrative staff of the Department. For the headquarters office of the Registrar, Co-operative Societies, Bihar, it is necessary to have an officer of the rank of Deputy Registrar, in addition to the Joint Registrar, Co-operative Societies, provided under the Second Plan, to speed up and supervise the activities of Co-operative Marketing Societies.

(ii) The absence of Co-operative Officers at district level for co-ordinating the activities of the Subdivisional Officers and ensuring closer supervision, has been keenly felt. With a view to meet this long-felt want, it is proposed to set up 17 offices of District Co-operative Officers through conversion of the existing posts of Assistant Registrars at district headquarters. Provision has also been made to strengthen the audit, supervisory and inspecting staff.

A comprehensive memorandum on each scheme proposed to be taken up under the Third Five-Year Plan is given below :—

ADMINISTRATIVE STAFF.

(a) *Headquarters office.*—Under the Second Five-Year Plan, provision for the appointment of a Joint Registrar, Co-operative Societies, one Deputy Registrar, Co-operative Societies (Headquarters), one Deputy

Registrar, Co-operative Societies (Judicial), one Special Officer, one Deputy Chief Auditor, Co-operative Societies and one Assistant Registrar, Co-operative Societies (Publicity and Training) was made. Thus at the end of the Second Plan, the sanctioned strength of gazetted officers at the headquarters office of the Registrar, Co-operative Societies, Bihar, consisted of one Registrar, Co-operative Societies, one Joint Registrar, three Deputy Registrars, one Chief Auditor, one Deputy Chief Auditor and one Assistant Registrar of Co-operative Societies. The post of Special Officer for writing manuals is proposed to be abolished at the end of the first year of the Third Plan period. The existing office staff will have to be strengthened to cope with the expanding work in the Third Five-Year Plan. It is proposed to recruit about 12 ministerial officers and four class IV staff in the plan period. As regards gazetted officers, it is expected that the existing staff at the headquarters will be able to manage the work. All the posts above may be filled up in the first year of the plan period. The total cost on this part of the scheme will be Rs. 1.35 lakhs during the plan period.

(b) *Subordinate Offices.*—(i) In the Second Plan, provision was made for the opening of 34 new offices of Assistant Registrars of Co-operative Societies at the subdivisional level. Thus by the end of the Second Plan, there were four Divisional Deputy Registrars and 57 Assistant Registrars of Co-operative Societies. There is no officer at the district level with the result that in District Development Committees and other such district organisations, the Co-operative Department is not properly represented. The work of Subdivisional Assistant Registrars also cannot be supervised and co-ordinated properly by the Divisional Deputy Registrars of Co-operative Societies. It is, therefore, necessary to create 17 posts of District Co-operative Officers in the scale of Rs. 220—750 through conversion of 17 existing posts of Subdivisional Assistant Registrars. The District Co-operative Officers will look to the work of Sadar subdivisions, besides co-ordinating the activities of the other officers in the district. In effect, there will be 40 posts of Subdivisional Assistant Registrars, instead of 57, and 17 posts of District Co-operative Officers. Each of the District Co-operative Officers will also have the necessary complement of office staff. Eight offices of the District Co-operative Officers are proposed to be set up from September, 1961, and nine offices from September, 1962.

(ii) *Training Reserve Inspectors.*—The Department has to depute a large number of Inspectors for training as Extension Supervisors and in Marketing, Land Mortgage Banking, etc., every year. 100 temporary posts of Training Reserve Inspectors were created under the Second Plan. It is proposed that 100 posts of such Inspectors may be provided in the Third Plan also for two years only from 1961-62 so that the programme of training may be followed smoothly.

(iii) *Office staff.*—Each of the offices of Assistant Registrars of Co-operative Societies has only three assistants. The work has, however,

sufficiently increased during the Second Plan period, and there will be further increase during the Third Plan period. The existing staff will have to be augmented. It is, therefore, necessary that each of the Assistant Registrar's office may have one more assistant in the lowest scale of Rs. 50—90. 57 such posts may be filled up in 1961-62.

The total cost of all the schemes under the head "Subordinate Offices" comes to Rs. 15.01 lakhs.

(c) *Audit.*—The target for the appointment of 527 Local Auditors, 67 Assistant Auditors, 12 Selection Grade Auditors and 17 District Audit Officers was achieved by the end of the Second Plan period. Thus the sanctioned strength of the audit staff at the end of the Second Plan period consists of 1 Divisional Auditor posted to the Bihar State Co-operative Bank, 17 District Audit Officers, 105 Assistant Auditors, 12 Selection Grade Auditors and 747 Local Auditors including those provided for special types of societies. There will be about 23,000 Multi-purpose Co-operative Societies, besides 255 Large-sized Co-operative Societies, and other special types of societies by the end of the Third Plan period. The audit service has, therefore, to be strengthened further to cope with the audit of 7,500 additional Multi-purpose Co-operative Societies which are to be organised during the Third Plan period, besides other types of societies. Accordingly, the following steps have to be taken to strengthen the audit staff:—

- (i) *Assistant Auditors.*—It is proposed to create 25 posts of Assistant Auditors in the scale of Rs. 125—8—205—E.B.—9—250. These posts will be filled up at the rate of 5 per year during the Third Plan period. As usual, the Assistant Auditors will be paid peon's allowance at the rate of Rs. 12 each.
- (ii) *Local Auditors.*—At least 200 additional Local Auditors of Co-operative Societies will be required to cope with the expanding audit work during the Third Plan period. They will be recruited at the rate of 40 per year during the plan period.
- (iii) *Office staff.*—It is proposed to provide each office of the District Audit Officer with additional office staff of one assistant in the scale of Rs. 80—120 and one Assistant-cum-Typist in the scale of Rs. 50—2—70—E.B.—2—90. Only one assistant was provided to each under the Second Plan period. Thus the total number of assistants required will be 17 in the scale of Rs. 80—120 and 17 in the scale of Rs. 50—90.

The total cost of the staff under this scheme comes to Rs. 15.22 lakhs. The total provision under sub-head "Administrative" Staff will therefore be Rs. 31.58 lakhs.

CO-OPERATIVE TRAINING.

The programme of training includes training of (i) Technical and Administrative personnel required for the Co-operative Institutions and the Department, (ii) Co-operative Extension Supervisors for Community Projects, (iii) Officers and Supervisory personnel required for organisations like warehouses, marketing societies and other special types of societies, (iv) members and office-bearers of co-operative societies and (v) education of the people in practice of co-operation by means of lectures, etc. The last two items of work will be executed with the help of the Bihar Co-operative Federation which will be paid a subsidy for the purpose by the State Government. The programme for the training of Co-operative personnel during the Third Plan period is detailed below:—

(a) *Training of higher grade staff.*—Responsibility for the training of higher grade staff is being shouldered by the Central Committee for Co-operative Training. It is proposed to depute eight officers each year to the Co-operative Training Institute, Poona, during the Third Plan period. The cost on account of salary, travelling allowance and incidental charges incurred on the deputation of the officers will be borne by the State Government as usual.

(b) *Training of Intermediate Personnel—Inspectors of Co-operative Societies.*—15 seats for the training of staff in the intermediate grade (Inspectors, etc.) have been allotted to this State at the Reserve Bank of India's Regional Co-operative Training Centre, Ranchi. It is proposed to get the number of seats raised to 20 and to depute 20 Inspectors at the Centre every year during the Third Plan period.

(c) *Training of Co-operative Extension Supervisors.*—The Department has to post a Co-operative Extension Supervisor to every Community Development Block to look after co-operative work. These Supervisors are being trained, at present, at the Block Level Co-operative Officers' Training Centre at Gopalpur-on-Sea which is run by the Central Committee for co-operative training. 218 more Community Development Blocks will be opened by the end of October, 1963, when the full target of 574 blocks will have been achieved. It is proposed to depute for this training 180 candidates (including untrained Co-operative Extension Supervisors) during the Third Plan period at the rate of 80 candidates in 1961-62 and 100 candidates in 1962-63. The cost on this part of the scheme has been provided under scheme no. 080.

(d) *Specialised Training—(i) Training of Manager of Marketing Co-operative Societies.*—Specialised training in marketing is imparted at the Regional Co-operative Training Centre at Meerut, Poona and Ranchi. Provision has been made for the organisation of 50 Primary Marketing Societies under the Third Plan besides conversion of 50 Cane Development and Cane Marketing Unions into marketing societies.

It is apprehended that all the 220 Primary Marketing Societies, to be set up during the Second Plan period, may not be provided with the services of trained Managers. The estimated deficit is 16. It is, therefore, proposed to depute 30 Inspectors in each year of the Third Plan period for training in Co-operative Marketing.

(ii) *Training in Land Mortgage Banking.*—The anticipated deficit of trained personnel in Land Mortgage Banking by the end of the Second Plan is 7. It is proposed to organise 30 branches of Land Mortgage Banks at the subdivisional level under the Third Plan. Hence, a provision has to be made for the training of 70 persons at the rate of 15 persons in each of the first three years, 13 in the fourth year and 12 in the last year.

(iii) *Training in Co-operative Farming.*—The plan provides for setting up of 25 Pilot Projects involving the organisation of 250 Co-operative Farming Societies besides the organisation of 500 such societies outside the Pilot Projects. In order to provide trained personnel for the implementation of this scheme and also for the training of members of Co-operative farms, a lump provision of Rs. 7.15 lakhs has been made for the whole plan period, pending details of the training scheme being settled.

(e) *Training of subordinate personnel.*—For the training of subordinate personnel of the rank of Supervisors and Local Auditors, the State Government maintain three Co-operative Training Institutes at Pusa, Deoghar and Ranchi, of which only the first two institutes are included in the Second Plan. Each of these institutions is designed to train 80 candidates per year in one session. 420 Supervisors and 300 Local Auditors (stipendiaries) are to be trained during the Third Plan period. The programme for the training of Supervisors will be at the rate of 75 in each of the first four years and 120 in the last year and that of Local Auditors at the rate of 60 each year during the Third Plan. The stipendiaries will draw a stipend of Rs. 40 per month besides travelling allowance at the rate of Rs. 60 per head while on study tours, as in the Second Plan period. The cost on this account comes up to Rs. 15.39 lakhs.

(f) *Buildings for the Co-operative Training Institutes.*—The two newly started institutes have no institute building, or hostels, or staff quarters and as a result much inconvenience is felt. As these institutes are going to be maintained on a permanent basis, it is proposed to provide suitable buildings for the institutes at a cost of Rs. 5.00 lakhs and to provide additional staff quarters for the third institute at a cost of Rs. 1 lakh. The total non-recurring cost would thus come up to Rs. 6.00 lakhs. The construction work will be taken up partly in 1962-63 and partly in 1963-64.

(g) *Refresher training for the existing staff.*—It is considered necessary to arrange for refresher courses of short duration for the existing

staff of various categories employed under the Department to bring their knowledge up to date. The existing departmental Co-operative Training Institutes will be utilised for this work. A lump provision of Rs. 1.00 lakh to meet the cost of refresher training courses of departmental staff has, therefore, been provided.

(h) *Training of members and office bearers of Co-operative Societies.*— For the training and education of members and office-bearers of Co-operative Societies, a provision was originally made in the Second Plan for setting up 16 peripatetic training centres. Subsequently, provision was made for setting up of additional 18 such training centres so that each district may have two peripatetic centres by the end of the Second Plan. These centres are being looked after by the Bihar Co-operative Federation.

During the Third Plan, it is proposed to set up 17 District Co-operative Training Institutes, one in each district, for the training of non-officials. The existing 17 peripatetic training centres out of 34 such units of the Second Plan will be merged with the district institutes. The district institutes will be established at the rate of four in each of the first two years and three in each of the remaining three years of the plan period, but the actual details of the set-up of these institutes have yet to be worked out. Corresponding number of existing peripatetic centres will be merged with the district institutes in each year and the number of these centres will go down accordingly. In effect, only 17 peripatetic training centres and 17 district institutes will be left by the end of the Third Plan.

The Federation will continue its function of managing the training centres for non-officials and will be paid subsidy to meet the cost.

A provision of Rs. 20.00 lakhs has been made for the entire plan period to meet the cost of this scheme. The total estimated cost of all co-operative training schemes is, therefore, Rs. 43.54 lakhs. Training will be imparted to about 700 personnel of subordinate categories and 2,80,000 members and office-bearers of village co-operatives.

RESEARCH, SURVEY AND STATISTICS.

The Second Plan provided for the organisation of a small statistical section comprising of the Statistical Officer, three Senior Statistical Assistants and six Junior Statistical Assistants besides office staff at the headquarters office. Each of the offices of the Deputy Registrars of Co-operative Societies was provided with a Junior Statistical Assistant and that of the Assistant Registrar, Co-operative Societies, with one Assistant. Except for compilation of statistics collected from various co-operative organisations, the present staff is not in a position to undertake any specialised studies, so necessary for planning. It is, therefore, necessary to strengthen the statistical cell of the Department for the

purpose. Provision has, therefore, been made for the appointment of a Statistical Supervisor in the scale of pay of Rs. 150—350 and 20 Investigators on Rs. 70—125. The posts of Statistical Supervisor and 15 Investigators will be filled up in 1961-62 and those of five Investigators in 1962-63.

MULTIPURPOSE CO-OPERATIVE SOCIETIES.

The table below shows the targets regarding the organisation of Multi-purpose Co-operative Societies and also the picture at the end of the Second Plan :—

	Position at the end of 1960-61.	Position at the end of 1965-66.
(a) Number of Multi-purpose Co-operative Societies.	16,000	23,000
(b) Number of members	7.50 lakhs	20 lakhs.
(c) Short-term loan	1.02 crores	8.50 crores.
(d) Medium-term loan	0.30 crore	4.50 crores.
(e) Long-term loan	0.10 crore	2.00 crores.
(f) Number of societies to be revitalised ..	1,660	17,660
(g) Number of rural godowns	60	560

The Second Plan provided for the organisation of 8,000 Primary Multi-purpose Co-operative Societies bringing the total number of such societies to 16,000 by the end of the plan period. There was also a provision for the organisation of 500 Large-sized Co-operative Societies by the end of the Second Plan period. Only 255 such societies could be organised by 1958-59 after which this scheme was discontinued.

During the Third Five-Year Plan period, it is proposed to bring all the villages within the Co-operative fold. Primary Village Societies have to be organised on the pattern laid down by the Expert Committee on co-operative credit. The idea is that, ordinarily, a primary society should cover a population of about 3,000 within a radius of three to four miles of the headquarters of the society. It is hoped that through organisation of 7,500 new societies, and reorganisation of existing societies, 23,000 co-operatives will cover all the villages in the State. Thus the target for the organisation of new societies by the end of the plan period, has been set down at 7,500 societies.

Personnel required.—Ordinarily, 900 Supervisors would be required for the supervision of 23,000 Societies, the yardstick being one Supervisor for every 20 or 25 societies. Against this, the total strength of Supervisors at the end of the Second Plan will be about 600. Provision for the appointment of 300 Supervisors, at the rate of 50 Supervisors per year is, therefore, being made in the Third Plan. The total estimated cost on this account comes to Rs. 12.47 lakhs.

Revitalisation of Small Credit Societies.—Almost half of the primary societies in this State are not working at a profit and one-third of the

societies are actually working at a loss. Even otherwise, loan operations of most societies are on a small scale, and there is considerable stagnation at the primary level. Out of 12,822 Primary Credit Societies in 1957-58, only 8,799 societies could be audited in 1958-59. Of them five were classified as 'A', 385 as 'B', 6,057 as 'C', 1,048 as 'D', 239 as 'E' and 1,065 societies though audited but not classified. Particular attention has, therefore, to be paid towards the revitalisation of these societies. Accordingly, it is proposed to take up additional 16,000 societies including 7,500 new societies to be organised during the Third Plan period, at the rate of 3,500, 3,700, 3,800, 3,500 and 1,500 societies respectively in each year during the plan period for revitalisation by giving to each the subsidy of Rs. 900 in course of three years. The societies will actually receive Rs. 400, 300 and 200 respectively as subsidy in the three years. In addition, the societies selected for revitalisation during the Second Plan period will continue to receive the balance of the subsidy due till the total assistance comes to Rs. 900 in each case. The estimated cost on this part of the scheme comes to Rs. 138.26 lakhs during the plan period including the subsidy of Rs. 8.76 lakhs to be paid to the societies selected during the Second Plan period for revitalisation.

Credit.—It has to be recognised that suitable arrangements for providing additional credit have to be made as any substantial increase in the membership unaccompanied by provision of adequate and timely credit facilities will discourage new members from joining co-operative societies and will adversely affect the growth of the movement. Accordingly, it is proposed to advance Rs. 22.70 crores, Rs. 10.70 crores and Rs. 5 crores as short-term, medium-term and long-term loans respectively during the Third Plan period. The year-wise break-up is given below :—

[Rupees in crores.]

Year.	Short-term.	Medium-term.	Long-term.	Total credit.
1	2	3	4	5
1961-62 ..	1.60	0.40	0.20	2.20
1962-63 ..	2.60	1.00	0.50	4.10
1963-64 ..	4.00	1.80	0.90	6.70
1964-65 ..	6.00	3.00	1.40	10.40
1965-66 ..	8.50	4.50	2.00	15.00
TOTAL ..	22.70	10.70	5.00	38.40

Rebate to Primary Societies.—Due to various reasons, the primary societies have not been able to strike confidence and attract deposits

from their members and their owned funds are meagre with the result that they have to depend almost entirely on funds borrowed from the Central Co-operative Banks for making advances to their members. As these funds are available at 5 per cent rate of interest per annum and the societies have to charge $6\frac{1}{4}$ per cent from their members, the margin of savings available to the societies, even with cent per cent recovery, is as small as $1\frac{1}{4}$ per cent. Moreover, the owned funds of the societies have to be built up rapidly if the societies have at all to become viable units. Keeping in view all these considerations, a provision was made in the Second Plan for payment of rebate at the rate of $1\frac{1}{4}$ per cent to such societies as repay their dues in time to the Central Co-operative Banks. The scheme is proposed to be continued during the Third Plan period. The scheme will be operative till the owned funds of the primary societies have been sufficiently strengthened through State contribution to their share capital and/or the margin available to the primary societies on their loan business has been adequately enhanced. A lump provision of Rs. 5 lakhs at the rate of Rs. 1,00,000 per year has been made for the scheme. The annual outlay is subject to revision according to the actual claims made.

State participation in the share capital of primary societies.—In view of the weak and anaemic nature of primary societies, it is essential to strengthen them quickly, if credit needs of the cultivators are to be met in adequate measure. Such a step is all the more necessary, now that the State Government has suitably strengthened the share capital base of the Apex and Central Banks. The idea of the State contributing to the share capital of primary societies has now been endorsed by the Expert Committee on Co-operative Credit. It is proposed that the State would make the contribution at the rate of Rs. 25.00 lakhs in each year of the plan period. The total cost involved on this account would be Rs. 1,25.00 lakhs. The entire amount is likely to be made available by the Reserve Bank of India as long-term loan to the State Government and will be outside the ceiling of the plan.

Grant for credit to Bad Debt Reserve Fund of primary societies.—According to the recommendations of the Expert Committee on Co-operative Credit, the State has to contribute as a safeguard against bad and doubtful debts, to each society 3 per cent of the additional loans made by it during a year, over and above the loans advanced by it in the preceding year. The scheme is designed also to encourage the societies to adopt a more liberal loan policy, and expand their volume of business. On this account, a sum of Rs. 39.00 lakhs will be required during the plan period.

Rural Godowns.—At the instance of the Government of India, the scheme for construction of Rural Godowns was taken up in the year 1959-60. 60 such godowns would be constructed by the end of the Second Plan period. During the Third Plan, 500 godowns including the requirements of the Intensive Agricultural Production Programme of

Shahabad district are proposed to be constructed at the rate of 100 godowns each year, at an estimated average cost of Rs. 10,000 per godown, of which Rs. 7,500 will be in the shape of loan and Rs. 2,500 as subsidy. For the service activities of co-operative institutions to grow up rapidly it is essential to provide such storage accommodation to as many organisations as possible. The total estimated cost on this account will be Rs. 50 lakhs of which Rs. 37.50 lakhs will be loan and Rs. 12.50 lakhs subsidy.

CENTRAL AND APEX CREDIT INSTITUTIONS.

(i) *Central Co-operative Banks.*—(a) The Second Plan provided for strengthening of the financial and administrative structure of Central Co-operative Banks by State contribution to their share capital amounting to Rs. 60 lakhs and provision of managerial staff at the State cost. Under the scheme of “Reorganisation of Central Co-operative Banks” there would be only 28 retained Central Co-operative Banks with 21 branches. All such banks were provided with the services of managers under the Second Plan. It is proposed to strengthen further the administrative structure of the Central Co-operative Banks by providing the services of an Accountant in the scale of Rs. 80—120 to each of them including the branches. The institutions will share the cost on this account on a progressive basis from year to year. The total estimated cost on this account will be Rs. 1.41 lakhs.

(b) *Grant for credit to special Bad Debt Reserve Fund of Central Banks.*—In accordance with recommendation of the Expert Committee on Co-operative Credit, the State will give an outright grant to each Central Co-operative Bank for credit to its special Bad Debt Reserve Fund at the rate of one per cent of the additional loans advanced by it during a year over and above the loans advanced by it in the preceding year. A provision of Rs. 13.00 lakhs has been made on this account.

(c) *Share capital.*—The Second Plan provided for a contribution of Rs. 60 lakhs to the share capital of Central Co-operative Bank, i.e. on average 2.7 lakhs to each of the Central Co-operative Banks. In view of the expansion in credit facilities envisaged, the share capital of these institutions will have to be further augmented. It is, therefore, proposed that the State would contribute additional Rs. 50.00 lakhs at the rate of Rs. 10.00 lakhs each year to the share capital of such of the banks as require to be strengthened. As this amount is likely to be made available by the Reserve Bank of India as a long-term loan, the amount has not been included in the plan.

(ii) *Land Mortgage Banks.*—(a) *Progress under the Second Plan and target of the Third Plan.*—As provided in the Second Plan, the State Co-operative Land Mortgage Bank was registered with State contribution of Rs. 10 lakhs to its share capital. The establishment of its 17 branches

at the district level will be completed by the end of the Second Plan period. It is expected that the State Land Mortgage Bank will advance a total long-term loan of Rs. 6.00 lakhs by the end of the Second Plan period. With the expansion in the number of Primary Societies during the Third Plan period, the need for long-term loan will also increase. It is proposed to advance a total long-term loan of Rs. 5.00 crores during the Third Plan period and to open 30 additional branches of the State Land Mortgage Bank so that together with 17 existing branches, a total number of 47 branches are provided by the end of the Third Plan period. Thus there will be on an average, two branches attached to each of the amalgamated Central Co-operative Banks except in cases of nine Central Co-operative Banks of Chotanagpur and Santhal Parganas areas. The staffing pattern will be the same as already approved for the existing 17 branches. It is proposed to open six branches in each year of the plan period.

(b) *Share capital.*—It is also considered necessary to make a further contribution of Rs. 10.00 lakhs at the rate of Rs. 2.00 lakhs each year to the share capital of the Bihar State Land Mortgage Bank during the plan period. As a long-term loan from the Reserve Bank of India is expected to be available for the purpose, the amount has not been included in the plan ceiling.

(c) *Staff of Land Mortgage Bank.*—The creation of a post of Managing Director for the Bihar State Land Mortgage Bank is urgently required for implementing the scheme on sound lines and ensuring effective supervision.

The staff to be provided for the branches of Land Mortgage Bank under the Third Plan will be maintained by and borne on the cadre of the State Co-operative Land Mortgage Bank. The bank will receive subsidies to meet the cost of pay, cost of living allowance and house-rent allowance only of their staff on sliding scale.

The total cost on account of payment of subsidy to the State Land Mortgage Bank for employment of managerial staff during the plan period will be Rs. 2.94 lakhs. The entire cost on account of pay and cost of living allowance of the Managing Director, Land Mortgage Bank will, however, be borne by the State Government during the plan period.

(d) *Administrative staff of the department.*—Under the Second Plan, a Deputy Registrar, Co-operative Societies, and an Assistant Registrar for Patna Division were appointed to look after the activities of the Land Mortgage Bank. As Land Mortgage Banking entails close supervision and careful handling of loan applications from the very beginning and the business is increasing with the establishment of district branches and will increase further with the opening of additional branches during the Third Plan period, it is necessary to post an officer of the rank of an Assistant Registrar in each division to supervise these operations.

It is, therefore, proposed to create three posts of Assistant Registrars from the first year of the plan period, one such post has already been created during the Second Plan, so that each division may have an Assistant Registrar and the work of the Land Mortgage Bank could be supervised more effectively. Each of these officers may be provided with nucleus office staff comprising of one Assistant on Rs. 80—120 and one Assistant on Rs. 50—90 besides two peons. The Deputy Registrar, Land Mortgage Bank, who will have a separate office after the appointment of the Managing Director, may also be provided with office staff of one Assistant on Rs. 80—120 and two Assistants on Rs. 50—90 besides two office peons. The total estimated cost over this part of the scheme in the plan period comes to Rs. 2.68 lakhs.

(iii) *Bihar State Co-operative Bank—(a) State contribution to the share capital of the Bihar State Co-operative Bank.*—It is proposed to contribute Rs. 5 lakhs to the share capital of the Bihar State Co-operative Bank at the rate of Rs. 1 lakh each year during the plan period. This is necessary to further augment the borrowing capacity of the bank to enable it to meet the expanding credit needs of primary societies during the Third Plan period. As this amount is likely to be made available by the Reserve Bank of India as a long-term loan, it has not been included in the plan ceiling.

(b) *Additional managerial staff of the State Co-operative Bank.*—It is proposed to make provision for the appointment of additional managerial staff by the Bihar State Co-operative Bank, Ltd., Patna for maintaining effective supervision over Central Co-operative Banks in view of the large expansion in credit facilities at all levels. It is felt that the time has come for the apex institution to be assigned a more positive role in the work of promotion, guidance, and supervision of institutions affiliated to it. The apex institution has accordingly come forward with the scheme for setting up regional offices, besides strengthening its managerial staff at headquarters. A subsidy of Rs. 0.41 lakh is proposed to be paid to the Apex Bank for this purpose at the rate of Rs. 20,000 in the first year, Rs. 14,000 in the second year and Rs. 7,000 in the third year.

MARKETING PROCESSING AND CONSUMER'S STORES.

The targets regarding Marketing and Supply Societies and Consumer's Stores are given below :—

(a) Primary Co-operative Marketing Unions	..	50
(b) Conversion of Cane Development and Cane Marketing Unions into Marketing Societies.		50
(c) Manure Mixing Units	.. .. .	5
(d) Jute Baling Plants	.. .. .	4
(e) Fruit Preservation, Processing and Canning Societies.		10
(f) Other Processing Units	.. .. .	5
(g) Consumers' Co-operative Stores	.. .. .	155
(h) Grading Organisation of Marketing Societies	..	10

(i) The full target of the Second Plan for the reorganisation of the State Co-operative Marketing Union, Ltd., establishment of the State Warehousing Corporation with 20 warehouses and setting up of two Jute Baling Plants has been achieved by the end of the Second Plan period. There will, however, be a short-fall in the organisation of Primary Marketing Societies by 69 societies in the total target of 289 such societies.

(ii) *Primary Marketing Societies.*—As greater attention has to be paid towards consolidation and expansion of business of 220 primary societies organised under the Second Plan, it is proposed to set up only 50 such new societies during the Third Plan period at the rate of 10 societies each year of the plan period. Each of these societies will be provided a total subsidy of Rs. 4,500 during the plan period for maintaining managerial staff at the rate of Rs. 1,800, Rs. 1,500, Rs. 1,200 respectively for three years, a storage godown at an estimated cost of Rs. 25,000 per godown and also State contribution of Rs. 25,000 to its share capital. The State assistance for the construction of godown will be in the shape of subsidy and in the ratio of 25:75. It is hoped that the Government of India will share half of the cost of subsidy and advance loan to the State Government at the rate of Rs. 15,625 per godown for being made available to the societies, while the remaining loan amount of Rs. 3,125 will have to be provided by the State Government. For contribution to the share capital of Marketing Societies, loan advanced by the Central Government to the State Government is generally 75 per cent of the total contribution and the balance of 25 per cent has to be met by the State Government from their own resources.

(iii) *Conversion of Cane Development and Marketing Unions into Marketing Societies.*—It is proposed to convert and reorganise 50 cane Development and Cane Marketing Unions into Marketing Societies, at the rate of 10 unions each year, during the plan period so that they may take up marketing of agricultural produce besides cane. These unions, on conversion into marketing societies, will be eligible for managerial assistance besides being assisted on the usual basis in regard to provision of storage godown. Four of these societies will be provided with storage godowns in 1961-62, 16 in 1962-63 and 10 each year during the remaining three years of the plan period. The managerial subsidy will, however, be paid to all the societies converted and reorganised in a year.

The total estimated cost on the above schemes during the plan period comes to Rs. 41.22 lakhs. Besides, a lump provision of Rs. 1.00 lakh has been kept on account of spill-over expenditure on managerial assistance in respect of societies organised in the Second Plan.

(iv) *Cold storage.*—It is proposed to provide cold storage plants to such of the five marketing societies or unions as are functioning in potato-growing areas and are in need of this facility. The estimated cost of each plant is Rs. 4.00 lakhs of which 75 per cent will be in the shape of loan and 25 per cent in the shape of subsidy. Two plants are proposed to be set up in 1962-63 and one plant in each year of the

remaining period of the plan. The total estimated cost over this scheme during the plan period will Rs. 20.00 lakhs.

(v) *Jute Baling Plant.*—Jute is an important cash crop in the State of Bihar. The estimated annual production of jute in this State is 15 lakh bales. Of late, marketing of the jute has presented serious difficulties. It is proposed to organise Co-operative Societies which will handle the marketing of 20 per cent of the jute produced in the State by the end of the Third Plan period. It is also proposed to set up four jute baling plants. The State Government will contribute Rs. one lakh to the share capital of each of these units. It is hoped that a long-term loan to the extent of 75 per cent of the State contribution will be made available by the Government of India. One plant will be setup during each year from the second year of the plan period. The total estimated cost over this part of the scheme is Rs. 4.00 lakhs.

(vi) *Fruit Preservation, Processing and Canning Societies.*—Mangoes and liches are very important fruits of Bihar. These fruits, however, quickly go rotten and, therefore, the growers have to sell them sometimes at unfavourable prices. In order to remove this handicap, it is proposed to organise ten Fruit Preservation, Processing and Canning Societies. The State Government will contribute Rs. 20,000 to the share capital of each of these societies. Two societies will be organised in each year of the plan period. The total estimated expenditure over this scheme comes to Rs. 2.00 lakhs.

(vii) *Manure Mixing Units.*—It is proposed to setup five Manure Mixing Units on Co-operative basis, one each year, during the Third Plan period. The State Government will contribute Rs. 0.20 lakh to the share capital of each such unit. The total estimated cost over this part of the scheme during the plan period will be Rs. 1.00 lakh.

(viii) *Other processing Units.*—A lump provision of Rs. 5.00 lakhs (Rs. 1.00 lakh as subsidy and Rs. 4.00 lakhs as share capital and/or loan) has been kept in the Third Plan for this scheme. The details of the scheme have to be worked out. It is proposed to complete the investigations and takeup execution of this scheme from the second year of the plan period.

(ix) *Managerial subsidy to Processing Units.*—Under the Third Plan, provision has been made for setting up of 28 processing units on Co-operative basis. This includes 5 Cold Storage Plants, 10 Fruit Preservation and Canning Societies, 5 Manure Mixing Units, 4 Jute Baling Plants and 4 other processing units. It is proposed to give subsidy to these units in the initial stages for the maintenance of their managerial staff on the scale mentioned below :—

(a) *Cold Storage Plants and Jute Baling Plants.*—Each of such units will be paid a total managerial subsidy of Rs. 4,500 in course of three years at the rates of Rs. 1,800 in the first year, Rs. Rs. 1,500 in the second year and Rs. 1,200 in the third year

(b) *Fruit Preservation and Canning Societies and other Processing Units.*—Each of these organisations is proposed to be paid a total managerial subsidy of Rs. 3,000 in course of three years, at the rate of Rs. 1,500 in the first year, Rs. 1,000 in the second year and Rs. 500 in the third year.

(c) *Manure Mixing Units.*—It is proposed to subsidise each unit to the extent of Rs. 1,200 in two years at the rate of Rs. 600 each year for the maintenance of the managerial staff.

The total estimated cost over this part of the scheme during the plan period comes to Rs. 0.74 lakh.

(x) *Grading Organisation of Marketing Societies.*—It is proposed to set up ten Grading Organisations of Marketing Societies, at the rate of 2 each year during the plan period. These organisations will have to be subsidised for the maintenance of their managerial staff and a lump provision of Rs. 0.55 lakh has been made to meet the cost of this scheme.

(xi) *Consumers' Co-operative Stores.*—It is proposed to organise 150 Primary Consumers' Stores and five wholesale stores during the Third Plan period in urban and industrial areas. 30 primary stores and one wholesale store will be organised in each year of the plan period. Managerial subsidy at the rate of Rs. 1,800 for each primary store and Rs. 3,000 for each wholesale store in course of three years will also have to be provided. The State Government will contribute Rs. 2,500 to the share capital of each of the primary stores, besides Rs. 25,000 to each of the wholesale stores on the usual basis. These expenses will be shareable with the Centre on the pattern laid down in the Ministry of Community Development and Co-operation letter no. 12-14/60-60-Co-op., dated the 16th July 1960.

The total estimated cost over this scheme is Rs. 7.47 lakhs.

(xii) *Departmental staff for marketing organisations—(a) Consumers' Co-operative Stores.*—It is proposed to provide one Inspector, Co-operative Societies in the scale of Rs. 100—190 for every ten Consumers' Co-operative Stores to be organised under the plan so that effective supervision may be possible. Thus ten Inspectors, at the rate of two each year, will be appointed during the plan period.

(b) *Staff for the Marketing Organisations.*—Under the Second Plan, except for one Joint Registrar, Co-operative Societies at the headquarters office and four Divisional Marketing Inspectors, no other staff at Government level for the supervision of marketing societies was provided. The staff provided has proved to be inadequate. It has to be mentioned here that under the Second Plan, 220 godowns of marketing societies, 165 godowns of Large sized Co-operative Societies and 60 Rural Godowns are to be constructed. Another 100 godowns of marketing societies

and 500 Rural Godowns are also proposed to be constructed during the Third Plan period. All these godowns will involve a total outlay of Rs. 1,45.30 lakhs. Moreover, the marketing organisations have to expand their business considerably in agriculture produce during the Third Plan. It is, therefore, proposed to strengthen the Marketing Section of the Department with the appointment of the staff mentioned below :—

Headquarters office of the Registrar, Co-operative Societies.—One Deputy Registrar, Co-operative Societies in the scale of Rs. 350—850 from September 1961 may be provided with necessary personal and office staff, all to be appointed in the first year of the plan.

Field staff.—It is proposed to create 17 posts of District Marketing Inspectors in the scale of Rs. 150—350 and to abolish the four posts of Divisional Marketing Inspectors sanctioned under the Second Plan. Each of them will have to be provided with an orderly peon. It is proposed to appoint eight District Co-operative Marketing Inspectors in 1961-62 and nine Inspectors in 1962-63.

The total cost on account of departmental staff including the staff for Consumers' Stores will come up to Rs. 5.86 lakhs during the plan period.

CO-OPERATIVE FARMING.

(i) The target for the organisation of 300 Co-operative Farming Societies is expected to be achieved by the end of the Second Plan period. The decision of the State Government is that only Joint Co-operative Farming Societies, wherein land of members along with other means of production are pooled together, should only be recognised as Co-operative Farming Societies,

(ii) It is proposed to organise 250 Co-operative Farming Societies on Pilot basis, at the rate of 50 societies per year during the plan period, besides organising another 500 such societies at the rate of 100 societies per year. There will be 25 Pilot Projects each comprising of 10 societies. Each of the societies will cover, on an average, 100 acres of arable land so that 25,000 acres of land may come under the Pilot Scheme by the end of the plan period. The other societies may be of smaller dimensions. The pattern of assistance recommended by the Working Group on Co-operative Farming, which is proposed to be adopted, will be as noted below. The societies organised outside the Pilot Projects will also be eligible for the full State assistance except that the State would not contribute to their share capital, but the cost on account of these societies is not to be included in the plan ceiling.

		Rs.
Long and medium term loans	..	4,000
Godowns	.. ..	5,000
Share capital	.. ..	2,000
Managerial subsidy	.. ..	1,200
		<hr/>
Total	.. ..	12,200
		<hr/>

The total estimated cost of State assistance for the societies to be organised on pilot basis will be Rs. 30.00 lakhs, and that for the societies outside the Pilot Projects Rs. 50.00 lakhs.

(iii) *Departmental staff.*—Under the Second Plan, 14 Farm Inspectors were provided for supervision of and giving necessary technical assistance to Co-operative Farms besides other staff at the headquarters office. As the number of Co-operative Farms will reach about 1,000 during the Third Plan period, it is proposed to post one Co-operative Farm Inspector in each Subdivision. Thus 43 more such posts are to be created to cover each subdivision of the State. They may be given the scale of pay of Rs. 150—350. 10 of them are proposed to be appointed in 1962-63 and the remaining 33 Inspectors at the rate of 11 each year in subsequent years.

The total cost on account of employment of departmental staff during the plan period comes to Rs. 2.97 lakhs besides Rs. 30.00 lakhs provided for the assistance proposed to be given to Co-operative Farms. Over and above this Rs. 7.15 lakhs has been provided for the training of personnel in Co-operative Farming under scheme no. 081.

CANE CO-OPERATIVES.

(i) *Organisation of Cane Growers' Co-operative Societies.*—It is proposed to organise 1,000 Cane Growers' Co-operative Societies during the plan period. Necessary supervisory and administrative staff will be required for the organisation and supervision of these societies. Provision has accordingly been made for the appointment of one Deputy Registrar, five Organisers and twenty Supervisors besides nucleus office staff at an estimated total cost of Rs. 3.07 lakhs during the plan period.

(ii) *Co-operative Sugar Factory.*—It is proposed to set up one Sugar Factory on Co-operative basis under the Third Plan. A lump provision of Rs. 27.63 lakhs has been made for contribution to the share capital of the proposed factory and also for the one organised under the Second Plan.

SPECIAL TYPES OF CO-OPERATIVES.

(a) *Rickshaw pullers' Co-operative Societies.*—It is proposed to organise 25 Rickshaw-pullers' Co-operative Societies, five each year, during the Third Plan period. As rickshaw-pullers are poor and cannot afford to raise sufficient capital for purchase of rickshaws and their accessories and for their maintenance, it is proposed to give State assistance of Rs. 0.10 lakh to each society of which 75 per cent will be in the shape of loan and 25 per cent in the shape of subsidy. The total estimated cost over this part of the scheme will be Rs. 2.50 lakhs during the whole plan period.

(b) *Co-operative Printing Press.*—It is proposed to set up two Co-operative Printing Press, one at the State level and the other at the district level. Pending finalisation of the scheme by the Government of India, a lump provision of Rs. 2.50 lakhs for the grant of loans

to Co-operative Printing Presses has been kept under the Third Plan. This scheme is proposed to be taken up from the second year of the plan period.

(iii) *Departmental staff for the organisation and supervision of special types of Co-operative Societies.*—It is proposed to organise 336 special types of Co-operatives and their unions included in the Agriculture and Industries Sectors besides 25 Rickshaw-pullers' Co-operative Societies and two Co-operative Printing Presses included in Co-operative Sector. Supervision of these organisations is necessary. Provision has accordingly been made for the appointment of 17 Inspectors, one for every 20 societies and 34 Supervisors, the yard-stick being one Supervisor, for every 10 societies. It is proposed to appoint three Inspectors in each year during the first three years and four Inspectors each year during the remaining two years of the plan period. Six Supervisors will be appointed in the first year, and Seven Supervisors each year in the remaining part of the plan period.

The total estimated cost over this part of the scheme during the plan period comes to Rs. 2.55 lakhs.

FUNDS, PUBLICITY AND PROPAGANDA.

State Agricultural Credit (Relief and Guarantee) Fund.—(i) The Second Plan provided for the State Contribution of Rs. 20 lakhs to this fund but Rs. 1 lakh only will be contributed to this fund by the end of the Second Plan period. It is considered necessary to augment this fund during the Third Plan period by further contribution of Rs. 5.00 lakhs at the rate of Rs. 1.00 lakh each year.

(ii) *Subsidy to Bihar Co-operative Federation.*—The Bihar Co-operative Federation is the apex co-operative organisation of non-officials in this State. The main functions of this organisation are to serve as a forum of non-official opinion on Co-operative Movement, to co-ordinate the activities of various types of co-operative organisations, to educate the public in co-operative principles and practices by means of lectures and publishing monthly journals on co-operation and to arrange for training and education of members and office-bearers of Co-operative Societies. The Second Plan provided for the grant of State subsidy at the rate of Rs. 51,300 per year to the Co-operative Federation to enable it to carry on its activities; for the training of members and office-bearers of societies State assistance is made available separately. During the Third Plan period, the Bihar Co-operative Federation will have to expand its activities considerably. It is, therefore, proposed that an annual subsidy of Rs. 50,000 be paid to the Federation during the Third Plan period.

(iii) *Prizes to Co-operatives, study tours of Co-operators, Publicity and Propaganda.*—At the instance of the Government of India, this scheme was taken up in 1960-61 with a small lump sum provision of Rs. 0.05 lakh. During the Third Plan, it is proposed to provide greater facilities

under this scheme and accordingly a provision of Rs. 2.50 lakhs, at the rate of Rs. 0.50 lakh per year, has been made.

SCHEMES OF CO-OPERATIVE DEVELOPMENT INCLUDED IN OTHER SECTORS.

Name of the scheme included in other Sectors.	Target.		Name of the Sector to which the scheme has been included.
	Primary.	Union.	
I. Preservation and Marketing of Fish (Fishermen's Societies).	50	5	Agriculture.
II. Milk Co-operatives	50	5	Ditto.
III. Irrigation Co-operative Societies	50	..	Ditto.
IV. Warehousing .. .. .	..	..	Ditto.
V. Leather Co-operatives	100	1	Industries.

The cost of these schemes is about Rs. 34.87 lakhs.

(i) *Preservation and Marketing of Fish.—Fishermen's Co-operative Societies.*—The target for the organisation of 100 Fishermen's Co-operative Societies will be achieved by the end of the Second Plan period. It is proposed to organise 50 more Fishermen's Co-operative Societies with five Marketing Federation of Fishermen's Co-operative Societies during the Third Plan period at the rate of ten Primary Societies and one Marketing Federation each year. Ten Primary Fishermen's Co-operative Societies will be federated into a Marketing Union which will arrange for the marketing of fish of the members of Societies. The State Government will contribute Rs. 5,000 to the share capital of each Marketing Union, besides providing a truck at an estimated average cost of Rs. 20,000, 75 per cent of which will be in the shape of loan and 25 per cent in the shape of subsidy. It is also considered necessary to provide an Ice Plant to each of the unions at an estimated cost of Rs. 1.25 lakhs for preservation of fish. 75 per cent of the cost of the Ice Plants will be in the shape of loan and the rest will be subsidy. Each Marketing Union will be allowed a State subsidy of Rs. 2,700 in course of three years at the rate of Rs. 1,200 in the first year, Rs. 900 in the second year and Rs. 600 in the third year for the maintenance of suitable managerial staff.

The State will contribute Rs. 2,000 to the share capital of each Primary Fishermen's Co-operative and grant a subsidy of Rs. 1,000 for purchase of fishing equipments. A Society will also be allowed a total managerial subsidy of Rs. 1,200 in two years at the rate of Rs. 600 each year.

The total estimated cost over this scheme during the plan period will be Rs. 9.65 lakhs.

(ii) *Milk Co-operatives*.—It is proposed to organise 50 Primary Milk Co-operative Societies and five Milk Co-operative Unions during the plan period at the rate of ten primaries and one Union each year. Ten Primary Societies will be federated into a Union. State assistance in the shape of share capital at the rate of Rs. 10,000 per Union and Rs. 2,000 per Milk Co-operative Society has been provided under this scheme. It is also necessary to provide for managerial assistance for the Milk Union at the rate of Rs. 1,200 in the first year, Rs. 900 in the second year and Rs. 600 in the third year (total Rs. 2,700).

The total estimated cost over this scheme during the plan period will be Rs. 1.61 lakhs.

(iii) *Irrigation Co-operatives*.—There is no Irrigation Co-operative Society in the State at present although such societies have an important role to play in agricultural production programmes. It is, therefore, proposed to make a small beginning with 50 societies during the Third Plan period at the rate of ten societies each year. It is proposed to contribute Rs. 4,000 to the share capital of each Irrigation Society and to grant managerial subsidy of Rs. 800 in course of two years at the rate of Rs. 400 per year.

The total estimated cost over this scheme during the plan period will be Rs. 2.36 lakhs.

(iv) *Warehouses*.—It is proposed to establish 30 warehouses during the Third Plan period and to contribute Rs. 20 lakhs to the share capital of the State Warehousing Corporation at the rate of Rs. 4 lakhs in each year of the plan period.

(v) *Leather Co-operatives*.—It is proposed to organise 100 Primary Leather Co-operative Societies and one Leather Co-operative Union during the plan period at the rate of 20 Primary Leather Co-operative Societies each year. All the Primary Societies will be federated into the Union which will arrange for the supply of raw materials and marketing of finished goods, manufactured by its member societies.

It is proposed that the State should contribute Rs. 25,000 to the share capital of the Union, and Rs. 1,000 to each Primary Leather Co-operative. State assistance for the purchase of tools and equipments, etc., will be made available to such societies under the Bihar State Aid to Industries Act.

The total estimated cost over this part of the scheme will be Rs. 1.25 lakhs during the plan period.

2. COMMUNITY DEVELOPMENT.

GENERAL.

Excluding five cities, namely, Patna, Gaya, Bhagalpur, Ranchi and Jamshedpur with a population of over 1,00,000 the rest of the State have been demarcated into 575 Anchal-cum-Development Blocks, on the basis of area, population and the number of villages. From view-points of administration and work-load, all the blocks are equally important and are treated as the unit of planning and development by all departments of Government.

The progress of Community Development Programme during the First Five-Year Plan was encouraging. One of the major contributions of the First Five-Year Plan was the introduction of integrated rural development through the Community Development and National Extension Service. The first set of four Community Projects, namely, Pusa-Samastipur-Shakra (Muzaffarpur and Darbhanga), Bhabua-Mohania-Sasaram (Shahabad), Bihar-Ekangarsarai-Barbigha (Patna and Monghyr), Ormanjhi-Ranchi-Mandar (Ranchi), and one Community Development Block, namely, Raneshwar (Santal Parganas), which were started on a pilot basis during the First Five-Year Plan stirred the imagination of the people and there was a universal demand for them from all quarters. Subsequently, a modified programme known as the National Extension Service was accepted as the basic administrative pattern of rural development. As our experience and knowledge in the field of co-ordinated rural development was limited and there was no organised Government machinery to keep pace with the increased development work in the rural areas, the difficulties encountered in the execution of this programme in the initial stages were many. But gradually, the deficiencies in men and materials were made up to an appreciable extent. A good deal of planning was put into all aspects and details of the programme. The whole programme was carried on with an open mind and constant efforts were made to associate the people at every stage of planning and execution of the schemes.

In course of the implementation of the Community Development Programmes in the Second Plan, the blocks have continued to be treated as a unit of planning and development by all the departments of Government. Appreciable success has been achieved in ensuring the development agency of Government to work together as a team in Community Development and National Extension Service Blocks for bringing about intensive efforts and development. The Government instructions regarding planning and execution of development programmes in the blocks have been carried out successfully by all the concerned departments. The administration worked by a method of self-adjustment, and the technical officers of concerned departments have realised their respective responsibilities as much as the Block Officers. The experiment integrated system of administration has given birth to

a very healthy principle, viz., that each worker in the block has to consider himself a multi-purpose man. In course of the implementation of this programme, Bihar has achieved high degree of co-ordination both in planning and implementation of the block programmes. The block agency has gradually come to be recognised as the common agency by almost all the departments. Most of the administrative and technical difficulties which were encountered in course of the implementation of the programme in the First and Second Five-Year Plans, have already been overcome or are in the process of being overcome in the light of experiences.

COVERAGE.

During the First Five-Year Plan, 102 blocks covering 14,366 villages with a population of 7.15 millions spread over 12,387 square miles were opened. Subsequently, in pursuance of the recommendation of the State Reorganisation Commission, four blocks were transferred to West Bengal. As a result of this transfer Bihar was left with 98 blocks covering 11,760 villages with a population of 6.47 millions spread over 11,564 square miles.

In pursuance of the recommendation of the Balwant Rai Mehta Committee, the programme of Community Development and National Extension Service as in operation before April, 1958, in the State, was revised. The revised pattern of Community Development Programme was introduced with effect from April, 1958. The main features of this revision on the programmes were as follows :—

- (i) The Community Development Programme will cover the entire State by October, 1963 instead of by the end of the Second Five-Year Plan as originally phased ;
- (ii) The existing nomenclature of National Extension Service, Community Development and Post-Intensive Blocks is to be removed. This would be replaced by two periods of five years each, the first stage corresponding to a period of intensive development and the second stage corresponding to post-intensive stage of the existing programme. The blocks would accordingly be called Community Development Blocks, Stage I and Community Development Blocks, Stage II;
- (iii) The financial provision for the first stage will be Rs. 12 lakhs for five years and that for the second stage Rs. 5 lakhs for five years ;
- (iv) In view of the renewed emphasis on the agricultural production each block allotable from April, 1959 would have one-year period of pre-extension activity exclusively in the field of agriculture.

On account of the change in the pattern of Community Development Programme since June, 1958, the original phasing of opening of blocks during the Second Five-Year Plan had to be revised. According to the revised phasing, 258 blocks of all categories will be opened by the end of the Second Plan covering 30,960 villages with a population of 17.02 millions spread over 30,444 square miles.

The proposed target for opening of blocks during the Third Five-Year Plan is 219. These blocks are expected to cover 25,250 villages with a population of 14.44 millions spread over 25,026 square miles.

Progress of expenditure and people's participation.—During the three and half years of the operation of the Community Development Programme in the First Plan since October, 1952, it met with considerable success. What made the programme most significant was not only immediate impact that it made on the rural life and the physical achievements it recorded but the fact that it tried to generate an interest in the people to improve their own economic conditions through self-help. On the basis of physical achievements too, Bihar had a very high position in the all-India picture in the First Five-Year Plan.

From expenditure point of view as well, the progress registered under this programme in various sectors was very encouraging during the First Plan. The total expenditure on Government account on this scheme was approximately Rs. 3.73 crores. The most encouraging feature of this programme in this State during the First Plan was the extent of the people's participation. The interest and enthusiasm shown by the people in rural areas in construction of school buildings, roads, drinking water wells, Panchayat *Ghars*, Community Halls, etc., was praiseworthy. By the end of the First Plan, the total contribution of Rs. 3.30 crores in the shape of cash, labour, materials, etc., was received in the Community Development Projects and National Extension Service Blocks.

In the Second Five-Year Plan, the total provision for Community Development Programme stands at Rs. 17.45 crores. So far a progress of expenditure is concerned, our progress has been quite satisfactory and by the end of the Second Five-Year Plan approximately Rs. 22.00 crores are expected to be spent. This is undoubtedly a creditable achievement. In the achievements of physical targets under this programme, Bihar's position is fairly high in the all-India picture in the Second Five-Year Plan.

On the basis of the present calculation, the total outlay proposed during the Third Five-Year Plan is Rs. 35.00 crores. Judging on the basis of past experience, it is expected that people's contribution will be forthcoming in adequate measure.

AGRICULTURE.

The progress in the agriculture sector in the Community Development and National Extension Service Blocks started during the First Five-Year Plan was, on the whole, satisfactory. The working of the Five Pilot Community Projects, namely, (i) Pusa-Samastipur-Shakra,

(ii) Bihar-Ekangarsarai-Barbigha, (iii) Bhabua-Mohania-Sasaram, (iv) Ormanjhi Ranchi-Mandar, and (v) Raneshwar, which were started on 2nd October 1952 created good impression on the minds of the people and there was realisation that the programme of Community Development was designed for the social and economic betterment of the rural masses. The achievements in the field of agriculture in the five Pilot Projects were particularly spectacular. During the First Plan period, 5,29,268 maunds of improved seeds and 13,30,007 maunds of fertilisers were distributed amongst the cultivators as against the all-India achievements of 48,26,000 maunds and 9,59,000 maunds respectively. In order, that the cultivators may learn improved agricultural techniques, as many as 2,36,291 demonstrations in improved agricultural practices such as Japanese method of paddy cultivation, inter-culture, plant protection measures, etc., were held as against the all-India achievement of 12,82,000 demonstrations. Introduction of double and multiple cropping, vegetable growing, horticulture and arboriculture were also given due importance in the Community Development Projects and National Extension Service Blocks. For improvement of pisciculture, a number of schemes like rearing and distribution of fish-fries were taken up. As many as 89,35,841 fish-fries were distributed.

During the Second Five-Year Plan it is expected to distribute 20 lakh maunds of improved seeds and 48 lakh maunds of chemical fertilisers in the block areas. Due to the difficult supply position and shortage of fertilisers the cultivators may not, however, be able to get as much fertilisers as would be actually required by them. Efforts are, however, being made to ensure quick and timely supply of fertilisers. It is expected that by the end of Second Five-Year Plan all the *halkas* in the blocks in operation at present will be provided with at least one sale-point. In order that every cultivator may get his requirement of fertilisers, the work of distribution of fertilisers is gradually being entrusted to the Co-operatives. In the first instance, as an experimental measure, the distribution work in 25 Blocks has been entrusted to the Co-operative Societies. When all the blocks will be in operation during the Third Five-Year Plan, it is expected that the performance of Bihar in the agriculture sector will be comparatively better than the performance in the First and the Second Five-Year Plans.

IRRIGATION.

Although, one-third of the total budget provision was earmarked for major and minor irrigation schemes in the Pilot Community Projects, the major irrigation schemes could not, however, be taken up in the beginning due to the paucity of trained and experienced engineering staff. Some of them, namely, Suara and Durgawati Schemes in Bhabua-Mohania-Sasaram Project and the Digalpahari Scheme in Raneshwar Development Block were taken up by the Irrigation Department, during the second half of the First Five-Year Plan. Several minor irrigation schemes were completed and 2,52,088 acres of additional lands

were brought under irrigation in the projects and blocks. In the Community Development Blocks, although there was provision of funds under this programme, the money could not be utilised as minor irrigation schemes executed in these blocks were to be financed from the funds available under the Grow More Food Programme.

In the Second Five-Year Plan a special drive was launched to accelerate the progress under irrigation. To provide irrigation facilities, provision for water for agriculture through minor irrigation schemes such as tanks, surface percolation wells, tube-wells, *ahars*, *pynes*, etc., was made. As a result of special efforts on the part of the block staff, approximately 3.40 crores were spent over irrigation schemes during the first four years of the Second Five-Year Plan. A sum of Rs. 1.30 crores has been provided for irrigation in the block budgets during 1960-61 which is expected to be fully utilised during this period. The total expenditure over minor irrigation schemes in the block areas is, therefore, expected to be Rs. 4.70 crores by the end of the Second Five-Year Plan. In order to remove the bottle-necks and difficulties in investigation, examination and execution of the schemes, the State Government have set up a unified minor irrigation agency under the administrative control of the Agriculture Department and the technical control of the Chief Engineer, Irrigation. This agency is headed by a Superintending Engineer. He is assisted in his work by eight Executive Engineers and a number of Assistant Engineers posted at district and subdivisional levels. With the establishment of this unified irrigation agency, it is expected that much of the leeway in the execution of irrigation schemes in the block and non-block areas will be made up.

Since agriculture production programme is closely linked up with irrigation facilities, with greater emphasis on agriculture production programme during the Third Five-Year Plan, it is expected that the level of development to be achieved under this sector will be comparatively better than what was achieved in the First and Second Plans. In this connection it may, however, be mentioned that the proposed outlay on the minor irrigation schemes during the Third Five-Year Plan is approximately Rs. 8.71 crores. It would thus be seen that roughly one-fourth of the total plan outlay of Rs. 35.00 crores is proposed to be spent over minor irrigation schemes in the block areas during the Third Five-Year Plan. It is also likely that out of the total outlay of Rs. 8.71 crores for irrigation, one-fourth of it may be spent for rural electrification. One-fourth of the total outlay is expected to be utilised for subsidised distribution of *rahats*, pumping sets, etc.

ANIMAL HUSBANDRY AND VETERINARY.

On account of the poor farming efficiency of the State and consequent shortage of fodder, the cattle wealth had gradually degraded. To improve the breed of the live-stock, various scientific methods were adopted during the First Five-Year Plan period. Various measures were

taken to control diseases and epidemics. Inoculation and vaccinations of cattle and poultry against the outbreak of epidemics were also carried out extensively and effectively in the block areas. A number of Veterinary Dispensaries were set up for the purpose. In order to improve the breed of the cattle a good number of Shahabadi, Tharparkar and Hariana cow bulls and Murrah buffalo bulls were distributed among the cultivators of the project areas. As many as 102 artificial insemination centres and sub-centres were opened in different blocks and 23,215 animals were artificially inseminated. Although, the progress in this field was somewhat slow in the beginning on account of the conservative ideas of people, it gained momentum towards the end of the Plan Period.

The progress in regard to the distribution of pedigree animals and birds was satisfactory. As many as 540 pedigree animals and 9,205 pedigree birds were distributed among the villagers by the end of the First Five-Year Plan. During this period the number of bulls castrated in different blocks was 52,438.

In the Second Five-Year Plan the progress under this sector is expected to be even more satisfactory. Several measures have been adopted and are proposed to be adopted during the remaining period of the Second Five-Year Plan to improve the cattle wealth in the blocks. By the end of the Second Five-Year Plan, it is expected that 5,000 pedigree animals and 55,000 pedigree birds will be distributed in the block areas. Apart from the distribution of the pedigree animals and pedigree birds, a number of key-village schemes are expected to be established for providing natural services. The number of artificial insemination centres and sub-centres expected to be set up in the block areas for pushing up artificial insemination programme will also be increased. In order to control diseases in epidemics in cattle, it is expected that all the blocks established and to be established by the end of the Second Five-Year Plan, will be provided with one Class I Veterinary Dispensary and two Veterinary Field Sub-Centres. A good number of Cheap Poultry Houses are also expected to be constructed in order to give a fillip to the poultry development programme in the blocks.

The remaining 219 blocks to be established in the Third Five-Year Plan are proposed to be provided with one Class I Veterinary Dispensary and two field sub-centres in each block. Ten Cheap Poultry Houses per block for development of poultry are also proposed to be constructed. It is expected that the level of development to be achieved during the Third Five-Year Plan under Animal Husbandry and Veterinary Sector will be quite satisfactory in comparison to the level of achievements during the First and the Second Five-Year Plans.

EDUCATION.

With the inception of the Community Project Programme in the rural areas, the provision for right type of education at primary and secondary

stages was considered to be the basic need for every individual. Consequently, the basic type of education was considered suitable for rural areas and the State Government decided to introduce it in the Project areas. The response of the people towards the basic education was encouraging. During the First Plan Period 1,602 new schools were started and 402 traditional schools were converted into their basic equivalents and the Community Projects and National Extension Service Blocks as against the all-India figures of 15,000 and 6,968, respectively. This was a popular programme. The people of the Project areas showed great enthusiasm and interest by donating land for the school buildings and designs of the school-buildings were prepared and improved the structures constructed by them. Specially in the Pilot Projects of 1952-53 series, this programme was received with great enthusiasm and the people of the project areas contributed more than their share. In these Pilot Projects it was a pleasant sight to see a number of basic schools, senior and junior, throbbing with life and activities.

During the Second Five-Year Plan, the progress under Education is expected to be even better. By the end of the Second Five-Year Plan, it is expected that 7,000 new schools will be established and 2,500 traditional schools will be converted into their basic equivalents in the block areas. The most important feature of education programme during the Second Five-Year Plan has been the introduction of free and compulsory primary education in 17 blocks—one in each district for the children of age-group 6—11 since January, 1959. By the end of the Second Five-Year Plan, it is expected that this scheme will be extended to one block in each subdivision of the State.

So far education programme in the Third Five-Year Plan is concerned, it is proposed to open as many new schools and convert as many traditional type of schools into their basic equivalents as possible to push up the percentage of literacy programme in the block areas. Free and compulsory education is also to be further extended.

Social Education.—As a matter of fact the success of the Community Development Projects and the National Extension Service Blocks was mainly dependent on the success of the Social Education Programme. A great responsibility, therefore, devolved on the schemes of social education. In the beginning, the progress of this programme was impeded on account of the shortages of trained personnel and lack of precise ideas about the content and nature of Social Education Programme. But gradually the difficulties were overcome. Due to constant efforts on the part of the Project Extension Staff, the contents and objectives of this programme were made clear to the rural population. Subsequently the progress under this programme registered significant improvement in the last two years of the First Five-Year Plan. As many as 4,874 Social Education Centres, including night schools were opened and 1,70,743 persons were made literate by the end of March, 1960. 12,482 Community Recreation Centres and 3,041 people's organisations like Mahila Mangal Samitees, Youth Clubs, Farmers' Unions, etc., were

also organised. Dramas, *Kirtans* and other cultural activities were the regular features of the Social Education Programme and as many as 42,205 Community Entertainments were organised in different projects and blocks. In the overall analysis, the Social Education Programme achieved considerable success in the blocks in the last two years of the First Five-Year Plan.

In the Second Five-Year Plan it is expected to provide more than 6,000 Adult Education Centres in the block areas at which 15 lakh people are expected to be made literate. A good number of cultural programmes in almost all the blocks in operation during the Second Five-Year Plan are also proposed to be organised with a view to arouse interest of the people for cultural development. In course of the implementation of the Social Education Programme in the Third Five-Year Plan, it is proposed to make special efforts to educate the people of the rural areas as to the contents and the objectives of the Community Development Programme. Adequate number of Adult Literacy Centres are also proposed to be established in order to provide facilities to the adult population of the villages to learn the three R's. It is also proposed to explain to the people their rights and duties towards the community, State and the country as a whole. If everything moves smoothly and according to the programme, it is expected that the people in the block areas will realise the real importance of the Community Development Programme through Social Education.

HEALTH AND RURAL SANITATION.

Under the Health and Rural Sanitation Programme, in Community Projects and National Extension Service Blocks, establishment of a number of useful schemes like Primary Health Centres, Dispensary, Maternity Centres, construction of drinking water wells, drains, latrines, etc., was envisaged. But due to paucity of trained technical people, such as trained *dais*, Lady Health Visitors, Sanitary Inspectors, Compounders, Health Workers, etc., appreciable progress could not be made in the beginning. But gradually the difficulties were overcome and the Community Projects and National Extension Service Blocks were able to register good progress under this programme. During the three and half years of operation of the programme in the First Five-Year Plan, as many as 6,986 new drinking water wells were constructed and 8,785 were renovated against the all-India achievement of 1,07,000 wells constructed and repaired. A number of Primary Health Centres and Maternity and Child Welfare Centres were also set up. But despite active efforts to promote construction of rural latrines, only 14,906 latrines could be constructed. The reason for the relatively poor progress was the unpopularity of this scheme amongst the villagers. As regards the construction of drains, good progress was made and 6,87,418 yards of drains were constructed as against the all-India figures of 46,00,000 yards. Of all the schemes of development under Health and Rural Sanitation, the construction and repair of drinking water wells was the most popular programme.

A number of curative and preventive measures were also taken to control epidemics. Large-scale inoculation and vaccination against cholera and small-pox was undertaken. In some of the Projects the menace of leprosy was successfully combated and a number of cases were treated and cured. In the First Five-Year Plan Period, a good number of projects and blocks were provided with six-bedded dispensaries at the block headquarters.

All the blocks which have already been established or are proposed to be established by the end of the Second Five-Year Plan are expected to be provided with one static dispensary and one mobile dispensary with three health sub-centres each. Each will remain in charge of one M.B.,B.S. Doctor. This step is being taken to eradicate diseases and epidemics and provide health and medical facilities to the villagers at their doors. For supply of hygienic drinking water, about 14,000 sanitary drinking water wells are expected to be constructed and about 26,000 are expected to be repaired in the block areas by the end of the Second Five-Year Plan. Construction and repair of drinking water wells has been a very popular programme in the block areas. Efforts are, however, being made to make it more popular. In view of our past experiences regarding construction of drains and paving of lanes, it was considered desirable to discourage these schemes as they have not proved very useful. Construction of rural latrines have also not been popular in the block areas. It is expected that construction of such latrines will not be taken up any more by the people in the block areas during the Second Five-Year Plan. Expecting a few programmes as mentioned above, almost all the programmes under the Health and Rural Sanitation are expected to be successful during the Second Five-Year Plan.

As already phased, the remaining 219 blocks which are proposed to be established during the Third Five-Year Plan, are proposed to be provided with one static dispensary and three health sub-centres before the close of 1963-64. In addition to the drinking water wells to be constructed and repaired in the blocks already opened by the end of the Second Five-Year Plan, it is proposed to provide drinking water facilities to the people by constructing 16,425 new drinking water wells and by repairing 5,475 wells in all the 219 blocks which are proposed to be opened during the Third Five-Year Plan. In addition to these schemes, it is also proposed to undertake mass inoculation and vaccination in the rural areas in almost all the blocks in operation during the Third Five-Year Plan. The most important features of health and rural sanitation programme during the Third Five-Year Plan would be that there will be a network of static dispensaries and health sub-centres. The rural areas which were so far neglected in the matter of health and medical facilities are expected to get all possible medical cares at their doors through the static dispensaries and health sub-centres when all of them are established in the 575 blocks during the Third Five-Year Plan.

COMMUNICATION.

Despite the fact that Government subsidy for construction of *kacha* village roads was limited to 25 per cent of the actual cost of construction

the achievement under this head was not insignificant. By March, 1956, 841 miles of *kacha* roads were constructed and 2,095 miles of existing *kacha* roads were improved as against the all-India figures of 38,000 and 22,000 miles respectively. In the Pilot Community Projects of 1952-53 series, where relatively larger provision was available for this programme, greater success could be achieved. Construction of *pucca* roads was also taken up in these projects in collaboration with the District Boards and Local Boards. In addition to construction and repair of *pucca* and *kacha* roads, 2,860 masonry and hume-pipe culverts were constructed in different Community Projects and National Extension Service Blocks of the State during the First Five-Year Plan.

Under Communication *kacha* roads to the extent of 6,000 miles are expected to be constructed in the block areas by the end of the Second Five-Year Plan. The mileage of *kacha* village roads expected to be repaired by the end of this Plan Period in the block areas is approximately 7,000 miles. This is not an insignificant achievement.

In course of the implementation of the Communication Programme during the Third Five-Year Plan about 22,000 miles of *kacha* roads in all the 219 blocks phased for being opened in the Third Plan are proposed to be constructed with approximately 5,000 culverts.

RURAL ARTS, CRAFTS AND INDUSTRIES.

Excluding National Extension Service Blocks, provision for cottage and small-scale industries was made in all the Projects and Community Development Blocks with a view to revive and develop small-scale and village industries in the First Five-Year Plan and part of Second Five-Year Plan. For imparting training to the children of village artisans, 93 training-cum-production centres were organised in different crafts, namely, Dari-weaving carpentry-cum-pencil-making, calico-printing, handloom-weaving, tanning, blacksmithy, electro-plating, etc., and 2,852 persons were trained. To assist the village artisans, rules and regulations for advancing loans to the village artisans under the State Aid to Industries Act were sufficiently liberalised. Industrial Co-operative Societies were also organised with adequate capital. These co-operatives were required to give loans to the village artisans, as and when necessary, for revival and development of village and small-scale industries in the projects and blocks.

Consequent upon the introduction of the revised pattern of Community Development since April, 1958, provision for small-scale and village industry programme in all categories of blocks was made. This revision in the industries programme created a lot of difficulties and bottle-necks at the various levels on account of the non-availability of the trained technical personnel, raw materials and tools and equipments. Efforts were, however, made by the State Government in the Industries Department to cope with the situation and difficulties to some extent were overcome.

Despite sincere efforts, a great leeway is yet to be made up. During the course of the implementation of the rural arts, crafts and industries programme in the blocks, the general impression has been that this programme has not succeeded to the extent desired. But as the matter stands at present the scheme of training-cum-production centre is likely to be abolished in pursuance of the recommendation of the Rajnath Committee Report. One of the recommendations of this Committee is that the training-cum-production centres should be substituted by a cluster type of institutions to be opened for every 5—10 blocks. If the recommendations of the aforesaid Committee are accepted, it is expected that the training programme in different crafts to be organised at different levels may achieve greater success.

Whatever shape this Small-scale and Village Industries Programme may take it is evident that during this Third Five-Year Plan its intensity in the rural areas will have to be increased.

3. VILLAGE PANCHAYATS.

The number of Panchayats formed before the First Plan was 1,424 and 6,512 more were formed during the First Plan. However, only 7,392 Panchayats remained in Bihar after the reorganization of the State and in the Second Plan 3,133 were formed. Since the total number of Panchayats to be formed is 10,761 only 236 remain to be formed in the Third Plan. The preliminary work of setting up Panchayats is to be completed in this State by March, 1962. As a result of this, every village will be under a notified Panchayat but not essentially under an elected Panchayat. Notification of a Panchayat constitutes only the first act towards establishment of a Panchayat. It is like preparing the foundation of a structure. The real structure of this organisation will be complete when elections are completed in all of them, when each Panchayat has been provided with necessary staff to man it and also to supervise it: and when each Panchayat comes to have trained functionaries to be able to manage the ever-increasing functions of a village which the Community Development Programme has decided to make it as the smallest unit of administration under the democratic decentralisation scheme.

2. The speed with which the State is being covered by notified Panchayats has naturally created a stupendous task of conducting elections in about five thousand new Panchayats and equal number of re-elections in old Panchayats. The procedure for election in Panchayats is on similar pattern as in the general election. There was a time when Panchayats had a very limited objective and consequently local people had not much interest to serve the people through the medium of Panchayats. But as each day passes and the Community Development Programme takes up new shape, bringing the Panchayats to the forefront of a programme of silent revolution local people in large masses have started taking active interest either in being elected or in electing

their functionaries in the Panchayats. Unless the greatest possible effort is made to ensure free and fair election as also the largest measure of unanimity in election, the structure of a village organisation to manage all programmes of local development will either not be available or even if it is somehow created, it will not be of the desired type.

3. The new Gram Panchayat (Amendment and Validating) Act, 1959, has given many important duties to the Panchayats in different spheres. Under section 14 of the Act, it is now obligatory duty of the Panchayats to construct and manage all the irrigational channels within their jurisdiction so that they have effective role in improving the agricultural production in their jurisdiction.

4. Similarly the Panchayats have come to the forefront in the revenue administration of this State. Over two thousand Panchayats are already collecting rent on behalf of this State and an equal number were employed on special loan collection drive by the State Government. The Panchayats are also directly associated with mutation cases in their jurisdiction. 25,000 acres of forests are under direct management of Panchayats as another new venture in this State and the results so far have been very encouraging. Each elected Panchayat in this State has got its own rural police known as the Village Volunteer Force consisting of all young men between the ages of 18 to 30 years who not only attend to law and order needs but also work on constructive programmes. During the strike by the Central Government Employees about 20,000 trained and uniformed volunteers of Panchayats guarded the Railway and Telegraph line day and night and two of them lost their lives while performing such a duty. The Panchayats have under the law special obligation in this State to protect all Central and State Government properties within their jurisdiction and also provide necessary protection to loyal workers.

5. A modest beginning is also proposed to be made to harness the energy of local youths in the villages towards proper cultural development by arranging necessary sports and games at the Panchayat level and if this is properly developed, the Panchayats would, before long, make substantial contribution towards raising the stature of the State and the country in various fields of sports and games, in which so far the talents are mostly limited to the towns and cities.

6. Panchayats have to produce local leadership which will in turn provide the base for the democratic pyramid which the Community Development Programme is trying to build up. In this context the draft Third Five-Year Plan provides the increase in staff which becomes an essential requirement. At present one supervisor has to attend two to three blocks and he somehow manages this job because all the Panchayats are not duly elected and the Block Development Committees are also not functioning with full power and authority. But once the democratic decentralisation is fully introduced, one supervisor cannot

look to more than one block. Similarly, there would be need for expansion in the number of Instructors of V.V. Forces who supervise the working of Chief Officers. With the increase in the number of actively functioning Panchayats there develops a need to provide effective co-ordination at the subdivisional, district and State levels. Therefore, it is proposed to post one Subdivisional Panchayat Officer of non-gazetted rank in each subdivision.

7. In view of the importance of training and election, there is also proposal to have one Deputy Director incharge of training at the State level and another officer incharge of the election machinery of this Department so that none of these two important jobs fail to receive prompt attention and disposal.

8. So far hardly 10 per cent of the Panchayats have got their own buildings for their offices. As each Panchayat has got its own judiciary, executive, police wing and has its revenue and development assignments, it becomes impossible for it to function properly without having its own Panchayat Bhavan. The absence of such a building creates problems not only for the Panchayats' judiciary but also for the executive to meet and work out their programmes. It is, therefore, proposed to have a phased programme during the Third Five-Year Plan for construction of 1,250 Panchayat Bhavans at a total cost of Rs. 25 lakhs on the basis of 50 per cent local contribution. The total requirement for the Village Panchayats during the Third Five-Year Plan period would amount to Rs. 92 lakhs.

CHAPTER VII

IRRIGATION AND POWER

1. MAJOR AND MEDIUM IRRIGATION

Bihar is predominantly an agricultural State with limited land resources and relentless rise in population. 86 per cent of the population depends on agriculture as against the all-India average of 70 per cent. Achieving self-sufficiency in food is, therefore, an acute problem. Irrigation is the prerequisite for the adoption of improved agricultural technique to increase food production. The land utilisation statistics for this State as it stood after the State Reorganisation in 1956 are given below :—

(Area in lakh acres.)

Particulars.	South Bihar Plains.	Chotanagpur and Santhal Parganas.	North Bihar.	Total.
1	2	3	4	5
(1) Ground area ..	101.70	196.94	129.59	428.23
(2) Culturable area—				
(i) Area sown ..	55.74	54.89	81.27	191.98
(ii) Current fallows ..	11.49	15.54	14.72	41.75
(iii) Culturable waste ..	3.61	11.01	7.36	21.98
TOTAL—(2) Culturable area	70.84	81.44	103.35	255.63

The normal rainfall of this State is about 44.5" in the South Bihar plains, 53.70" in Chotanagpur and Santhal Parganas and 51.70" in North Bihar, i.e., about 50.5" on an average.

A study of the rainfall pattern of the last twenty-five years reveals that the *hathia* rains generally failed in the past once in three years in South Bihar, once in four years in North Bihar and once in five years in Chotanagpur.

The indigenous system of irrigation practised by the agriculturists here and there consisted mainly of *ahars* (artificial reservoirs) and *pynes* (Channels, and to some extent tanks and wells, etc.). The efficiency of these *ahars* depends on timely rainfall, in a droughty year they prove ineffective when irrigation is most needed,

The known history of public irrigation in this State began from 1853 with Lt.-Col. Dicken's suggestion for the construction of the Sone Canals.

Before the inception of the First Five-Year Plan this State had four canal systems, namely, Sone, Tribeni, Dhaka and Teur which provided assured irrigation facilities to 9.97 lakh acres. Besides this, 180 State tube-wells had been sunk in the Shahabad and Patna districts which irrigated an area of 0.40 lakh acre.

During the First Plan new irrigation potential of 4.62 lakh acres was created through major and medium irrigation schemes, out of which 2.65 lakh acres actually utilised the available water by 1955-56.

The Second Plan target was (i) to create a further potential of 6.07 lakh acres through the major and medium irrigation schemes, (ii) to bring under irrigation 6.07 lakh acres (including 1.97 lakh acres in respect of the unutilised potential of the First Plan) from the major and medium irrigation schemes.

Piecemeal and unplanned development of irrigation not aiming at an optimum utilisation of the available resources hampers ideal development. A Master Plan for irrigation has, therefore, been prepared. This plan includes schemes costing up to Rs. 500 per acre and envisages assured irrigation facilities to 104 lakh acres of the total cultivated area of 191.90 lakh acres at a cost of Rs. 184 crores. The water resources available and the present possibility of utilising the same, through State-owned irrigation schemes in the three natural divisions of this State, viz., (i) South Bihar Plains, (ii) Plateau regions of Chotanagpur and Santhal Parganas, and (iii) North Bihar have been assessed on the basis of rainfall pattern and failure of crops.

The total water resources in South Bihar plains work out to 10.29 millions acre feet of which 6.50 millions acre feet can at present be utilised to provide irrigation facilities to 29 lakh acres of the total cultivated area of 55.74 acres at a cost of Rs. 52.69 crores.

The plateau region of the Chotanagpur and Santhal Parganas has a total water resources of 16.70 millions acre feet of which 3.07 millions acre feet can be utilised to provide irrigation facilities to 11.00 lakh acres of the cultivated area of 54.89 lakh acres at a cost of Rs. 33.34 crores. Unfortunately the possible percentage of utilisation in this region is not very high on account of the peculiar topography of the country.

North Bihar abounds in snow-fed rivers with enormous water resources. The problem in this region is primarily of flood control and provision of irrigation more or less as an insurance against uneven distribution of rainfall in the areas rendered free from floods. Irrigation schemes in this region have been planned for utilising 13.24 millions acre feet of water, including the Kosi and Gandak Projects to bring under assured irrigation 64 lakh acres of the total cultivated area of the 81.27 lakh acres at a cost of Rs. 98 crores.

In the light of this perspective planning, the Third Five-Year Plan for Irrigation Sector (Major and Medium) has been formulated which envisages an expenditure of Rs. 61.57 crores on the major and medium irrigation schemes which will bring an additional area of 20.00 lakh acres under assured irrigation by the end of the Third Plan Period.

To sum up 38.56 lakh acres will have been brought under assured irrigation by 1965-66 as specified below :—

(Area in lakh acres.)

	Pre-Plan period.	First Plan.	Second Plan.	Third Plan.	Total by the end of the Third Plan.
1	2	3	4	5	6
I. Irrigation potential created/to be created through major and medium schemes.	9.97	4.62	6.07	27.82	48.48
II. Irrigation potential utilised/to be utilised through major and medium irrigation schemes.	9.97	2.65	6.07	19.87 or say(a) 20.00	38.56

(a) This includes the utilisation of the potential of 1.97 lakh acres created but not utilised during the Second Plan period.

The Third Five-Year Plan for Irrigation Sector (Major and Medium) consists of 9 spill-over schemes and 19 new schemes. The phasing of outlay is as follows :—

(Rupees in crores.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total Third Plan outlay.	Subsequent Plan.
1	2	3	4	5	6	7	8
Spill-over Schemes.	8.35	12.13	10.64	8.00	8.00	47.12	24.48
New Schemes	1.35	2.85	2.97	3.71	3.57	14.45	19.99
TOTAL ..	9.70	14.98	13.61	11.71	11.57	61.57	44.47

The pace of development of irrigation in this State is comparatively faster. Whereas the general trend for utilisation of irrigation potential created from major and medium schemes in the Indian Union is as follows :—

Year following the one in which the potential is created.						Percentage of actual utilisation of the potential created (All-India).
1st	..	..	..	..	..	30 per cent.
2nd	..	..	..	..	..	50 per cent.
3rd	..	..	..	..	..	65 per cent.
4th	..	..	..	..	..	75 per cent.
5th	..	..	..	..	..	85 per cent.
6th	..	..	..	..	..	95 per cent.
7th	..	..	..	..	..	100 per cent.

Irrigation is developing in the State of Bihar at the following rate :—

Year following the one in which the potential is created.						Percentage of actual utilisation of the potential created in Bihar.	
						Major irrigation scheme.	Medium irrigation scheme.
1st	..	..	..	..	..	20 per cent	25 per cent.
2nd	..	..	..	..	..	40 per cent	65 per cent.
3rd	..	..	..	..	..	60 per cent	100 per cent.
4th	..	..	..	..	..	80 per cent	....
5th	..	..	..	..	..	100 per cent	....

The list of schemes included in the Third Plan, with short details regarding each, may be seen after the Section on Flood Control and Drainage.

2. FLOOD CONTROL AND DRAINAGE.

Flood Control Schemes.—North Bihar has been exposed to almost annual flooding involving colossal loss of crops and properties. After the disastrous floods of 1954, a comprehensive programme for controlling the recurring floods or at least to provide some protection against them, was drawn up and put under execution. A number of flood protection embankments with provision for irrigation-cum-anti-flood sluices and river training and desilting works were taken up during the First and Second Plan periods. An expenditure of Rs. 5.61 crores was incurred on flood protection measures during the First Plan period in North Bihar, which afforded protection to about 5.75 lakh acres. The Second Plan envisages an expenditure of Rs. 17.69 crores including Kosi. An area of 15 lakh acres is likely to be protected from these schemes.

The Third Five-Year Plan for Flood Control, Drainage, etc., has been formulated for Rs. 9.00 crores. The phasing of expenditure in respect of Flood Control Schemes is as under :—

(Rupees in lakhs.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total Third Plan, 1961—66.	Subsequent Plan.
	1	2	3	4	5	6	7
Spill-over Schemes.		2,62.00	2,94.00	1,24.00	20.00	..	7,00.00
New Schemes		65.00	47.00	20.00	24.00	44.00	2,00.00
TOTAL		3,27.00	3,41.00	1,44.00	44.00	44.00	9,00.00

The schemes are likely to afford flood protection to about additional 3.5 lakh acres.

Drainage Scheme (costing about Rs. 50,000 each).—There is no trouble of underground water table rising and making the land *Usar* as in the Punjab and in the Western U. P. The reason is that the canals in this State have got mostly sandy strata for underground drainage. Moreover, these areas are generally drained out by small rivulets and other small channels which quickly drain out water. So, effective drainage is not a problem in this State. Even then, provisions for drainage channels have been made wherever necessary in the Kosi and Gandak Projects.

North Bihar has, however, a large number of local depressions locally known as *chours* which are inundated during the flood season and remain water-logged almost throughout the year resulting in large areas remaining uncultivated. There are about 340 such *chours* covering an area of 782 square miles. They could be drained out to the nearby rivers by constructing some drainage-cum-irrigation channels at a capital cost of Rs. 3.5 crores thus reclaiming these water-logged areas for *rabi* cultivation. Up to the end of the Second Plan period an area of about 1.45 lakh acre will have been reclaimed at a cost of Rs. 73 lakhs.

The Third Five-Year Plan under flood control sector includes an expenditure of Rs. 10 lakhs on drainage of *chours* costing above Rs. 50,000 each for reclaiming about 10 thousand acres for *rabi* cultivation.

The annual break-up of expenditure will be as follows :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total 1961—66.
1	2	3	4	5	6
..	1	1	3	5	10

A brief description of the various Irrigation, Flood Control and Drainage schemes included in the plan is given below. In respect of projects costing more than Rs. 1 crore, further details have been given in Statement C of Volume II.

MAJOR IRRIGATION AND FLOOD CONTROL SCHEMES.

KOSI PROJECT.

1. *Kosi Project Spill-over scheme* [Both (a) *Irrigation and* (b) *Flood Control*].—The Kosi Project Scheme comprises the following three main units of work :—

		[Rupees in lakhs.]
(1) Unit I—Kosi Barrage and Headworks	..	16,79
(2) Unit II—Flood Bank and Protective Measures		11,55
(3) Unit III—Canal	.. ..	16,42
TOTAL	.. ..	44,76

The scheme is continuing since the year 1954-55 though some expenditure on investigation had been incurred even before that. This scheme has been designed both for Flood Control and Irrigation purposes. The project will continue in the Third Five-Year Plan. It is scheduled to be completed by June, 1963.

On completion of the project an area of 6.5 lakh acres of land will be protected from the ravages of flood in Nepal and Bihar and an area of 14.05 lakh acres of land will obtain the benefit of irrigation in the Eastern Kosi Canal Command.

An expenditure of Rs. 18,00 lakh is expected to be incurred during the Third Plan period on this continuing scheme.

2. *Western Kosi Canal*.—A gross area of 8.82 lakh acres in the Darbhanga district lying west of river Kosi up to river Kamla was so long being affected by the spills of rivers Kamla and Balan. Due to construction of Kamla-Balan embankment, this area of the Darbhanga district which consists of large tract of good paddy lands has been rendered flood-free. The area as such has to depend entirely on rainfall as there is no other arrangement for irrigation. The Western Kosi Canal is for irrigation of this area.

The river Kosi has an average discharge of about 30,000 cusecs during *hathia* period. The irrigation requirement of the Eastern Kosi Canal system with all its extension is only 13,000 cusecs. Thus there will be plenty of water left in the river Kosi for irrigation of this area in the Darbhanga district.

3. *Irrigation of area between Eastern Embankment and Bhenga Dhar.*—According to the present approved plan of the Kosi Project, the idea of diverting part of the flood waters through some old *dhars* has been dropped. As such, quite a large area protected by the Eastern Kosi Embankment can be brought under irrigation from the barrage. In fact, the headworks and the main canal have been designed to provide for this additional discharge required for irrigating this additional area. There has been a public demand for irrigation of this area and inclusion of the same in the command of the Eastern Kosi Canal system. It is, therefore, proposed to take out a branch canal from the Eastern Kosi Main Canal from below the power fall. The detailed investigation for extension of this irrigation system has been taken up and is expected to be ready soon.

4. *Extension of Flood Embankments.*—So far about 150 miles of flood protection embankment have been constructed on the two banks of river Kosi to afford protection of an area of about 5.5 lakh acres lying in the districts of Saharsa and Darbhanga. The Eastern Kosi Embankment terminates at village Maina and the Western Embankment at village Bhanti. As the embankments are not tied on to high grounds, the back water of the Kosi on the eastern side travels on both banks and a part of the area which was afforded protection from floods.

It is, therefore, necessary to extend the embankment. The Eastern Embankment will be extended up to Mansi-Supaul Railway line (16 miles) and the Western Embankment to the point where Kamla-Balan meets Kosi (about 4 miles).

5. *Investigation of Kothar Dam.*—It has been impressed by the various experts, who have examined the feasibility of the Kosi Project plan that it is absolutely essential to construct a few detention reservoirs in the upper reaches of the Kosi and its tributaries to arrest the coarse sand, which the river carries. Unless this is done, the protection afforded by the hydraulic structure and embankments now under construction will be ineffective and in operative after a limited period. One such site for a dam at Kothar about a mile below Barakshetra has been selected by the Central Water and Power Commission and it is proposed to carry out detailed surveys, investigations and designs to prepare a scheme for construction of the Kothar Dam. It would be in the interest of the State if the construction equipment and personnel now engaged in the project are switched on to the preliminary works like access road, setting up aerial ropeway, communication facilities, construction camps, plan layout, etc., within the Third Five-Year Plan.

GANDAK PROJECT.

To meet the food deficit in the country, the Gandak Project has been framed for irrigation in the districts of Saran, Champaran, Muzaffarpur and Darbhanga in North Bihar, the districts of Deoria and Gorakhpur in Uttar Pradesh.

This project is an endeavour to harness the water and power potential of the river Gandak to provide assured irrigation to a gross command of 31.62 lakh acres in Bihar of which 25.50 lakh acres is estimated to be cultivable at an estimated outlay (Bihar's share) of Rs. 40.47 crores. The project, therefore, contemplates the construction of a barrage 2,749 feet long to raise the water level of river Gandak at Bhaisalotan for easy and steady gravity diversion to the two offtaking canals on both the banks. The net work of canals in the lower valley would generate 10,000 K.W. of firm hydro-power and provide assured irrigation to 1.4 lakh acres of Nepal and 8.31 lakh acres of Uttar Pradesh in addition to the area benefited in Bihar. After the development of the full load in Nepal, the power house will be presented to them as a good-will gift. Similarly the irrigation requirement of Nepal shall also be met at no cost to them as per agreements signed between the two countries.

The cost of the entire project shall be shared between Uttar Pradesh and Bihar in the ratio of 26 per cent and 74 per cent the agreed proportion of the withdrawal of water. The annual increase in the output of crops in Bihar alone is valued at Rs. 21 crores and the net annual increase in revenue Rs. 1.83 crores. The incidence of cost of the project is Rs. 1.52 per acre only. The financial return of 9.225 per cent from the 19th year of its completion shows that the capital cost shall be fully recovered in about 38 years of its completion. The project would thus benefit about six million poverty stricken peasantry of Bihar and change the face of the lower valley completely. Work has been started and is likely to be completed in about eight years.

There was a token provision of Rs. 5 crores for the Gandak and Sone Projects in the Second Plan. The Project is a continuing one and a provision of Rs. 20 crores has been made in the Third Plan.

SONE BARRAGE PROJECT.

The present anicut across river Sone approximately 12,462 feet long was constructed in the year 1874—78 with outdated operational arrangements. In view of the great length the weir became excessively loose and developed immense siltation in the two offtaking canals gradually deteriorating the capacity of their withdrawal. In addition, the anicut having had a life of over 80 years became very old and structurally unsafe. The recent failure of Kistna anicut has forced the necessity of constructing a replacement work well in time if the catastrophe of failure of irrigation to the lower Sone Valley is to be prevented.

The Sone Barrage Project is therefore essentially a replacement work and contemplates construction of a barrage only 4,722 feet long at a place Indrapuri 5 miles upstream of the present anicut. Two link canals shall take off on both the banks to link the present canal system with the new barrage. Improved operational facilities and a higher head available at the new site would bring an additional area of 3.07 lakh

acres under irrigation, and stabilise irrigation to 7.34 lakh acres of the existing command. It is proposed to explore the potentiality of this river further by introduction of two high level canals at an estimated outlay of Rs. 6.16 crores for providing irrigation to a gross commandable area of 4.25 lakh acres but unfortunately this part of the project has not received the concurrence of the Planning Commission as yet. The estimated cost of the construction of barrage, link canal and remodelling of the existing canal system is Rs. 14.43 crores. Work has been started and is likely to be completed within the Third Five-Year Plan.

This is a scheme continuing from the Second Plan and a provision of Rs. 12 crores has been made in the Third Plan.

MEDIUM IRRIGATION, FLOOD CONTROL AND DRAINAGE SCHEMES.

1. *Badua Reservoir Project (Bhagalpur)*.—This project envisages construction of an earthen dam 132 feet high and 1,500 feet long at crest level across river Badua at Hanuman Pahar with right and left bank canals, the total length of which will be 17½ miles. The estimated cost of the scheme is Rs. 339 lakhs. This project is expected to irrigate an area of 93,920 acres in the districts of Bhagalpur and Monghyr.

2. *Morwe Reservoir Project (Monghyr)*.—This project envisages construction of an earthen dam and a pick-up weir 2½ miles down stream from the dam site on river Morwe in Monghyr district. The catchment area at the dam site is 23 square miles. An area of 7,500 acres for *kharif* and 100 acres of *rabi* will be irrigated. The surplus water which will be available through right Kiul Canal is expected to irrigate an additional 3,600 acres bringing the total commandable area to 11,100 acres. The total cost of this scheme will be Rs. 40.39 lakhs.

3. *Kanchi Weir Scheme (Ranchi)*.—The scheme envisages the construction of 750 feet long and 6 feet 6 inches high concrete weir near village Churgi (Ranchi) to irrigate 38,000 acres of *kharif* crops and 7,000 acres of *rabi* crops. The estimated cost of the scheme will be Rs. 93.48 lakhs.

4. *Kohira Dam Scheme*.—The project envisages the construction of a masonry dam with earthen dykes across the river Kohira near village Jagdahwa 12 miles south-west of Bhabua. The waterfall reservoir will be diverted through a pick-up weir to be constructed 2½ miles down stream from the dam site. The net area irrigated will be 20,500 acres under *kharif* and 5,000 acres under *rabi*. The estimated cost of the scheme is Rs. 56.84 lakhs. The length of the main canal will be 18 miles and of the distributaries 30 miles.

5. *Roro Irrigation Scheme (Singhbhum)*.—The project envisages the construction of a cement concrete weir a mile south-west of Chaibasa town across Roro, a tributary of river Kharkai in the Subernrekha valley.

This scheme will irrigate 22,400 acres of *kharif* crops and 4,600 acres of *rabi* crops in the district of Singhbhum. The estimated cost is Rs. 92.12 lakhs.

6. *Kamla Weir Scheme (Darbhanga)*.—The Kamla anicut at Jainagar will feed the existing Kamla canal and can irrigate 40,000 acres. The cost of the scheme will be Rs. 48.67 lakhs.

7. *Sone Remodelling Scheme*.—Remodelling of existing Sone Canal System will increase the irrigation potential in the districts of Shahabad, Gaya and Patna. This has become necessary in view of the proposed new barrage on river Sone. The scheme will cost Rs. 261 lakhs. 9.40 lakh acres will be benefited by this scheme.

8. *Uderasthan Scheme (Gaya)*.—The scheme envisages construction of a weir on river Falgu near the Barabar hill in village Bhandaria about $\frac{1}{2}$ mile upstream of Uderasthan temple in Gaya district. The proposed weir will irrigate about 57,000 acres and will cost Rs. 97 lakhs.

9. *Kokro Irrigation Scheme (Ranchi)*.—It is proposed to construct a 11 feet high and 240 feet long weir on river Kokro in the district of Ranchi, with a canal on the right bank. The scheme will cost Rs. 16.25 lakhs and on completion will irrigate 6,000 acres. There is no assured irrigation in the area at present.

10. *Khudia Weir Scheme (Dhanbad)*.—Under this scheme a weir on river Khudia is proposed to be constructed in village Govindpur in Dhanbad district. The net commandable area will be 25,000 acres. The scheme will cost Rs. 50 lakhs.

11. *Araj Irrigation Scheme (Palamau)*.—A weir on river Araj is proposed to be constructed near village Nawadih in Garhwa N.E.S. Block of Palamau district at a cost of Rs. 16.25 lakhs. The length of the weir will be 270 feet. The irrigated *kharif* area will be 8,000 acres.

12. *Banki Left Irrigation Scheme (Palamau)*.—A diversion weir across the river Banki (left) in village Sondiha in the district of Palamau is envisaged under this scheme. The Banki is a tributary to North Koel. The proposed weir will be 6 feet high and 375 feet long. The total length of the distribution system will be 40 miles and the cost will be Rs. 25 lakhs. The scheme is expected to irrigate about 8,000 acres.

13. *Sona Weir Scheme (Singhbhum)*.—The project envisages construction of a diversion weir on the river Sona with headworks near village Karkatta in Singhbhum district. The length of the weir will be 200 feet. Net *kharif* area which will be irrigated is estimated at 18,000 acres. The total cost of the scheme will be Rs. 35.00 lakhs.

14. *Bijay Weir Scheme (Singhbhum)*.—The project envisages the construction of a 300 feet long weir on river Bijay in the district of

Singhbhum. The estimated cost of the scheme is Rs. 13 lakhs and it will irrigate 5,000 acres.

15. *Kanla Irrigation Scheme (Darbhanga)*.—A weir is proposed to be constructed in Jainagar. About 60,000 acres are expected to be benefited by the scheme, which will cost Rs. 61.00 lakhs.

16. *Chandan Reservoir (Bhagalpur)*.—An earthen dam is proposed to be constructed on river Chandan which will be 6,625 feet long and 132 feet high. The dam site is located near village Lakshmipur in the district of Bhagalpur. The net irrigable area is 1,16,000 acres under *kharif* and 19,000 acres under *rabi*. The estimated cost of the scheme is Rs. 279 lakhs.

17. *Gumani Dam Scheme (Santhal Parganas)*.—The proposed 1½ mile long earthen dam will be located on river Gumani in village Goagricheta in Santhal Parganas district. The river has a commandable area of 43,400 acres under *kharif* and 800 acres under *rabi*. The total cost of the scheme is Rs. 200 lakhs.

18. *Ajoy Valley Barrage (Santhal Parganas)*.—The scheme is a part of the bigger scheme known as Unified Development of Ajoy valley which consists of six dams and one barrage. The present scheme consists of a barrage at the confluence of Jainty and Ajoy at village Siktia in Santhal Parganas district. The scheme on completion will benefit 90,000 acres, and will cost Rs. 300 lakhs.

19. *Barner Reservoir Project (Monghyr)*.—The scheme consists of the construction of a masonry dam 250 feet long and 196 feet high on the river Barnar with a canal system to irrigate an area of 48,000 acres of land in Jamui subdivision of Monghyr district. The estimated cost of the scheme is Rs. 200 lakhs.

20. *Souroo Dam Scheme (Singhbhum)*.—The project envisages construction of a masonry dam 72 feet high on river Souroo near village Hurugda, five miles north of Kharsawan in the district of Singhbhum. The catchment area at the dam site will be 24 square miles and the reservoir will irrigate 15,100 acres. The estimated cost will be Rs. 66.50 lakhs.

21. *Banki Right Irrigation Scheme (Palamau)*.—The scheme envisages construction of 6' 6" high and 200 ft. long weir across river Banki (right) with a distribution system designed to irrigate an area of 8,000 acres. The cost will be Rs. 20 lakhs.

22. *Mohane Weir Scheme (Hazaribagh and Gaya)*.—This project envisages construction of an earthen dam on river Mohane near Chau-paran in the district of Hazaribagh. The catchment area of this river at the site is 383 square miles. The estimated cost of the scheme will be Rs. 165 lakhs.

23. *Mokamah Tal Scheme (Patna).*—This project envisages drainage, irrigation and regulation of various *nalas* which cause submergence to the *tal* area extending from Fatwah to Lakhisarai, which is about 40 miles long and 10 miles wide. This scheme on completion will make the area fit for cultivation. The estimated cost of the scheme is Rs. 100 lakhs.

24. *Embankment on right side of Gandak from Pipraghat to Chitaunighat.*—The scheme provides for construction of a flood embankment 38.2 miles long on the right bank of river Gandak from Chitaunighat to Pipraghat (district Champaran) at an estimated cost of Rs. 40.37 lakhs. The area benefited will be 1,16,960 acres (58,400 acres in Bihar and 58,560 in Uttar Pradesh).

25. *Embankment on the left bank of river Burhi Gandak from Akhara-ghat to Raghapur.*—The scheme provides for construction of a flood embankment on the left bank of river Burhi Gandak from Akhara-ghat at Muzaffarpur to Raghapur. The length of the proposed embankment is 18.72 miles and the estimated cost of the scheme is Rs. 9.26 lakhs.

26. *Embankment on both banks of Kamla from Jhanjharpur to Darjia.*—The scheme which will cost Rs. 33.98 lakhs provides for extension of the embankment along both the banks of Kamla Balan from Jhanjharpur to village Bhit Bhagwanpur on the left for 13.1 miles and up to Gadaul (Darjia) on the right for 13.4 miles. The total area benefited will be 2.15 lakh acres.

27. *Embankment on the left bank of river Bagmati from Sirsia to Phuhia.*—The scheme costing Rs. 16.00 lakhs provides for construction of a marginal flood embankment 8.25 miles long on the left bank of the Bagmati from village Sirsia to Phuhia. It will benefit 12,040 acres.

28. *Flood control system of Adhwara (Phase II).*—The scheme envisages construction of an embankment on both banks from Agropatti upwards to a length of 66 miles on the Adhwara group of rivers at a cost of Rs. 72.41 lakhs which will protect an area of 1.12 lakh acres in the district of Muzaffarpur from floods. A major portion of the work has been completed and a few gaps and masonry structures are to be completed.

29. *Embankment on right bank of Bagmati from Hayaghat to Karachiar.*—The scheme envisages construction of an embankment along the rivers Adhwara, Jamuara, Sikao Burhand, Dhawa, Khiroi, etc., in the district of Muzaffarpur and Darbhanga. The total length of the embankment will be 55 miles and the river section will be improved in 33 miles at an estimated cost of Rs. 109.22 lakhs.

30. *Embankment along right bank of Bagmati from Hayaghat to Sirsia.*—This scheme provides for construction of 42 miles of embankment on the left bank of the Bagmati at an estimated cost of

Rs. 82.05 lakhs from Hayaghat up to village Sirisa. This will protect an area of 40,301 acres of land from flood.

31. *Embankment along right bank of river Burhi Gandak from Dhanauti to Panapur.*—The scheme which will cost Rs. 43.27 lakhs provides for construction of a 43.67 mile long marginal flood embankment from the outfall of the Dhanauti to Panapur on the right bank of the river Burhi Gandak. This will benefit an area of 73,600 acres of land.

32. *Embankment on the left bank of river Burhi Gandak from Sijua Nala to Panapur.*—This scheme costing Rs. 63.52 lakhs provides for construction of a 54.42 mile long marginal flood embankment from Sijua Nala to Panapur on the left. This will benefit an area of 70,482 acres of land. The scheme is nearly complete.

33. *Patna protection scheme including regulator.*—This envisages construction of 20 miles of embankment on the left bank of river Poonpoo for protection of Patna town at an estimated cost of Rs. 20 lakhs.

34. *Construction of embankment along Sakri (Gaya).*—Embankment will be constructed along both banks of river Sakri from Warsaliganj Kharat Road up to Devaspura in the right bank and Bhadai in the left bank to check the flood spilling on both the banks. On completion the scheme will give protection to an area of 7,000 acres in the districts of Patna and Gaya at a cost of Rs. 8 lakhs.

35. *Construction of two lines of embankment for protecting spilling of the Badua River (Bhaglpur).*—This scheme consists of strengthening the right bank of left canal and left bank of right canal running on both sides of river Badua below Badua Dam. This will give protection to 36 sq. miles at a cost of Rs. 8 lakhs.

36. *Gumani Dam flood control in Santhal Parganas.*—A dam for flood control will be constructed on the river Gumani in Santhal Parganas district at an estimated cost of Rs. 20 lakhs. The scheme is under preparation.

37. *Rehabilitation of population falling in between two newly-constructed flood protection embankment (Phase II).*—Marginal flood embankments have been constructed along both banks of the three major spilling rivers, viz. Kamla, Burhi Gandak and Bagmati. Formerly these rivers used to inundate vast tracts of land during the monsoon. Even after construction of the embankment, a number of villages with varying population falling within the embankment area will need rehabilitation.

An expenditure of at least Rs. 20 lakhs is expected to be incurred on this account in the Third Plan period.

38. *Embankment on the right bank of river Bagmati from Karachin to Badlughat.*—This envisages construction of embankment on the right

bank of river Bagmati from Karachin to Badlaghat for a length of 37.60 miles at a cost of Rs. 90.48 lakhs. This will give protection to an area of 1 lakh acres from floods.

39 *Embankment on the right bank of river Sikrahna from Chanpatia railway bridge to the outfall of river Dhanutisikrahna.*—This embankment which will be 67.45 miles in length will cost Rs. 60.75 lakhs. It will benefit an area of 1.58 lakh acres of land on the right side of the river Sikrahna.

40. *Extension of Karhagola embankment on the river Ganga.*—The Karhagola embankment on the left bank of river Ganga was constructed for a length of 17 miles from village Azampur to Karhagola on the east of Ganga-Darjeeling road for protection of villages east of Karhagola-Katihar section of N. E. Railway line from floods. It is now proposed to extend the existing embankment for a further length of approximately $3\frac{1}{2}$ miles upstream at a cost of Rs. 7 lakhs. It will benefit an area of 4,000 acres from the flood spills of Ganga and Kosi.

41. *Retired lines and loop bandh.*—Construction of retired lines and loop *bandh* to the existing embankments constructed by the Irrigation Department as well as Revenue Department along the big rivers like Ganges and the Gandak becomes necessary every year during floods as excessive bank erosion and shifting of the course of the rivers affect the safety of the marginal embankments. These retired lines and loop *bandh* at strategic points give protection to the villages. A sum of Rs. 3 lakhs is expected to be incurred on this during the Third Plan.

42. *Drainage Scheme costing above Rs. 50 thousand each.*—North Bihar abounds in a number of low-lying areas called swamps or *chours*, extending over several sq. miles which are subject to sustained or yearly flooding due to local rains or river spills during the monsoon period. The depth of inundation in these *chours* varies from 4 ft. to even above 10 ft. with the result that standing paddy crops are damaged entailing heavy loss to the cultivators. Even the prospect of *rabi* crops becomes bleak, if the stagnated water in these *chours* is not drained out in time.

While some of these big *chours* have already been reclaimed, others remain to be tackled. An expenditure of at least Rs. 10 lakhs is expected to be incurred on this account in the Third Five-Year Plan period.

3. POWER

PROGRESS PRIOR TO THE FIRST FIVE-YEAR PLAN.

Prior to the First Five-Year Plan development of electric power in Bihar was confined to isolated urban areas by private electric supply undertakings. Besides the development by the few private undertakings, several of the industries in Bihar owned their own generating stations which contributed to the major power development in the State compared to public supply utilities.

This installed capacity of the public supply utilities (privately owned) was 39.3 MW and that of the State Government 5.6 MW. The self-generating industries had an installed capacity of 168.8 MW. Among the large power stations owned by industries the power station owned by Messrs. Tata Iron and Steel Company had a capacity of 120.5 MW and the power station owned by Messrs. Rohtas Industries has a capacity of 12 MW.

The Electricity Department of Bihar was organised in 1948 as a separate department to take direct part in generation, transmission and distribution of electrical energy in the State which was primarily the responsibility of the private licensees' undertakings. The State Electricity Department spent approximately Rs. 30.54 lakhs by March, 1951, for electrical development in the State which included taking over of some of the inefficient private licensees' undertakings. The total demand of the Bihar State Electricity Department by the end of March, 1951, was 2.1 MW with a gross revenue of Rs. 7.71 lakhs. The Department had constructed 200 miles of subtransmission lines and 50 miles of low tension lines for serving 2,400 consumers and 110 tube-wells in the State.

PROGRESS DURING THE FIRST FIVE-YEAR PLAN.

During the First Five-Year Plan the State Electricity Department provided for an expenditure of Rs. 7.1 crores for the execution of 11 schemes. Besides the above programme the State Government also availed an aid under the U. S. Technical Co-operation Aid for the execution of tube-well schemes which provided for 150 tube-wells in North Bihar and 235 tube-wells in South Bihar. Further in view of availability of funds from Government of India at the close of First Five-Year Plan the plan provision was enlarged to make the programme more comprehensive. In all, in the the First Five-Year Plan the State Electricity Department executed a programme of Rs. 8,27 crores. The progress made by the Electricity Department by March, 1956, is given below:—

	Progress by the end of March, 1956.
(1) Diesel Power Station	9 nos. (7 MW installed).
(2) Availed supply in bulk from D. V. C. at 33 KV ..	6 nos. sub-stations (10 MW).
(3) Availed supply in bulk from the Patna Electric Supply Co., Ltd. at 6.6 KV.	1 (2,000 KW).
(4) Availed supply in bulk from Rohtas Industries at Dalmianagar at 6.6. KV.	1 (2,000 KW).
(5) High Tension lines	2,928 miles.
(6) Low Tension lines	853 miles.
(7) Distribution Transformer sub-stations ..	1,532 nos.
(8) Coal mines electrified	129 "
(9) Surface wells	420 "
(10) Mica mines electrified	53 "
(11) Tube-wells	833 "
(12) Consumers	33,160 "
(13) Towns	48 "
(14) Village	315 "
(15) Gross Revenue in 1955-56	Rs. 81.32 lakhs.

Besides the activities of the State Electricity Department the major contributing factor for the rise of electrical development in the State was the installation of a Steam Power Station with an installed capacity of 80 MW by the Sindri Fertilizers and an increase in the generating capacity by 10 MW by M/s. Rohtas Industries, Ltd.

Considerable progress was also made by the D. V. C. by completing the installation of 4 MW at the Tilaiya Hydro-electric Power Station and 150 MW at the Bokaro Steam Power Station which was linked with Maithon and the grid sub-station at Jamshedpur. The work on 132 KV transmission line to connect Bokaro with Tilaiya, Gaya, Patna, Barun and Jamshedpur in Bihar and with Calcutta in West Bengal was started.

PROJECT FOR THE SECOND FIVE-YEAR PLAN.

The proposal for power projects for the Second Five-Year Plan was sanctioned for Rs. 24.02 crores after 5 per cent efficiency cut for the execution of 24 schemes out of which 10 schemes were mainly distribution schemes except for installation of a few diesel stations. Provision was made for a Steam Power Station of 30 MW at Barauni in North Bihar at an estimated cost of Rs. 3.09 crores. There was also a proposal for taking over derelict electric supply undertakings, their development and also advancing loan to licensees. The total amount spent out of this scheme for taking over of derelict electric supply undertakings of Arrah, Monghyr, Motihari, Sahebganj, Chapra, Khagaria and Lakhisarai came to Rs. 56.67 lakhs. Balance amount of this scheme is being utilised after formulating proposals and the concurrence of the Planning Commission for distribution and other works.

During the end of the third year of the Second Five-Year Plan the Government of India, Ministry of Railway, decided for the electrification of the route from Asansol to Moghalsarai *via* Gaya and from Asansol to Rourkela and Noamundi. The Bihar State Electricity Board is executing a programme of 300 miles of 132 KV lines and five sub-stations costing Rs. 4.0 crores for supply to Railways out of which approximately Rs. 3.0 crores are expected to be spent during the Second Five-Year Plan period.

The Heavy Engineering Corporation require about 40 MW of power for their plant at Hatia. It was decided to instal a power station of 100 MW capacity near Ranchi under the Russian Aid for meeting their requirement. The power station is to be owned and operated by the Bihar State Electricity Board. The total cost of the project will be around Rs. 12.82 crores out of which a provision of Rs. 1 crore was made in the Second Plan period. It is anticipated that an amount of Rs. 75.00 lakhs will be spent in the Second Plan and an amount of Rs. 25.00 lakhs will be spill-over for the Third Plan.

The anticipated expenditure during the Second Five-Year Plan on Power projects including the State Government's contribution towards D. V. C. power is likely to be Rs. 31.24 crores against the original plan provision of Rs. 26.85 crores.

It is expected that by the end of the Second Plan the total demand of the State will be about 316 MW out of which about 226 MW if satisfied will leave a gap of about 90 MW.

The Bihar State Electricity Board will distribute about 125 MW of power by 1960-61 and is expected to earn a gross revenue of Rs. 5.65 crores during the year 1960-61.

Besides the execution of the schemes by the Bihar State Electricity Board the State Government are contributing approximately Rs. 12.72 crores as a contribution for the power programme of the D. V. C. which includes the installation of 60 MW Hydro-power station at Maithon, 40 MW Hydro-power station at Panchet, extension of the Bokaro Steam Power Station by one unit of 86 MW and a steam power station of 172 MW at Durgapur with the associated transmission lines and sub-stations. Besides the above programme the Government of India and the participating Governments sanctioned the installation of one unit of 140 MW at Chandrapura in Bihar primarily for meeting the power requirement of the Railway Electrification. A second set of 140 MW has also been sanctioned at Chandrapura for meeting the additional demand in the State of Bihar in lieu of two units of 60.0 MW sanctioned for installation at Durgapur by the West Bengal Government.

The targets of the Bihar State Electricity Board by the end of the Second Five-Year Plan, i.e., by March, 1961, is given below :—

					Targets by the end of the Second Five-Year Plan.	
					Installed capacity.	Firm capacity.
(1) Power Station—						
(a)	Diesel	..	..	..	18 MW.	15.1 MW.
(b)	Steam	..	..	..	..	11 MW.
(2)	Receiving stations for availing power in bulk from D. V. C. and other sources.				114.0 MW.	
(3)	High Tension lines up to 33 KV				..	8,500 miles
(4)	Low Tension lines ..				..	3,800 "
(5)	Distribution sub-stations				..	3,500 nos.
(6)	Surface wells				..	3,500 "
(7)	Tube-wells				..	1,100 "
(8)	Towns ..				..	100 "
(9)	Villages ..				..	2,047 "
(10)	Consumers				..	1,20,000 "
(11)	Power demand				..	125.00 MW.
(12)	Total capital expenditure up to March, 1961 (anticipated) Rs. 31,00.00 lakhs. (approximately.)					

The generating capacity available by the end of the Second Five-Year Plan is given below :—

Diesel power stations owned by the Bihar State Electricity Board in North Bihar.	13.6 MW.
Diesel power stations owned by the Bihar State Electricity Board in South Bihar.	1.5 MW.
Installed capacity in the power stations of the licencees' undertakings.	31.95 MW.
Power stations of the D. V. C. including Bihar and West Bengal.	534.5 MW.
Industries own generation	206.73 MW.

LOAD PROSPECTS FOR THE THIRD FIVE-YEAR PLAN.

North Bihar.—The load forecast of North Bihar was conducted by the C. W. and P. C. in 1955-56 in consultation with the State Electricity Department. The load demand by 1960-61 was anticipated as 13.4 MW and by 1965-66 as 27.76 MW.

Since the submission of that report the Government of India decided to instal an Oil Refinery at Barauni, the power requirement of which alone will be 12.5 MW. With the completion of the bridge at Mokameh and the sanction of the Steam Power Station at Barauni there is a heavy demand of industries near about Barauni. The important industries in North Bihar requiring power are heavy structural shop, dairy and dairy products, Sugar Factory at Banmankhi, Cotton Mill at Samastipur, Paper factories at Darbhanga and Samastipur and Fertilizer Plant. The demand of industries alone will be 70 MW by 1965-66 in North Bihar.

The load forecast of North Bihar has been revised and sent to the C. W. and P. C. along with the proposal of the third set of 15,000 KW at Barauni. The load forecast of North Bihar to the end of the Third Plan will be 118 MW approximately.

The sanctioned proposal for Barauni Steam Power Station is for three units of 15,000 KW. It is expected that Diesel Station would have outlived their utilities in North Bihar by 1964-65.

The firm power from the three units of 15,000 KW at Barauni after deducting auxiliary and transmission losses will be 27.0 MW against the anticipated demand of 118.00 MW. Additional generating capacity will be required for meeting the balance of demand of 91.00 MW.

South Bihar and Chotanagpur.—The load forecast of South Bihar and Chotanagpur areas which was assessed at 750 MW in 1956 was revised to 778.9 MW in 1958 by C. W. and P. C. The load forecast had again been revised by the Bihar State Electricity Board based on the latest

information available from development plans in respect of collieries in private and public sectors, new and proposed industries, requirement of railways for track electrification and additional demand for rural and urban loads. The total demand of South Bihar and Chotanagpur as now assessed by the Bihar State Electricity Board after consultation with the C. W. and P. C. comes to 841.80 MW, i.e., a diversified demand of 702 MW by the end of the Third Five-Year Plan.

The total installed capacity of the D. V. C. with all the sanctioned projects excluding Steam Power Station at Chandrapura comes to 534.5 MW which gives a firm capacity of 352.0 MW. One set of 140.0 MW has been sanctioned for meeting the power requirement of railway traction. Another set of 140.0 MW has been sanctioned for power needs in Bihar. Two additional units of 140 MW each have been recommended for installation by the D. V. C. for meeting the loads in the D. V. C. Valley.

The power availability from the D. V. C. for loads in Bihar will be as follows :—

(1) Loads in the D. V. C. Valley	290.8 M W.
(2) Load commitment outside valley up to the Second Plan ..	187.8 MW.
TOTAL	478.6 MW.
	(400.0 MW diversified.)

In addition to the power from the D. V. C. it is expected that the Rihand authorities will give 25 MW of power for railway track electrification. The State Electricity Board will also get 500 KW of power from Mayurakshi Power Station. The total power availability from all the power agencies for loads in Bihar will come to 425.50 MW for meeting a load of 841.8 MW (702 MW diversified). This leaves a gap of 276.5 MW for which additional generating capacity is required to be planned by the Bihar State Electricity Board.

PROPOSAL FOR THE THIRD FIVE-YEAR PLAN (NORTH BIHAR).

1. *Barauni Steam Power Station.*—The Government of India sanctioned the installation of two units of 15,000 KW at Barauni during the Second Five-Year Plan. This scheme was delayed for about two years for want of foreign exchange. Orders for its equipments have already been placed and the one unit is expected to be commissioned in the first year and the second in the second year of the Third Five-Year Plan.

The Government of India has sanctioned a third set of 15,000 KW at Barauni for meeting the requirement of the refinery as a part of the Third Five-Year Plan at an estimated cost of Rs. 1.48 crores. The expenditure on the installation of third set of 15,000 KW during the Second Plan may be about Rs. 25 lakhs and the balance will be during the Third Plan.

For meeting the deficit of 91.0 MW in North Bihar after the installation of three sets of 15,000 KW at Barauni, the Planning Commission has agreed for the augmentation of generating capacity at Barauni by two units of 30,000 KW during the Third Five-Year Plan, although the load survey will justify larger installation. The total cost of the augmentation of 60 MW at Barauni will come to Rs. 5.52 crores. The cost of additional generating capacity during the Third Plan at Barauni will, therefore, come to Rs. 7 crores for an installed capacity of 75 MW. The expenditure in the Second Plan is expected to be Rs. 25 lakhs and the balance of Rs. 6.75 crores will be required in the Third Five-Year Plan. The Planning Commission was also of the view that another 30 MW installation at Barauni should be considered during the course of the plan.

2. *Kosi East Canal Power House.*—It has been decided to construct a barrage across the Kosi river near Hanumannagar. Two canals one on the eastern and another on the western side take off from the barrage. A minimum discharge of 7,500 cusecs is available in the Eastern Kosi Canal on which a fall of 13 ft. is available two miles downstream. It is proposed to maintain a head of 20 ft. at the power station site for eight months except in the monsoon season. The head will be kept at 13.0 ft.

Technical.—With a discharge of 7,500 cusecs and a head of 20 ft. it will be possible to generate a firm power of 10,350 KW. Assuming a daily load factor of 65 per cent the peak load that may be encountered will be about 16,000 KW. It is proposed to have an installed capacity of about 20,000 KW (four units of 5.0 MW) in this power station. Nepal is to get 50 per cent of the power generated at Kosi Power Station by an agreement.

The design and construction for the civil portion of the power house has been vested with the Kosi Project Department while the State Electricity Board will be responsible for the installation of the mechanical and electrical equipments.

The Civil works and electrical equipments for the power station are estimated to cost about Rs. 2,20 lakhs. Although the Government had desired for full provision for this scheme, the Planning Commission agreed to provide Rs. 1.0 crore only keeping in view the progress on Civil Works.

3. *Gandak Power Projects.*—The Gandak river is a perennial river and during summer it is fed by the melting snow of the Himalayas. There is a proposal to construct a barrage across the river at Bhaisalotan. There is possibility of five power stations in the Gandak Project, i.e., two on the western canal and three on the eastern canal. Power House no. 1 is in Nepal, Power House no. 2 in U.P. and nos. 3, 4 and 5 on the eastern canal are in Bihar. The present proposal is to instal a power house of 15,000 KW at Power House site no. 1

in Nepal, which will be handed over to the Government of Nepal as soon as their off-take at the power house reaches 10,000 KW at 60 per cent load factor. The total cost of the power house comes to Rs. 2.02 crores and full provision for this project was agreed by the Planning Commission. The firm capacity of the power house is about 7,850 KW but it will be possible to generate secondary power during six months for use in Bihar. The power station will be interconnected at Sugauli with the Barauni Steam Power Station grid by a 132 KV grid which will also be utilised for the transport of power from the Power Stations 3 and 4 of approximately 40.0 MW on the eastern canal.

SOUTH BIHAR AND CHOTANAGPUR.

4. *Patratu Steam Power Station.*—Heavy Engineering Corporation require power to the extent of 41.0 MW for their plant at Hatia. It has been decided to establish a Steam Power Station of 100 MW capacity near Patratu under a trade agreement with the Government of U.S.S.R. The power station will have two sets of 50 MW.

The fuel for the initial 100 MW installation will be available from the South Karanpura coalfields during the early stages of operation of the plant but at a later stage, middlings will be supplied from the washeries proposed to be established by the National Coal Development Corporation near Bhurkunda. Arrangements are being made with the railways for transport of coal by rail for the power station from the neighbouring collieries during the initial stage and from the proposed washery later. Alternative means of supply of coal and/or middlings to the power station by aerial ropeway was also considered and it was decided that subject to concurrence of the railways transport by rail will be adopted. The coal handling system at the plant consists of underground hoppers, wagons tippers, weigh bridges, necessary belt conveyors, crusher unit, stacking out and reclaiming arrangement.

Proximate analysis of the low grade coal proposed to be supplied by National Coal Development Corporation for the power station is as follows:—

			Per cent.
1. Moisture	..	..	.. 1.7 to 2.5
2. Volatile matter	..	..	.. 40 to 45
3. Fixed Carbon	..	..	.. 50 to 55
4. Ash	..	..	.. 40 to 45
5. Sulphur	..	..	.. 0.10 to 0.15
6. Oxygen	..	..	.. 3.0 to 5.0
7. Nitrogen	..	..	.. 0.85 to 1.20
8. Hydrogen	..	..	.. 2.5 to 3.5

Samples of coal from coalfields have been sent to U.S.S.R. for further check analysis and steam generators will be designed accordingly.

The characteristics of middlings that will be supplied by the National Coal Development Corporation from the proposed washery near Bhurkunda will also be the same as that for low grade coal, the characteristics of which are given above. The annual requirement of fuel having the above mentioned characteristics for the ultimate capacity of the power station will be above 2.0 million tons and National Coal Development Corporation have confirmed that they will supply the entire requirement of fuel for the power station.

Water will be obtained from Nalkari Nalla which is a tributary to the Damodar river flowing through the Bhurkunda coalfields. Since the river dries up in summer months, a storage reservoir with a total capacity of about 50,000 acre ft. will have to be constructed to obtain an unfailling flow of about 80 cusecs to meet the demand of the power station and water requirement of National Coal Development Corporation.

The dam will be constructed about $1\frac{1}{4}$ miles upstream from the power station site with a catchment area of 81 square miles. Even for a capacity of 300.0 MW a continuous flow of 60 cusecs of water will be required with suitable cooling tower arrangements and hence the water availability is adequate for an installation of approximately 400.0 MW. The total cost of the dam and the appurtenant work comes to Rs. 268.11 lakh. The C.W. and P.C. has advised to raise the height of dam for additional storage and the extra expenditure for this will be approximately Rs. 55.0 lakhs.

AUGMENTATION OF GENERATING CAPACITY BY 250 MW AT PATRATU STEAM POWER STATION.

For meeting the loads outside the Damodar Valley Corporation in addition to the commitment already made by the Damodar Valley Corporation, the Government of India approved the augmentation of generating capacity at Patratu by five units of 50 MW in addition to the first two units of 50 MW sanctioned for meeting the loads of Heavy Engineering Corporation.

The Government of India have accepted the proposal of additional five units of 50 MW sets for Patratu Steam Power Station by U.S.S.R. trade agreement. With this agreement all the seven sets at Patratu will have a capacity of 50 MW each.

Out of the total cost of Rs. 24 crores for installation of 250 MW, the Government of India will contribute Rs. 4.33 crores towards a part of the cost of the last two units of 50 MW to be installed at Patratu for meeting the load in Jamshedpur area. This amount will not be shown against the State ceiling fixed for power.

EXTRA HIGH VOLTAGE TRANSMISSION SYSTEM FOR NORTH BIHAR.

The power needs of North Bihar are proposed to be met mainly from Barauni Steam Power Station. The capacity of this station is to be augmented by 75 MW in the Third Plan.

Provision has also been made for the Power Station no. 1 on the western canal of the Gandak Project in the territory of Nepal. It is also proposed to complete the power station on the Kosi Eastern Canal during the Fourth Plan. The firm power available from Kosi Power Station and Gandak Power Station no. 1 will be approximately 18.0 MW in the Fourth Plan. We are committed to give half the power from Kosi Power Station on Kosi East Canal to Nepal. The power station on the Gandak Western Canal has to be handed over to Nepal when their off-take reaches 10 MW at 60 per cent load factor.

Arrangement has to be made for supply to Nepal on the border from both these projects. Nepal may like to have power at Biratnagar from the Kosi Project and at Raxaul from Gandak Project. High tension lines in North Bihar are, therefore, divided into three transmission systems, *i. e.*, Barauni Grid, Gandak and Kosi Grid.

Transmission system for Barauni Steam Power Station.—It is proposed to extend double circuit 132 KV transmission line from Barauni Steam Power Station to Muzaffarpur and a single circuit 132 KV line on double circuit towers from Muzaffarpur to Sugauli. The power station will also be connected to Katihar with a single circuit 132 KV line on a double circuit tower. It is proposed to provide 132 KV sub-station at Samastipur, Muzaffarpur, Sagauli and Katihar as a first stage of development. Total cost of this transmission system is Rs. 344.20 lakhs.

Transmission system (Gandak Power Station).—It is proposed to link Power House no. 3 to the Sub-station at Sugauli by a 132 KV single circuit line on double circuit tower. This line is needed for serving 10 MW for Nepal at Raxaul and inter-connection with the Barauni Grid even in the initial stage. This line will be utilised also for transport of power from the Power Station nos. 4 and 5 on the Eastern Canal, the installed capacity of which comes to about 35 MW and the utilisation of secondary power by inter-connection with the steam power station at Barauni.

It is also proposed to extend 132 KV line from Sugauli to Raxaul for transporting of 10 MW of power required by Nepal. If the lower voltage of transmission is selected, it may very seriously affect utilisation of power in Nepal. It is also proposed to link Power House no. 1 to Power Stations site 3, 4 and 5 on the Gandak Eastern Canal. The total cost of the transmission system proposed on the station is Rs. 139.86 lakhs.

Transmission system (Kosi Power Station).—It is proposed to link Kosi Power Station on Eastern Canal to the Grid sub-station at Katihar proposed under the transmission system connected with the Barauni Steam Power Station. Double circuit line at 33 KV from the power house to Bathnaha and 132 KV single circuit line from Bathnaha to Katihar have been proposed. There will be also one 33 KV double circuit line from power house to Nepal border. The total installed capacity of Kosi Project will be about 20 MW and all the sets can be in operation for a few months in the year. The secondary power

could be utilised with the inter-connection with the Barauni Steam Power Station Grid at Katihar.

The total cost of this transmission system with one 33/132 KV sub-station at Bathnaha and 132 KV switching arrangement at Katihar comes to Rs. 77.70 lakhs.

The total cost of North Bihar Grid comes to Rs. 561.68 lakhs for serving the needs of the areas where no extra high voltage line exists. Expenditure of approximately Rs. 372.80 may only be required in the Third Plan.

SOUTH BIHAR AND CHOTANAGPUR—EXTRA HIGH TENSION TRANSMISSION.

Proposal for Second Five-Year Plan.—In the Second Five-Year Plan the Bihar State Electricity Board has proposed to extend a 132 KV line from Maithon to Sultanganj for meeting the load requirement in Bhagalpur, Santhal Parganas and South-Eastern part of Monghyr.

It is proposed to extend 132 KV line from Chandil to Rourkela in Orissa *via* Rajkharwan and Goelkera and from Rajkharwan to Joda in Orissa *via* Kendposi for giving supply to railways for traction at Rajkharwan, Goelkera and Kendposi. It is also proposed to build a 132 KV double circuit line from Rihand Power House in U.P. to Sonenagar Sub-station of the D.V.C. in Bihar. Benefit from these lines will be available by the end of the Second Five-Year Plan and early in Third Five-Year Plan.

Proposal for the Third Five-Year Plan.—For supply of power to Heavy Engineering Corporation at Hatia near Ranchi a power station of 100 MW is being constructed at Patratu. Double circuit 132 KV line will be constructed from Patratu to Ramgarh for linking this power station with D.V.C. Grid. Double circuit 132 KV line will also be extended from Patratu to Hatia for supply to Heavy Engineering Corporation.

It is anticipated that the demand at Jamshedpur and its adjacent areas will be about 217.6 MW by the end of the Third Five-Year Plan, out of which about 122.6 MW is to be arranged by the Bihar State Electricity Board. In view of such heavy demand the power transmission on 132 KV will not be suitable. It is proposed that a 220 KV transmission line will be constructed from Patratu Power Station to Jamshedpur *via* Hatia with a 220 KV sub-station near Jamshedpur.

It has also been approved to augment the installed capacity at Patratu Power House by 250 MW. The demand in Gaya, Patna, Barun, Japla and Pipradih area during the Third Five-Year Plan will be about 141.10 MW. The double circuit 132 KV line from Bokaro to Patna and Barun can carry about 80 to 90 MW. The balance power requirement of this area can only be met if Patratu is inter-connected with the Grid sub-station at Barun. A double circuit 132 KV line or a single circuit 220 KV line (initially operated at 132 KV) will be required for inter-connection of Patratu Steam

Power Station to the transmission system in Barun area near Japla. The double circuit 132 KV line from Rihand to Barun will then be existing and a switching station at Japla will be provided for this inter-connection. The inter-connection will also be to the mutual advantage to the Bihar State Electricity Board and Rihand Project which will give 15 MW of power for utilisation in Bihar for railway electrification.

It is proposed to build a Single Circuit 132 KV transmission line from the Sultanganj sub-station which is inter-connected with Damodar Valley Corporation system at Maithon to Mokameh to establish an inter-connection with the Barauni Steam Power Station and provide a 132 KV/33 KV sub-station at Jamalpur for power to Railway.

In addition to the above sub-station, 132KV/33 KV sub-stations at Kendposi and Mosabani will also be required. An amount of Rs. 459.0 lakhs has been provided in the Third Plan for transmission scheme in South Bihar.

SUB-TRANSMISSION SYSTEM AND DISTRIBUTION.

The proposal for the power project during the Second Five-Year Plan was including seven continuing schemes from the First Five-Year Plan. Twelve new schemes were also sanctioned for distribution of power in North Bihar and South Bihar. The total cost of these schemes after five per cent efficiency cut comes to nearly Rs. 15.48 crores. It is expected that by the end of the Second Five-Year Plan period the State Electricity Board would have laid 8,250 miles of H.T. lines up to 33 KV and 4,600 miles of low tension line and would serve nearly 1.6 lakhs of consumers, 1,200 tube-wells and 3,500 surface wells distributed over 100 towns and 2,047 villages.

Nine distribution schemes were proposed for the Third Five-Year Plan for a capital outlay of Rs. 14.06 crores but a provision for Rs. 4.69 crores only has been made during the Third Plan due to paucity of fund.

(Rupees in lakhs.)

Serial no.	Name of the Scheme.	Cost proposed.	Cost sanctioned.
1	2	3	4
1	Extension of Supply in Shahabad area ..	90.15	13.41
2	Extension of Supply in Gaya District ..	80.63	14.00
3	Extension in Mica Mines ..	59.69	11.30
4	Power development in coal-mines area of Dhanbad, Hazaribagh, Ranchi and Palamau.	2,32.92	32.74
5	Extension of power in Sini-Chakardharpur areas.	84.90	12.60
6	Extension of power in Patna district ..	80.65	7.35
7	Power development in rural and urban areas of Bhagalpur, Monghyr and Santhal Parganas.	1,25.98	18.10
8	Distribution extension in North Bihar ..	3,00.80	59.50
9	Rural Electrification	3,50.12	3,00.00
	TOTAL ..	14,05.84	4,69.00

It is expected that by the end of the Third Five-Year Plan period the State Electricity Board would have electrified additional 1,250 villages in the whole of the State which will bring the number of electrified villages to 3,185.

Sub-transmission and distribution originally proposed costing Rs. 14.06 crores during the Third Five-Year Plan is now compared to the provision that was made in the Second Five-Year Plan. Even if 50 per cent more allocation of this work would have been allowed in the Third Five-Year Plan, provision for the Third Five-Year Plan should have been Rs. 22.0 crores against Rs. 14.0 crores now being proposed. The drastic cut that has been imposed has been done due to the paucity of fund and to accommodate some of the generation schemes. However, there is probability of sanction for Rs. 6/7 crores additional amount for distribution schemes at a later stage.

INVESTIGATION AND SMALL HYDEL SCHEMES.

A lump sum provision of Rs. 55.0 lakhs was agreed for small hydel and investigation of hydro-electric projects such as Basia, Betar, Kera, Upper Karo, Lower Karo, Kurtila, Sarubera and Paraltoli which have a potential of about 450.00 MW, against which a sum of Rs. 40.0 lakhs has been provided in the Third Plan.

ACQUISITION OF ELECTRIC SUPPLY UNDERTAKINGS AND LOAN TO LICENSEES.

Provision of Rs. 1.49 lakhs was made in the Second Five-Year Plan for taking over of derelict electric supply undertakings and loan to licensees; proposals were sent for taking over derelict undertaking costing Rs. 43.90 lakhs only in the Second Plan period.

A sum of Rs. 30 lakhs has been accepted for taking over of derelict electric supply undertakings and loan to licensees during the Third Five-Year Plan. Due to increase in spill-over amount of the continuing schemes this has been reduced to Rs. 10.0 lakhs only. There are at present 11 licensees undertakings at Patna, Muzaffarpur, Darbhanga, Bhagalpur, Sijua Coalfield and Dishergarh. The total demand of all these companies is expected to be 60 MW by the end of the Second Five-Year Plan rising to 103 MW by the end of Third Five-Year Plan. Proposals for taking over or loan to Licensees will be sent depending upon the condition of the undertakings during the Third Plan.

POWER PROJECTS OF BIHAR UNDER THE THIRD FIVE-YEAR PLAN.

The Power projects for the Third Five-Year Plan of Bihar was discussed with the Planning Commission in October, 1960, and the Planning Commission agreed for an expenditure of Rs. 79.95 crores

for the Third Five-Year Plan including a contribution of Rs. 20.04 crores for the power programme of the Damodar Valley Corporation. Out of the total cost of Rs. 79.95 crores the expenditure of Rs. 70.62 crores have been shown as in the State Sector and Rs. 9.33 crores in the Central Sector as given below :—

A. From State Sector—		(Rupees in lakhs.)
1. Power Project of Bihar State Electricity Board .. ..	..	55,58.00
2. Share of Damodar Valley Corporation Power Project .. ..	..	15,04.00
	TOTAL ..	70,62.00
<hr/>		
B. From Central Sector—		
1. Pathratu Steam Power Station 2×50 MW (for Bihar State Electricity Board).		4,33.00
2. Damodar Valley Corporation Power Project (for Power supply to Bokaro Steel Plant).		5,00.00
	TOTAL ..	9,33.00
	GRAND TOTAL ..	79,95.00

The provision under the State Sector for the Power projects of the Bihar State Electricity Board includes a provision of Rs. 2.02 crores for a power station of 15.0 MW to be installed on the western canal of the Gandak Project in the territory of Nepal. This power station is a gift to His Majesty's Government of Nepal by the Gandak Project Department. The power station will only be operated by the Bihar State Electricity Board till it is handed over to His Majesty's Government of Nepal.

Continuing Schemes.—The Planning Commission have agreed to carry over provision for the following schemes of the Bihar State Electricity Board from the Second Five-Year Plan to the Third Five-Year Plan.

		(Rupees in lakhs.)
1. Barauni Steam Power Station (2×15 MW) .. ..	..	50.00
2. Maithon Sultanganj Transmission System .. ..	..	22.00
3. Pathratu Steam Power Station (2×50 MW) .. ..	..	11,82.00
4. Power Supply for Railway Track Electrification .. ..	..	1,00.00
	TOTAL ..	13,54.00

The spill-over for these schemes will increase due to delay in payment for equipments and the following carry over is expected in the Third Five-Year Plan :—

		(Rupees in lakhs.)
1. Barauni Steam Power Station (2×15 MW) .. ..	..	1,85.00
2. Maithon Sultanganj Transmission System .. ..	..	42.56
3. Pathratu Steam Power Station (2×50 MW) .. ..	..	12,07.00
4. Power Supply for Railway Track Electrification .. ..	..	1,00.00
	GRAND TOTAL ..	15,34.56

New Schemes.—Due to the increase of the spill-over amount on the continuing schemes and lesser expenditure on the third set of 15 MW at Barauni by Rs. 25 lakhs during Second Plan, the provision on the following new schemes has been reduced during the Third Plan and the spill-over in the Fourth Plan has been increased.

(Rupees in lakhs.)

New Schemes.	Recommendation by the working group.		Revised Provision.	
	Third Plan.	Fourth Plan.	Third Plan.	Fourth Plan.
	1. Pathratu Steam Power Station (5×50 MW.)	23,00.00	1,00.00	22,00.00
2. Gandak Project (3×5 MW.) ..	2,02.00	..	1,31.44	70.56
3. Investigation and Small Hydel	55.00	..	40.00	15.00
4. Acquisition of supply under- takings and loans to licensees.	30.00	..	10.00	20.00
TOTAL ..	25,87.00	1,00.00	23,81.44	3,05.56

The final figures of adjustment on the new schemes will depend on the final figures of expenditure on the continuing schemes. This will be done on receipt of the final account of expenditure on the continuing schemes in order to keep the expenditure in the Third Plan within the ceiling of Rs. 59.91 crores by the Bihar State Electricity Board.

The provisional allocation for the continuing and the new schemes is as follows :—

(Rupees in lakhs.)

	Cost.	Foreign exchange.	Expen- diture during Second Plan.	Provision for Third Plan.	Remarks.
1	2	3	4	5	6
(i) Continuing Schemes—					
1. Barauni Steam Power station (2×15 MW).	3,09.00	1,80.00	1,24.00	1,85.00	
2. Maithon Sultanganj Transmission.	1,96.67	46.00	1,54.11	42.56	
3. Pathratu Steam Power (2×50 MW).	12,82.00	7,00.00	75.00	12,07.00	
4. Railway Electrification ..	4,00.00	70.00	2,69.64	1,00.00	30.36 is to be spent less due to contribu- tion of Orissa Governm e n t and reduction in cost.

(Rupee s in lakhs.)

	Cost.	Foreign exchange.	Expen- diture during Second Plan.	Pro- vision for Third Plan.	Remarks.
1	2	3	4	5	6
(ii) New Schemes—					
1. Barauni Steam Power Station Augmentation of Station capacity (1×15 plus 2×30 MW).	7,00.00	4,25.00	25.00	6,75.00	
2. Pathratu extension (3×50 MW).	14,00.00	16,50.00	..	22,00.00	4,33.00 will be available from the Central Sector outside State ceiling.
(a) Pathratu extension (2×50 MW).	10,00.00	..	..	..	2,00.00 will spill-over to the Fourth Plan.
3. Gandak Hydro-Electric Project.	2,02.00	80.00	..	1,31.44	70.56 will spill-over to the Fourth Plan.
4. Kosi Hydro-Electric Project.	2,20.00	90.00	..	1,00.00	1,20.00 will spill-over to the Fourth Plan.
5. Transmission and Distribution.—					
(a) Transmission ..	8,31.00			8,31.00	
(b) Distribution ..	1,69.00	{ 3,00.00 }	..	1,69.00	
6. Rural Electrification ..	3,00.00	20.00	..	3,00.00	
7. Investigation and Small Hydel.	40.00	10.00	..	40.00	
8. Acquisition of supply undertakings and loan to licensees.	10.00	2.00	..	10.00	
TOTAL ..	70,59.67	35,73.00	6,47.75	59,91.00	
<i>Deduct.—Expenditure in the Second Plan, spill-over amount to the Fourth Plan and reduction in expenditure on Railway Track Electrification Schemes.</i>	10,68.67	3,17.30	..	..
TOTAL ..	59,91.00	32,55.70	..	..
Contribution of the State Government for Damodar Valley Corporation—					
From State Sector ..	15,04.00	8,75.00	..	..
From Central Sector ..	5,00.00	3,00.00	..	..
TOTAL ..	20,04.00	11,75.00	..	..
GRAND TOTAL ..	79,95.00	44,30.70	..	..

ANTICIPATED POWER POSITION IN THE STATE BY THE END OF THE
THIRD FIVE-YEAR PLAN.

It is very difficult to give precisely the commissioning dates of the new generating sets at Barauni and Pathratu. Based on the information available it is expected that the proposed sets at Barauni will be commissioned during the Third Plan. It is also expected that five out of seven sets are likely to be commissioned during the Third Five-Year Plan at Pathratu.

Besides the installation by the Bihar State Electricity Board, the Damodar Valley Corporation is expected to make available 400 MW of power from their generating station during the Third Five-Year Plan. In addition to the above power availability, the Rihand authorities have promised to give 40 MW of power for a period of two years and 25 MW of power in subsequent years for meeting the demand of the railway track electrification only. Power from Hirakund authorities for railway track electrification is to be discontinued after the first set at Chandrapura is commissioned. Based on the anticipation of availability of power, the power position in North Bihar and South Bihar is given below. The power availability in North Bihar gives the power position with the installation of two units of 30 MW as agreed to by the Planning Commission and also with installation of two units of 50 MW as proposed by the State Government.

The anticipated load of North Bihar and South Bihar and the available firm capacity based on the commissioning of the plants is as follows :—

North Bihar.

A. With (3 × 15 + 2 × 30) MW at Barauni.

Anticipated load.	1960-61.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
1. Anticipated load in M.W.	..	25.20	45.80	74.00	1,04.00	1,18.00
2. Firm capacity—						
(a) Diesel	..	11.00	11.00	11.00	Nil.	Nil.
(b) Steam	..	15.00	30.00	30.00	60.00	75.00
(c) Hydro	..	Nil	Nil	Nil	Nil	Nil
TOTAL—FIRM CAPACITY	..	26.00	41.00	41.00	60.00	75.00
Less 10 per cent losses in auxiliary and transmission.	..	2.60	4.10	4.10	6.00	7.50
3. Net firm capacity	..	23.40	36.90	36.90	54.00	67.50
4. Net deficit	..	1.80	8.90	37.10	50.00	50.50

North Bihar.—concl'd.

B. With (3×15+2×50) MW at Barauni.

Anticipated load.	1960-61.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
1. Anticipated load in M W	..	25.20	45.80	74.00	104.00	1,18.00
2. Firm capacity—						
(a) Diesel	11.00	11.00	11.00	Nil	Nil.
(b) Steam	15.00	30.00	30.00	80.00	95.00
(c) Hydro	Nil	Nil	Nil	Nil	Nil.
TOTAL—FIRM CAPACITY	..	26.00	41.00	41.00	80.00	95.00
Less 10 per cent losses in auxiliary and transmission.	..	2.60	4.10	4.10	8.00	9.50
3. Net firm capacity	23.40	36.90	36.90	72.00	85.50
4. Net deficit	1.80	8.90	37.10	32.00	32.50

South Bihar and Chotanagpur.

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	
1	2	3	4	5	6	
1. Aggregate demand in M W ..	4,86.50	5,40.00	6,44.00	7,34.00	8,41.80	
2. Anticipated simultaneous demand in M W (D.F. 1.2).	4,06.00	4,50.00	5,36.00	6,10.00	7,02.00	
3. Firm Power—						
(a) From D. V. C. ..	3,01.50	3,16.50	3,44.00	3,73.50	4,00.00	
(b) From B. S. E. B. ..	Nil	Nil	45.00	90.00	1,80.00	
(c) From Rihand ..	Nil	40.00	40.00	25.00	25.00	
(d) From Hirakund and Mayurakshi. ..	18.00	18.00	18.00	0.50	0.50	
TOTAL	3,19.50	3,74.50	4,47.00	4,89.00	6,05.50
NET DEFICIT	86.50	75.50	89.00	1,21.00	96.50

It would appear, therefore, that the Power Programme which has been so far planned does not meet the full requirement and leaves a gap of approximately 147 MW with two sets of 30 MW each at Barauni and 129 MW with two sets of 50 MW each at Barauni still to be met during the Third Five-Year Plan. Proposal has been submitted to install two units of 50 MW at Barauni instead of two units of 30 MW.

Most of the utilisation in Bihar up to First Five-Year Plan was by industries having their own power stations. The public supply utilities contributed very little to the power generation and utilisation in the State. The position of installed capacity and power generation in 1955, 1961 and 1966 is given below :—

PER CAPITA CONSUMPTION IN BIHAR.

<i>Per capita consumption.</i>					
1	2	3	4	5	6
	Installed capacity in MW.	Units generated, millions, of KWH.	Units consumed, millions of KWH in Bihar.	KWH (a) Bihar.	HEAD (b) India.
<i>Year 1955—Population 40.2 million.</i>					
A. Public Supply Utility	.. 2,02.93	4,40.30	2,69.30	6.69	19.65
B. Self-Generating Industries	.. 2,88.00	8,92.50	8,02.00	20.00	6.10
TOTAL	.. 4,90.93	13,31.80	10,71.30	26.69	25.75
<i>Year 1961 (Anticipated)—Population 46.5 million.</i>					
A. Public Supply Utility	.. 3,49.55	13,65.00	10,75.00	23.10	44.30
B. Self-Generating Industries	.. 2,71.00	7,10.00	6,41.00	13.80	4.90
TOTAL	.. 6,20.55	20,70.00	17,16.00	36.90	49.20
<i>Year 1965-66 (Anticipated)—Population 51.2 million.</i>					
A. Public Supply Utility	.. 11,52.50	45,00.00	32,40.00	63.80	77.10
B. Self-Generating Industries	.. 1,81.00	6,60.00	5,94.00	11.60	6.30
TOTAL	.. 13,33.50	51,60.00	38,34.00	74.90	83.40

PHASING OF EXPENDITURE AND FOREIGN EXCHANGE REQUIREMENT.

Phasing of Capital outlay during the Third Five-Year Plan is as follows—

Expenditure.

(Rupees in lakhs.)

Serial no.	Project.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total for 1961-66.
1	2	3	4	5	6	7	8
1	Continuing Schemes	3,28.00	4,00.56	4,64.00	2,92.00	50.00	15,34.56
2	New schemes—						
	(a) State Sector ..	3,41.00	6,40.16	8,60.79	12,75.80	9,05.69	40,23.44
	(b) Central Sector	..	50.00	1,00.00	1,20.00	1,63.00	4,33.00
	TOTAL ..	6,69.00	10,90.72	14,24.79	16,87.80	11,18.69	59,91.00

Foreign Exchange Requirement.

Serial no.	Projects.	Foreign Exchange, 1961-66.
1	Bihar State Electricity Board ..	29,75.70
2	Pathratu Steam Power Station of 100 MW; Contribution by Central Sector.	2,80.00
	TOTAL ..	32,55.70

The total foreign exchange requirement by the Bihar State Electricity Board for the Third Five-Year Plan comes to Rs. 32,55.70 lakhs which works out to approximately 54.3 per cent of the plan provision. The exact availability of the equipment for the power projects is not known and the above figures are only rough indication which will require to be amended after the picture of the availability of equipments from the indigenous sources is more clear.

Revenue forecast and work expenditure during the Third Five-Year Plan.

Interest.—For the projects of the Second Five-Year Plan interest has been taken at the rate of 4 per cent. For the projects in the Third Five-Year Plan interest has been taken at the rate of 4½ per cent.

Depreciation.—The rate of depreciation has been fixed on the sinking fund method and for the purpose of revenue forecast the following figures were taken :—

- (1) Steam Power Station—2 per cent.
- (2) Hydro-electric Power Station—1½ per cent.
- (3) Extra High tension transmission and grid sub-station—1½ per cent.
- (4) Dams and appurtenance—0.05 per cent.

Operation and maintenance.—The operation and maintenance has been calculated on the following basis—

- (1) Steam Power Station—2 per cent.
- (2) Hydro-Electric Power Station—2 per cent.
- (3) Extra High tension transmission and sub-station—2 per cent.
- (4) Distribution line and sub-station—3 per cent.

The expenditure up to the end of the Second Five-Year Plan is expected to be Rs. 31.0 crores. The expenditure during the Third Five-Year Plan will be approximately Rs. 60.00 crores which will bring the total progressive expenditure to Rs. 91.00 crores.

The revenue by sale of power has been calculated on the following average rates:—

- (1) Supply at 33 KV at the rate of 6.0 nP. per KWH.
- (2) Supply at 11 KV at the rate of 8.0 nP. per KWH.
- (3) Supply to agricultural load at the rate of 15.0 nP. per KWH at low tension.
- (4) Supply to small industries at low tension at the rate of 15 nP. per KWH.
- (5) General lighting and fan load at the rate of 27 nP. per KWH.

The revenue forecast for the Third Five-Year Plan is given below:—

Revenue Forecast.

(Rupees in lakhs.)

Serial no.	Item.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total 1961-66.
1	2	3	4	5	6	7	8
1	Gross revenue ..	6,94.24	8,02.60	8,43.10	13,32.00	18,56.00	55,27.94
2	Operation and main- tenance—						
	(a) On capital up to Second Plan.	83.40	92.55	92.76	92.76	92.76	4,54.23
	(b) On capital in Third Plan.	..	10.72	19.47	44.15	72.56	1,47.00
3	Cost of energy from other agencies.	4,17.25	4,56.00	4,56.00	6,38.00	6,54.00	26,21.25
4	Cost of fuel ..	46.70	57.03	75.06	110.60	2,19.50	5,18.89
5	(a) Interest on Second Plan Pro- jects.	86.62	1,23.40	1,23.68	1,23.68	1,23.68	5,81.06
	(b) Completed pro- jects of Third Plan.	13.38	48.20	1,02.44	1,70.68	2,41.75	5,76.35
6	Depreciation ..	70.04	99.58	1,07.57	1,29.45	1,56.85	5,63.49
7	Contingencies and general reserve.	7.25	9.95	11.20	11.70	9.89	49.99
8	Total working ex- penditure.	7,24.64	9,07.43	9,88.18	13,21.02	15,70.99	55,12.26
9	Net revenue surplus (+) or deficit (-).	(-)30.90	(-)1,04.83	(-)1,45.08	(+)10.98	(+)2,85.01	(+)15.18

MAN-POWER REQUIREMENT.

The man-power requirement of the Bihar State Electricity Board during the Third Five-Year Plan is given in the following statement :—

Man-Power Requirement : 1960—66.

Serial no.	Nature of staff.	1960-61.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7	8
1	Administrative ..	43	53	597	75	86	86
2	Clerical ..	1,499	1,650	1,722	1,961	2,031	2,031
3	Technical and Supervisory (Departmental and Non-departmental)—						
	(a) Electrical degree	432	574	649	689	831	831
	(b) Electrical diploma	236	306	344	350	437	460
	(c) Mechanical degree	28	41	64	118	153	168
	(d) Mechanical diploma	10	22	36	73	98	110
	(e) Civil degree ..	51	64	81	96	120	101
	(f) Civil diploma ..	23	29	37	45	58	49
	(g) Tele-communication degree.	..	..	..	8	11	13
	(h) Tele-communication diploma.	..	..	..	16	24	28
	(i) Others (departmental) ..	..	..	..	..	..	15
4	Skilled including semi-skilled.	5,663	6,023	6,073	6,928	7,188	7,263
5	Un-skilled ..	12,724	16,728	15,168	16,618	16,943	15,583

CHAPTER VIII

INDUSTRY AND MINING

The pace of industrial development in the State was not perceptibly increased in the years following the War or in the First Five-Year Plan period. The fixed capital in Mines and Factories rose only by Rs. 7.1 crores between 1946 and 1950, and although approximately 21.3 crores of rupees were invested in working capital in Bihar's industries in the same period, the number of persons employed in registered factories rose only from 93,500 to 1,11,000 approximately. Both in large and small industries, the amount allotted for development purposes, although not substantial, could not be spent during the plan period mainly due to shortage of various categories of technical personnel and required plant and machinery. No large new plant was established in the private sector. In the public sector, the Sindri Fertiliser Factory was the only unit allotted to this State. In the field of Small-scale and Cottage Industries, only what might be called "Pilot Schemes" were attempted, chiefly schemes of assistance to the Handloom Industry.

2. In the Second Five-Year Plan, however, emphasis was laid on development of industries to achieve diversification of our economy and greater utilisation of our raw material, fuel, and man-power resources. Industry claims 6.6 per cent of the total expenditure in the Second Plan in this State, as against 1.4 per cent in the First Plan. The projected targets in the State sector of the plan are the establishment of (1) High Tension Insulator Factory, (2) Spun Silk Mill, (3) Expansion of Superphosphate Factory, (4) a Co-operative Spinning Mill, and (5) a Co-operative Sugar Factory, along with substantial assistance to Cottage and Small-scale Industries. In addition, the Government of India are setting up a Heavy Machine Building and Foundry Forge Plants at Hatia near Ranchi and an Oil Refinery at Barauni. The Sindri Fertiliser Factory has been considerably expanded and a number of coal Washeries are planned for. In the private sector, although production of iron and steel, sugar, vehicles, electrical equipment, chemicals, paper and textiles have been expanded, and in some of these industries quite considerably, no large new plant was established except the Explosives Factory at Gomia and a new distillery for the manufacture of power alcohol, at Narkatiyaganj.

3. Even with the fulfilment of these targets, though their achievement seems more difficult than during the First Plan due to shortage of technical personnel and machinery. Bihar's economy on the eve of the Third Plan would continue to be predominantly agricultural with only about 4 per cent of the total population (1951) supported by "production other than cultivation" compared with an all-India estimate of 10.4 per cent.

4. Bihar's relative position among the industrially advanced States in respect of employment in registered factories covered by the Census of Manufacturing Industries (1954) will be clear from the following table:—

	Bihar.	West Bengal.	Bombay.	Madras.	All-India.
1	2	3	4	5	6
1. Population (1951) (in millions)..	40	25	36	36	361
Per cent	11.1	6.6	9.9	9.8	100
2. Registered Factories (covered by the Census of Manufacturing Industries 1954).	350	1,782	1,258	776	7,067
Per cent	5.0	19.6	17.8	11.0	100
3. Productive capital (Rs. in crores)	96	171	226	59	788
Per cent	12.2	21.7	29.9	7.5	100
4. Employment ('000)	111	465	538	147	1,716
Per cent	6.5	27.2	31.4	8.6	100

5. The above table would show that Bihar has fewer registered factories and less industrial employment than the other three States and the number of workers in registered factories forms only about 0.43 per cent of the total population of the State and 1 per cent of the total working force. This is the position in spite of the fact that Bihar contains the richest mineral tract in the country accounting for 35 per cent of the total mineral production of the country. It has also considerable sources of electrical power and has well developed communications, particularly in South Bihar and Chotanagpur regions.

6. The existing economy of the State which is based mainly on agriculture in the Gangetic plains of North and South Bihar and the limited exploitation of certain minerals in the Chotanagpur plateau cannot be expected to maintain even the present levels of employment and low standards of living in the next few decades. In fact, the population of Bihar dependent on agriculture for its livelihood has actually risen from 81 per cent in 1931 to 86 per cent in 1951, indicating that the growth of industries has failed to keep pace with the growth of population. When it is further considered that the population density of 578 per sq. mile in Bihar is more than twice the all-India average and higher than other States except West Bengal, Kerala and Madras; that there is only 0.46 acre of cultivated land per head; and that *per capita* revenue in Bihar is also very low, the crucial part that industrialisation of the State must play in any plan for raising living standards must be obvious.

7. Therefore the approach to industrial planning in the Third Plan has to be more ambitious in scope than during the previous two plans

in order to effect a significant rise in the national income through a balanced development of different sectors of the economy.

8. Keeping in view the above objectives and the recommendations of the various Working Groups constituted by the Government of India and the State Government, the proposals for the development of industries under different heads are given in the following seven sections.

SECTION 1.

LARGE AND MEDIUM INDUSTRIES INCLUDING MINERAL DEVELOPMENT.

It is proposed under this head to take up larger number of public sector industrial projects of special importance to the State, to set up 'Mixed Enterprises' (with 51 per cent State investment and State control) in suitable cases, where private investment is inadequate or entrepreneurs are lacking; and to expand the activities of autonomous Corporations to enable them to meet larger credit requirements and take up the management of State-owned enterprises. The section includes the following schemes :—

(1) *Enhancement of equity capital of the Bihar State Industrial Development Corporation (Rs. 100.00 lakhs).*—Experience gained during the Second Plan period suggests that for the expeditious implementation of the industrial schemes in the public sector, autonomous Corporations or similar agencies are necessary. Accordingly the Bihar State Industrial Development Corporation will be set up in the last year of the Second Plan period for management of the State-owned Superphosphate Factory and the High Tension Insulator Project. Management of other public sector industrial enterprises of a commercial nature to be set up hereafter is also proposed to be transferred to the above Corporation. State participation in the equity capital of industrial enterprises, in the public or the private sector, will also be channelised through this Corporation. The scheme, therefore, envisages the enhancement of equity capital of this Corporation by a sum of Rs. 100.00 lakhs.

(2) *Expansion of the Directorate of Industries (Rs. 12.00 lakhs).*—(a) *Strengthening of the Development Wing.*—It is proposed under this head to strengthen substantially the nucleus of the Development Wing, which has been created in the Directorate during the Second Plan period, by appointing technical officers, in various specialised fields of industry in order to provide essential services for large, medium, and small industries in the State. These services will include—

(i) *Diagnostic services and technical advice.*—They will work out and develop the Techno-Economic Survey recommendations in detail by further investigations, locate entrepreneurial talent in the State and extend advisory service to them, and function largely as the Perspective Planning Division of the Directorate. They will also advise on planning and lay-out of new plants, erection of machinery, repairs or replacement of old machinery, diagnosis of production defects, etc.

(ii) *Preparation of project reports and model schemes suited to conditions in Bihar.*—Another very important service to be rendered to industry will be the regular collection of industrial statistics and their interpretation and analysis for future planning. Special surveys relating to man-power studies and of taxation and subsidisation policies of the Government will also be undertaken to guide planning for the future. To enable, however, the Industrial Economist, who has already been appointed, to do this job an organisation at the State headquarters to serve as Statistics, Evaluation and Planning cell will be created under this head, besides the appointment of certain essential field staff under it.

(b) *Research and Investigation.*—While the National Laboratories and the Council of Scientific and Industrial Research are engaged in tackling the problems of countrywise importance, it is felt that for proper implementation of the industrial programme, suitable research facilities will have to be developed in this State for carrying out investigation on problems of special importance to Bihar. These investigations will, among others, include—

- (i) Utilisation of forest resources of Bihar and possibility of setting up small industries based on these.
- (ii) Utilisation of agricultural wastes and possible industries based on these.
- (iii) Extraction of papain from papaya trees.
- (iv) The marketing and full utilisation of mica.
- (v) Investigation into the quality of most of the lesser known mineral resources of the State.
- (vi) Investigation for better utilisation of limestone, for manufacture of bleaching powder, calcium carbide and other calcium and magnesium salts.
- (vii) Investigation for fuller utilisation of ceramic raw materials of the State.
- (viii) Utilisation of Bihar asbestos.
- (ix) Utilisation of phosphatic ores of the State.
- (x) Utilisation of manganese ores of the State.
- (xi) Better utilisations of Khari salt and Saltpetre resources of North Bihar.

In addition, laboratory facilities for testing the products of industries for quality marking will also be required.

This scheme, therefore, envisages the reorganisation and expansion of the existing Provincial Industrial Research Laboratory with suitable staff and laboratory equipments to fulfil the above objectives.

(c) *Surveys and preparation of Project Reports.*—The National Council of Applied Economic Research undertook, at the instance of the State Government, a Techno-Economic Survey of the State, and in their Survey Report they have recommended a number of “candidate industries” suitable for Bihar. In order to attract private investment in these industries, detailed Project Reports will have to be prepared, for which necessary data will have to be collected through a number of field surveys and other investigations. Provision has, therefore, been made for conducting surveys and for the preparation of project reports by appropriate agencies in respect of individual industries.

(3) *Expansion of the Superphosphate Factory at Sindri (Rs. 50.00 lakhs).*—The State Government have established a Superphosphate Factory at Sindri. A scheme for the expansion of this factory so as to raise its annual production capacity to 50,000 tons was included in the Second Plan. But on account of difficulties of foreign exchange and certain other factors it is not likely that the expansion scheme will be taken up during the currency of the Second Plan. It is, therefore, proposed to include the expansion scheme in the Third Plan at an estimated cost of Rs. 50.00 lakhs. This expansion scheme has already been approved by the Government of India’s Licensing Committee.

(4) *Expansion of the High Tension Insulator Factory (Rs. 58.00 lakhs).*—The other project is the Porcelain Factory for making High Tension Insulators which will be started during the Second Plan period at Ranchi. The production capacity of the factory is proposed to be doubled from 2,400 tons to 4,800 tons during the Third Plan period. In this expansion scheme provision will also be made for manufacture of hardwares for insulators so that the insulators are sold in assembled condition. Besides providing increased employment and savings of foreign exchange to the country, such expansion will also augment the profits of the factory. For the proposed expansion a tentative provision of Rs. 58 lakhs is made under this scheme.

(5) *Establishment of Development Authority (Rs. 50.00 lakhs).*—Although North Bihar had so far a pattern of development geared generally to small-scale and cottage industries, with the establishment of the Thermal Power Plant and Oil Refinery at Barauni and the Ganges bridge at Mokameh the Mokameh-Barauni area is invested with immense industrial potentialities. The possibility of utilising the refinery gases and other bye-products for starting the manufacture of fertiliser and other petrochemical industries, will mean that Barauni in due course will develop

into a flourishing industrial township. It is also possible that the broad-gauge line may be extended in the Third Plan from Barauni to Samastipur, in which case the industrial potentialities of Samastipur belt will also be considerably increased.

In the Chotanagpur region considerable industrial potentialities exist in and around Ranchi owing to the establishment of a number of heavy industries in the public sector. The Ramgarh-Barkakana area, adjoining the South Karanpura coalfields is another favourable site for the development of large and medium industries. The plateau which is 1,500 feet high has appropriate climate and soil, for heavy construction. Great possibilities, therefore, exist in this area for the emergence of an industrial complex that includes industries based on coal, coke and gas, and chemical industries from tar as well as power intensive industries and refractories.

Bokaro, the site selected for the fourth steel plant, is yet another area having tremendous possibilities for industries based on iron and steel.

Therefore for acquiring and developing sites in the various areas mentioned above, as also in other areas of the State where similar growth possibilities exist, and to provide water and power facilities, road and rail communications, etc., at the developed sites in order to attract entrepreneurs, it is proposed to establish a Development Authority for the State as a whole. As working funds under this scheme will come by the pooling of resources from the different departments of the State Government, a provision of Rs. 50 lakhs only has been kept for this scheme in the Industries Plan.

(6) *Minerals: Strengthening of the staff of the Directorate of Mining and Geology and establishment of a laboratory for routine tests (Rs. 20.00 lakhs).*—With the enactment of Mineral Concession and Conservation Act in 1949, posts of Mining Officers were created first, for the enforcement of the mining clauses of the Act. Later, in 1952, the post of a Chief Mining Officer was created, outside the State Plan, mainly for looking after the collection of mine revenue, inspection of mines and for technical examination of cases at the State level for grant of mining leases, prospecting licenses and grant of certificates of approval. During the Second Plan period, however, with all-round emphasis on industrial development of the State, a combined Directorate of Mines and Geology was created which, besides the Mining staff above mentioned now consists of a Director, one Deputy Director and a few geologists. The main functions of the Directorate are—

- (i) to carry out systematic geological surveys in areas of the State not covered by the G. S. I. or any other Central Organisation, geological mapping of such areas and prospecting of minerals;
- (ii) preliminary mineral investigations in uncovered areas of the State;

- (iii) systematic survey of limestone deposits ;
- (iv) systematic survey of minerals for ceramics and refractory industries ;
- (v) to locate possible sources of gold deposits within the State; and
- (vi) qualitative survey for any possible mineral.

The function of this Directorate is further to assist the Agriculture Department in the location of tube-wells and the Engineering Departments in selecting sites for dams, barrages or any other project where geological investigations are essential.

It is obvious that these works cannot be undertaken with the existing nucleus staff. Therefore, considering the objects with which the Directorate of Mining and Geology has been set up by the Government and likely demand on its services in the Third Plan, in the context of substantially large investment envisaged for industrial development, it is proposed to strengthen the existing organisation by the creation of additional technical posts like those of Physicist, Chemist, Mechanical Engineer, Drilling Engineer and Drillers, Geologists, etc. Supporting field and office organisation will also have to be created. A laboratory for undertaking certain essential routine examinations will also be set up.

For the various schemes listed above, an outlay of Rs. 3,00 lakhs which is almost double the allocation in the Second Plan, has been provided. This provision also includes a total spill-over expenditure of Rs. 10 lakhs—Rs. 6 lakhs for the Bihar Superphosphate Factory and Rs. 4 lakhs under the High Tension Insulator Project.

VILLAGE AND SMALL INDUSTRIES.

It was calculated that as a result of implementation of the various schemes included in the Second Plan, a large number of jobs will be created providing fuller employment to the people of the State. A recent study undertaken in this State has, however, shown that employment opportunities created during the Second Plan period are not adequate to absorb all the new entrants into the Labour market, let alone the huge army of unemployed persons desiring employment from before. Thus the backlog of unemployment which is estimated to be of the order of above three millions has not only remained untouched, rather it may even increase at the conclusion of the Second Five-Year Plan. In this background, the added importance of small-scale and cottage industries for providing new employment opportunities outside agriculture cannot be over-emphasised.

2. Development programmes of Small-scale and Cottage Industries will have the following basic objectives :—

- (i) To provide whole-time employment by the creation of new employment opportunities, and in rural areas to provide part-time subsidiary employment, reducing unemployment and augmenting agricultural incomes ;

- (ii) To revive and strengthen the existing crafts by encouraging the gradual progress in techniques of production in the unorganised sector of industries without causing any large-scale technological unemployment ;
- (iii) To promote production of a large variety of goods, specially consumer goods, through labour intensive methods, by co-relating them with production programmes in large industries, where necessary ; and
- (iv) To ensure greater dispersal and ruralisation of industries so as to ensure (a) a more equitable distribution of the national income, (b) an effective mobilisation of resources of capital and skill which may otherwise remain unutilised, and (c) to avoid the ills stemming from unplanned urbanisation.

In order to fulfil these objectives and considering the imperative needs of the State, an outlay of Rs. 11,03 lakhs is approved for schemes under the village and small industries sector. This provision also includes a small spill-over expenditure of Rs. 2.33 lakhs concerning the Industrial Estate schemes taken up during the Second Plan period and schemes relating to sericulture. In preparing these schemes the policies and methods advocated by the various All-India Boards have been kept in view, in so far as these relate to the industries within their purview.

SECTION II.

INDUSTRIAL ESTATES (RS. 2,00.00 LAKHS).

The establishment of Industrial Estates has already come to be recognised as a positive means to achieve decentralisation and dispersal of industry, particularly in areas which are less developed. The four industrial estates set up at Patna, Biharsharif, Darbhanga and Ranchi during the Second Plan have been helpful in building up an industrial outlook and for stimulating investment in consumer goods industries. Accordingly, in the light of the recommendations of the working group set up by the Government of India for small-scale industries, the following schemes of Industrial Estates are proposed in the plan :—

- (i) Two units of large Industrial Estates at an estimated cost of Rs. 15 lakhs each for towns having population ranging between 50,000 and 1,00,000.
- (ii) Two units of small Industrial Estates at an estimated cost of Rs. 10 lakhs each for towns having population between 20,000 and 50,000.
- (iii) Ten units of smaller Industrial Estates at an estimated cost of Rs. 5 lakhs each for towns having population between 5,000 and 20,000).

- (iv) Fifty units of Workshop Sheds for village artisans at an estimated cost of Rs. 10,000 each in rural towns having less than 5,000 population.

In growing urban areas where there is already acute demand of factory space, it would be sufficient to provide what may be called 'Industrial Areas' where sites will be handed over to entrepreneurs after developing all facilities except factory sheds. These sheds will be put up by the parties themselves subject to certain minimum standards to be laid down by Government. A block provision of Rs. 78.17 lakhs has been made for this scheme for the entire five-year period of the Third Plan.

To cover areas where power is not available but where willing entrepreneurs can be located, a provision of Rs. 15 lakhs has been made for installation of diesel operated electricity generating sets, in accordance with the recommendation of the working group set up by the Government of India.

In addition to the above schemes, a small spill-over expenditure of Rs. 1.83 lakhs is anticipated on Industrial Estate schemes of the Second Plan.

The total outlay on schemes in this section, therefore, is kept at Rs. 2,00.00 lakhs for the entire Third Plan period.

SECTION III.

SMALL-SCALE INDUSTRIES.

The schemes under this category comprise of (i) Technical Assistance, (ii) Training, (iii) Financial Assistance, (iv) Marketing, (v) Industrial Co-operatives, (vi) Other services, (vii) Dispersal of industrial growth with State participation in capital formation, and (viii) establishment of an autonomous corporation for small-scale industries as detailed below :—

(i) *Technical Assistance (Rs. 73.50 lakhs)*—(1) *Industrial Extension Services*.—This comprises of schemes for the establishment of (i) two Branch Institutes, one each in the North Bihar and Chotanagpur regions, subordinate to the existing Small Industries Services Institute at Patna, (ii) two workshops attached to the aforesaid Branch Institutes for the purpose of providing necessary technological assistance to industrial units in a practical and effective manner, (iii) additional Extension Centres to serve the needs of local units in selected districts, (iv) Common Facility Service Centres in order to provide technical assistance and common facility services to specific industries, close to their existing concentrations and thereby to improve the technical efficiency of the artisans and to encourage them to adopt improved devices in production

management and marketing, and (v) the establishment of an Institute of Engineering Designs for designing and re designing of industrial products, including components and parts to make them more effective, durable and competitive in price. As the scheme mentioned against (i), (ii) and (iii) would be the direct responsibility of the Small Industries Organisation at the Centre, no provision of funds for these schemes is included in the plan.

(2) *Rural workshops (Maintenance and repair facilities—Establishment of 60 Service-cum-Common Facility Workshops).*—The Community Development Programme has brought within its wake the technological advancement of rural areas through the introduction of improved agricultural implements and varieties of equipments, e. g. , tractors, diesel engines, electric motors, pumping sets, sprayers, cane-crushers, sewing machines, bicycles, radios, fans, etc. For the maintenance and repair of all these equipments and implements suitable facilities will have to be developed in the rural areas. It is, therefore, proposed to set up 60 Rural Workshops at suitable places in the State.

(3) *Pilot Production Centres.*—The object of these Pilot Production Centres is to encourage, by actual working of the units, private entrepreneurship in the fields so far unexplored by small-scale industries. It is considered expedient to set up such Pilot Units (a) for production of articles which are considered basic and essential such as hoe lasts, surgical instruments laboratory appliances for which private entrepreneurs might not be forthcoming and (b) to develop entrepreneurial talent in interior areas where people are not eager to come forward to set up new industries, although such places might hold sufficient potentialities.

(4) *Establishment of Industrial Pilot Projects.*—As in the Second Plan, it is proposed to establish pilot projects for industries in three new areas of the State, for integrated development of small-scale and cottage industries.

(ii) *Training (Rs. 1,75.76 lakhs).*—In developing economy the need for organised training programmes to develop the skills, technical knowledge and related information, which are essential for successful working at a particular level cannot be over-emphasised. One of these programmes is training of workmen which will be of two types—

- (i) For those who wish to become qualified for employment in a trade ;
- (ii) For those who are pursuing the trade and need supplementary training in technical and other related subjects for being better suited for their jobs.

Training programmes will, therefore, have to be organised by the State Directorate in the trades like blacksmithy, carpentry, leather

work, tanning, shoemaking, tailoring, etc., which are not covered by the Craftsmen's Training Programme of the Ministry of Labour, Government of India. These training programmes will be executed mostly through (i) twenty-four permanent tuitional classes, which will have to be reorganised, both in their existing set-up and working details, in the light of the recommendations of the Rajnath Committee set up by the Government of India, (ii) twenty Production Centres, which will serve as focal points for the dissemination of improved techniques and commercial intelligence among practising craftsmen as well as for demonstration and supply of improved tools and equipments to the artisans, selected ones from amongst whom would also be employed in these production units, (iii) fifteen Model Workshops in trades like carpentry, blacksmithy, leather goods-making, etc., in urban or semi-urban areas having electricity as well as concentration of artisans requiring advanced training in these trades, (iv) Rural Artisans 'Cluster' type Training Centres in each subdivision of the State, in the light of the recommendations of the Rajnath Committee, (v) twelve new Women's Industrial Schools (in addition to existing six such schools so as to cover every district in the State) for imparting training to women in useful crafts like tailoring and cutting, cane and bamboo work, knitting and embroidery, fancy leather work, etc., (vi) expansion of existing Women's Industrial Schools, and (vii) sanction of grants-in-aid to private institutoins engaged in Women's Crafts Training.

Provision in the plan has been made for 34 'Cluster' type training institutions only at an estimated cost of Rs. 80 lakhs. More such institutions so as to cover each subdivision in the State will be set up gradually from the savings under other schemes as the plan progresses from year to year.

(iii) *Financial Assistance (Rs. 1,15.00 lakhs).*—One of the major factors that has hindered the growth and development of small-scale industries in the State is lack of credit facilities. The Co-operative Banks or private Banks have not yet started granting loans to small-scale industries on an appreciable scale, credit facilities available through the State Bank of India are also relatively small. Credit requirements of small-scale industries will, therefore, have to be met largely out of the provision for grant of loans under the State Aid to Industries Act. Accordingly, a provision of Rs. 1,00.00 lakhs for such loans has been made. In addition, a provision of Rs. 15 lakhs has also been made for grant as subsidy under the aforesaid Act for development purpose.

(iv) *Marketing (Rs. 36.50 lakhs).*—It has now been generally recognised that any form of assistance that the Government may extend to small-scale industries in marketing their products should inevitably be indirect and Government should not generally undertake direct marketing responsibility. But publicity measures to popularise the products manufactured by the small-scale units constitute important marketing aid which the State has to extend. The schemes under this head, therefore,

cover (a) compilation of a Directory of all small-scale manufacturing units, (b) a concise survey of immediate industrial potentialities in each district, as has been done by States like Punjab and West Bengal, (c) participation in exhibition and fairs, and (d) introduction of schemes of quality marking, and (e) establishment of sales emporia.

Assistance for establishment of Bihar Small-scale Industries Corporation.—The State will set up a “Bihar State Small Industries Corporation” during the Second Plan period itself. This Corporation will function more or less on the lines of the National Small Industries Corporation. The main functions of the Corporation will be—

- (i) Assistance for participating in the State Government’s Stores Purchase Programme.
- (ii) Development of small units as ancillaries to large unit.
- (iii) Promotion of sales of small-scale industries’ products through schemes of quality marking.
- (iv) Establishment of sales depots and emporia at suitable places both inside and outside the State.
- (v) Supply of machinery to small producers on hire-purchase system.
- (vi) Management of Industrial Estates and Workshop sheds.
- (vii) Management of small-scale industries of a commercial nature set up by the State Government.

In order to enable the Corporation to discharge these functions satisfactorily, it is proposed to make available a sum of Rs. 25 lakhs to it during the plan period.

The Bihar Cottage Industries Organisation which at present deals in furnishing silk, woollen, fabrics and handicrafts, etc., will be reorganised and expanded so as to function as a subsidiary of the Bihar Small Industries Corporation.

(v) *Dispersal of Industrial Growth (Rs. 25.50 lakhs).*—Wide dispersal of industrial activities is now a recognised first step for balanced economic development of the State. It is also essential for reducing regional disparities and for developing depressed areas within the State. But the entrepreneur is generally different about the return on his investment in undeveloped areas and common experience is that in these areas capital is shy. Therefore, the Industrial Policy Resolution provides that in suitable cases the State may also grant financial assistance to the private sector in the form of participation in equity capital. Working group set up by the Government of India has suggested expansion of this concept to the small-scale industries sector, and on the experience gained in Crissa where State participation in capital formation has yielded encouraging results, a sum of Rs. 25.00 lakhs has been provided in the plan for State participation in capital formation of private enterprises. Assuming that a small unit would require Rs. 1.50 lakhs

from the State as equity capital, it is easy to visualise that by this method it will be possible to set up and foster at least 17 new small industrial units in the hitherto undeveloped pockets of the State.

Government would also help private enterprises in the above cases to raise equity capital by way of guaranteeing loss against margins required by banks for sanctioning loans. Such a provision already exists under the State Aid to Industries Act. A token provision of Rs. 0.50 lakh is included for this in the plan.

(vi) *Other Services (Rs. 66.24 lakhs).*—Small industrial units have generally suffered in the past for want of iron and steel and other scarce raw materials. In order to cater to their requirements for these, establishment of Raw Materials Depots attempted during the Second Plan has been found to be useful. Accordingly, it is proposed to set up fifteen such depots so as to cover every district at an estimated cost of Rs. 3 lakhs each.

Another scheme included in this category relates to subsidy on power. This is justified on the following grounds :—

- (i) A small-scale unit has to pay as much as three times the rate paid by the large-scale undertaking for one unit of power.
- (ii) The small industries have also to pay heavily for bringing power supply lines to their premises as compared to the large-scale units.
- (iii) The small industrialists do not also get continuous supply of power which affects their production adversely.

Appreciating all these difficulties, an outlay of Rs. 10 lakhs has been made in the plan.

Subsidy on rent.—Rent to be charged for built-up space in the industrial estates and for workshop sheds proposed for rural towns will range from the economic rent to just nominal rent, depending upon the consideration whether these are located in developed or undeveloped areas. This will mean subsidisation of rent in several cases for which a small provision of Rs. 4.74 lakhs has been proposed.

Guarantee Fund (Industrial Co-operatives).—A token provision of Rs. 0.50 lakh has been made to guarantee repayment of loans to artisans' co-operatives through the Apex Banks. The provision may be increased later by adjustment within the plan depending on the progress of the scheme.

Managerial Assistance.—Most of the Industrial Co-operatives formed during the Second Plan period have suffered from lack of managerial assistance. Therefore, provision of managerial, secretarial and technical

assistance to industrial co-operatives will have to be tackled on a substantially enlarged basis during the Third Plan.

This assistance may be available to a society for a maximum period of four years only, according to the following scale :—

- First year—Cent per cent.
- Second year—75 per cent.
- Third year—50 per cent.
- Fourth year—25 per cent.

From the fifth year and onward the society will be expected to maintain the above staff out of its own resources.

Working group of the Government of India has calculated that the annual expenditure on this account will be Rs. 3,000 for one society roughly at the rate of Rs. 250 per month. According to this scale, Rs. 6 lakhs has been provided for the grant of managerial assistance to 100 industrial co-operatives during the plan period.

(vii) *Additional staff for the Department of Industries.*—The working group on small-scale industries set up by the Government of India has recommended in its report that “to cover some of the short-falls in State schemes and ensure accelerated development, the State Department of Industries should be considerably strengthened and the existing administrative machinery suitably modified to yield better results”.

In so far as Bihar is concerned, the strengthening of the Directorate would seem to be justified on the following additional grounds :—

- (i) A few technical officers who were available in the Directorate have remained engrossed with the execution of departmental schemes mostly. Developmental aspects of small-scale industries, therefore, did not receive due emphasis.
- (ii) In Bihar, a new class of entrepreneurs has emerged. They are ex-zamindars. With the introduction of land ceiling they will need new avenues of gainful investment. They have, therefore, to be guided from scratch to finish through a well-organised contingent of technical personnel under the State Directorate of Industries.
- (iii) Being gifted with ready natural resources, Bihar has been able to attract a number of big industrial projects. With the recent Techno-Economic Survey of the State, highlighting its industrial potentialities, it is expected that during the coming years a greater number of large and medium projects will be located both in the public as well as in the private sector which can be properly guided only by vigilant staff, constantly searching for new opportunities and seeking co-ordination with other developmental programmes like road construction, power project, water-supply, etc.

(iv) State Government will have invested directly during the First and the Second Plans, a sum of nearly 13 crores on industrial development of the State. Full utility of such heavy investment remains to be harvested yet for which it is necessary to strengthen follow-up measures at all levels. The volume of increased work can be easily imagined from the scale of investment visualised during the Third Plan which, on current estimates, is going to be of the order of Rs. 14,03 lakhs out of which small-scale industries including industrial estates alone will get a share of nearly Rs. 11,03 lakhs.

(v) Experience has shown that personnel required during the period of a particular plan have to be, if full benefits of the plan are to be realised, recruited and trained during the previous plan period. An organisation set up during the Third Plan will, therefore, be particularly useful for the subsequent plan.

Under the circumstances stated above, it is considered imperative to lay greatest emphasis on a well-knit and co-ordinated organisation with suitable technical personnel in the Directorate, without delay. It is, therefore, proposed to provide the following additional staff at various levels :—

(a) *Headquarters.*

- Deputy Director of Industries (Production and Marketing).
- Deputy Director of Industries (Leather).
- Deputy Director of Industries (Planning).
- Deputy Director of Industries (Loans).
- Deputy Director of Industries (Publicity and Exhibition).
- Deputy Director of Industries (Extension).
- Deputy Director of Industries (Training).
- Deputy Director of Industries (Powerlooms).
- Assistant Director of Industries (Training).
- Assistant Director of Industries (Handloom).
- Assistant Director of Industries (Survey)—Two posts.
- Assistant Director of Industries (Leather)—Additional post.
- Assistant Director of Industries (Exhibition and Publicity).
- Assistant Director of Industries (Sericulture)—Additional post.
- Junior Field Officer (Survey)—Four posts.

A provision of Rs. 10 lakhs has been made in the plan for the above staff.

(b) *Divisional level.*—There is already a large contingent of staff in the field which will be further strengthened during the Third Plan. For co-ordination and adequate supervision of work, it will be necessary to provide a Regional Development Officer in each division. He will, however, not be a mere channel of correspondence between State headquarters and the field-organisation. He will be assisted by an Assistant Director of Industries who will be under the overall control of the Deputy Director of Industries (Publicity and Exhibition) at State headquarters. A station wagon will also need to be provided in each division to enable the Range Officer and the staff under him to move within the division and guide, supervise and co-ordinate the work efficiently and for this Rs. 8 lakhs has been provided.

(c) *District level.*—Day-to-day work of the District Industries Officers has already gathered momentum and they are in need of some assistance. It is, therefore, proposed to provide three Assistant Industries Officers in each district, out of whom one will be a generalist and two subject-matter specialists. It will also be necessary to provide a Jeep with trailer to each District Industries Officer. Suitable number of ministerial and grade four staff will also have to be provided. For the proposed additional staff at the district level, a provision of Rs. 20 lakhs has been made in the plan.

(d) *Block level.*—At the block level, there will be one Industrial Extension Supervisor in every Community Development Block instead of one for two blocks as at present. Rs. 45 lakhs is provided for meeting the cost on the extension staff.

SECTION IV.

Khadi and Village Industries.—This group comprises of schemes in respect of industries within the purview of the Khadi and Village Industries Commission. While funds for the development of these industries will come from the Central plan through the Khadi and Village Industries Commission, provision of Rs. 32.50 lakhs in the State Plan includes Rs. 12.50 lakhs being the contribution of the State Government towards establishment expenses of additional staff entertained by the Bihar State Khadi and Village Industries Board, and Rs. 20 lakhs on account of the cost of such of the schemes as are not according to the Commission's approved pattern.

SECTION V.

Handloom.—The schemes for assistance to the handloom industry will be according to the general principles laid down by the All-India Handloom Board. Rs. 200 lakhs—the total outlay under this head—represents expenditure on schemes of marketing, including provision of Rs. 70 lakhs for payment of rebate on sales through State-owned emporia and other agencies. The proposed outlay also includes schemes

in the nature of technical assistance and those of training and research. Some of the important schemes for cotton weaving are :—

- (i) Share capital loans to weavers ;
- (ii) State participation in the share capital of the Bihar State Handloom Weavers' Co-operative Union ;
- (iii) Expansion of two finishing plants ;
- (iv) A fancy yarn-making plant ;
- (v) Expansion of the Co-operative Spinning Mill at Mokamah and establishment of a new Spinning Mill in the Co-operative Sector;
- (vi) Housing colony for weavers.

Those for silk weaving include a Design Centre and reorganisation of Silk Weaving and Dyeing Section in the Nathnagar Silk Institute.

For wool weaving, it is proposed to set up a Woollen Carding and Spinning Plant—a scheme included in the Second Plan but not taken up in the absence of clearance from the All-India Handloom Board. It is further proposed to advance share capital loans of Rs. 1.00 lakh and working capital loan of Rs. 5.00 lakhs to the woollen weavers during the Third Five-Year Plan. Provision has also been made for grant of loans to the tune of Rs. 1.50 lakhs to the woollen weavers during this period.

For the whole plan period, the estimate cost for the scheme under this section is Rs. 2,00.00 lakhs.

SECTION VI.

Sericulture.—Tasar is the main variety of silk produced in Bihar and a large number of Adivasis of Chotanagpur and Santhal Parganas depend on the rearing of tasar worms and sale of cocoons for their livelihood. Schemes proposed for further development of this industry comprise of the following :—

- (i) Establishment of New Tasar Seed Supply Stations and Substation ;
- (ii) Assistance to Tasar Rearers' Co-operative Societies ;
- (iii) Marketing organisation for the purchase of Tasar Cocoons to prevent exploitation of the Tasar Growers by middlemen;
- (iv) Establishment of Training-cum-Production Centres in Tasar-rearing and Spinning.

Besides, being the largest producer of Tasar silk, Bihar also stands second in the production of eri-silk in the country. For assistance to the eri silk rearers, therefore, following measures have been proposed in the plan :—

- (i) Establishment of two new eri seed supply stations.
- (ii) Establishment of 20 eri demonstration centres.
- (iii) Setting up of a marketing organisation for purchase of eri cocoons.

Mulberry rearing is also done in certain parts of Purnea district bordering the district of Malda in West Bengal. Already a mulberry farm has been established at Roshna in the district of Purnea for supply of disease-free layings to rearers free of cost. Improved varieties of mulberry saplings and cuttings are also distributed from this farm, and training given to rearers. In view, however, of the suitability of the climate and soil of the Gangetic plain in Bihar for mulberry cultivation production subsidy is suggested for increasing the production of mulberry silk.

For these new schemes, a provision of Rs. 58.50 lakhs has been made in the Plan. A small provision of Rs. 1.50 lakhs also exists for spill-over schemes.

SECTION VII.

Handicrafts.—This section covers the cottage industries producing goods of artistic value by the use of traditional skills. Among the important handicrafts of Bihar, are brass and bell metal work, fibre products like *sikki* and jute mats, *jari*, lace, lac painted wooden goods, toys and stoneware. The measures proposed for the development of these handicrafts for sale in domestic markets and for export include :—

- (i) Provision of advanced training to practising craftsmen, comprising of cloth institutional training and demonstration of improved processes and techniques ;
- (ii) Establishment of production centres in selected handicrafts for commercial production of quality goods ;
- (iii) Schemes of research and design development, mainly through the expansion of the existing Institute of Industries Designs, located at Patna; and
- (iv) Raw material depots for bulk purchase of raw materials for sale to craftsmen at a reasonable price, etc.

Handicrafts being a hard selling item, emporia, sales depots and shops and stalls at important Railway Stations, Airport and places of tourists' interest are proposed to assist in their marketing. To the same end, provision has also been made for expenditure on publicity, exhibition and schemes of quality marking. In order to enable the private banking institutions to meet credit requirements of artisans, provision has also been made for the establishment of a Credit Insurance Fund for guaranteeing repayment of the loan advanced, on the recommendation of the working group constituted by the Government of India for handicrafts. As handicrafts workers are mostly illiterate and disorganised in order to encourage formation of their co-operatives, managerial and technical assistance, on a sliding scale, for maximum period of four years has also been proposed. Other important schemes to be mentioned are the Folk Art museum at Patna and Commercial museum in each division. Establishment of the rural arts and crafts museum at Patna will greatly assist the traditional artisans not only by making their existing skill widely known but also by making it possible for the designs institute to introduce modifications in the existing patterns, so as to make these more attractive and acceptable to modern taste. The idea behind commercial museum at the divisional level, is, to keep a representative collection of handicraft goods produced in the area even ready for inspection by foreign or outside buyers, as a prelude to purchase orders.

A provision of Rs. 35 lakhs for handicraft schemes has been made in this plan.

CHAPTER IX.

TRANSPORT AND COMMUNICATIONS

1. ROADS.

The progressive development of roads in the State started with the Post-War Road Development Scheme on the basis of recommendations contained in the Nagpur Plan of 1943. This scheme, however, actually started after Independence. From 1951, Five-Year Plans were introduced, the First Plan covering 1951—56 and the Second 1956—61. At the close of the Second Five-Year Plan in March, 1961, the Public Works Department of the State will have 6,830 miles of roads in its charge (against the total mileage of 1,315 in 1947) including 1,730 miles, which will remain *kacha*. The Nagpur Plan, launched in 1943, was a 20-Year Plan. The mileage target laid in the Nagpur Plan was of the pre-Independence era and naturally did not envisage the tempo of development obtaining now. On all-India basis, target of the Nagpur Plan has been achieved. This gives a rather misleading picture. It is more correct of Bihar than, probably, of any other State in this country, in which in spite of the mileage targets, many rivers still remain to be bridged and most of our roads have, even now, practically no hard surface; and even in those that we have, it has not been possible to provide for the minimum metalled width of 12 ft., as prescribed by the Indian Road Congress for a single lane carriageway. In Bihar it has been generally limited to 10 feet and in very few cases our metalled crust is 9 feet wide only. While this is the picture so far as the improved roads of this State are concerned, it does not appear that even the mileage target has been achieved. According to the Nagpur Plan, the main roads (metalled) in the State of Bihar should have been 10,211 miles, while the target likely to be achieved by the end of the Second Five-Year Plan is to the tune of 8,069 miles only including metalled roads of the District Board. This also includes 1,730 miles of State Highways, which are not likely to be metalled by the end of the Second Five-Year Plan. The achievement is thus hardly 62 per cent of the target as per Nagpur Plan. If the mileage of *kacha* roads in the category of State Highways, as stated above, is added to other roads measuring 25,826 miles, the target of 16,381 miles of 'other Roads' could be treated to have been achieved. The heavy shortfall in the mileage of good main roads (metalled) brings forth the most important factor of road development in this State. This also reveals the backwardness of this State, in comparison to the achievement of the targets of metalled roads in other States as also the all-India average of 151 per cent for main roads. This disparity is so glaring that no further argument is needed to convince the need of more good roads in this State. This State contains 43.3 per cent of minerals by weight and 30.6 per cent by value of the

national mineral wealth. Even then, this is one of the poorest and extremely backward States in the matter of industrial development. The large potentialities of this State could hardly be utilised unless an integrated system of roads is developed without further delay.

In the matter of surface roads, the position is really disquieting. Considering the fact that the factors for development of industries are so favourable in this State, this State should have been leading other States in the length of surface roads. But when the position is compared with the average figure of India, we find this State almost at the lowest rung of the ladder. This will be borne out from the following details :—

	Length of surfaced roads.	Road mileage per million population.	Road mileage per thousand sq. miles.
India (1956)	.. 1,01,141	312	104.0
India (1961)	.. 1,44,000	445	148.0
Bihar (1956)	.. 4,756	122	70.7
Bihar (1961)	.. 6,339	163	94.5
Bihar (1966) (on the basis of Plan).	.. 7,800	200	116
P. W. D.	.. 6,500		
L. S.-G.	.. 1,300		

Thus, even at the end of the Third Five-Year Plan, if implemented, as planned the populationwise State average in 1966 will be well below the average 1956 figure for India as a whole.

On completion of the Nagpur Plan Period, another 20-Year Plan is proposed to be launched on the basis of recommendation of the Chief Engineers' Conference. The recommendations are contained in the "Road Development Plan for India (1961—81)". This Plan envisages doubling of the road mileage in the twenty-Year Period spending 12 per cent, 22 per cent, 29 per cent and 37 per cent of the total outlay in each of the Third, Fourth, Fifth and Sixth Five-Year Plans, respectively. The formulae recommended for the National Highways, State Highways, Major District Roads, other District Roads and Classified Village Roads are based on developed and agricultural area, semi-developed area, undeveloped and uncultivable area and number of towns and villages having different population ranges. Calculated on these formulae there should be 1,969 miles of National Highways, 3,805 miles of State Highways, 11,520 miles of Major District Roads, 15,684 miles of other District Roads and 21,662 miles of Classified Village Roads, i.e., in all 54,540 miles of roads in this State by 1981. The total cost of improvement and construction on these roads will be Rs. 366.0 crores. On the

basis of 12 per cent of the 20 years' outlay Rs. 42.0 crores should be spent in the Third Five-Year Plan Period. From this, if we deduct the likely expenditure on National Highways and Central Road Funds Schemes which may be of the order of Rs. 10 crores during the Third Five-Year Plan, we need a sum of Rs. 32 crores exclusively for planning the State Road Development Programme. However, owing to the paucity of fund the proposal stands at a minimum figure of Rs. 19.00 crores. The proposed outlay of Rs. 19.00 crores will enable taking over of 227.4 miles of new roads. This mileage does not include small roads in sugar factory areas, which form scheme of the agriculture sector as they do not conform to the general pattern of highway development and cater almost entirely to the needs of particular interests in limited isolated areas.

Distribution of different categories of roads in Third Five-Year Plan.—

As explained earlier, this State is particularly deficient in the matter of good metalled and surfaced roads and as such greater emphasis has to be laid on larger mileage of metalled roads in the next two Five-Year Plans, to achieve the target already fulfilled by other States and the rest of the country. With this end in view, the distribution among the different categories, suggested in the Second All-India Road Development Plan (1961—81) has been proposed to be modified slightly in the State Third Five-Year Plan. In this Plan, the State highways and major district roads are being grouped as one scheme, other district roads form another and the classified village roads form the third scheme. The carry over from the Second Five-Year Plan is likely to amount to Rs. 8.19 crores. The State Plan is proposed to be executed both by the State P.W.D. and the District Boards within the administrative control of the L.S.-G. Department. The P.W.D. will take up construction of State highways and major district roads entirely and also 221 miles of "Other District Roads". The L.S.-G. Department will administer the construction of 132 miles of the "Other District Roads" and the entire length of the classified village roads, through the various district boards. In working out the cost of improvement the minimum possible specification on the present day price index has been taken into consideration to enable an increase in the length of roads. Even major bridge constructions on these have had to be deferred during this Plan Period, in some case pending due to scarcity of steel.

Abnormally heavy laden weight of motor vehicles for road transport and their everyday swelling frequency had the inevitable impact on the existing roads and bridge structures, most of which have started crumbling, as these were built by District Boards for light traffic. It is absolutely essential to replace as many of them as possible. On the other hand there is a persistent demand on road transport in regions, which had no communication facilities. Unbridged streams, inadequate road-crust and weak minor bridge structure have stilted their growth and the development of the area. Bridging these gaps is, therefore, an important and integral part of a road development scheme. A sum of

Rs. 2.70 crores has been earmarked for such projects both for the P.W.D. and L.S.-G schemes during the Period, although schemes costing Rs. 3.14 crores would be taken over. Under these schemes, the P. W. D. will be entrusted with works costing Rs. 2.90 crores, although the expenditure will be limited to Rs. 2.50 crores, and the L.S.-G. will be entrusted with the works costing Rs. 0.24 crore, with Rs. 0.20 crore as limit on expenditure during the Plan Period. As has been explained earlier, the old roads of the P.W.D. have numerous weak and narrow bridges, in addition to gaps on major rivers. In the Third Five-Year Plan, efforts will be made to strengthen, widen or replace such weak and narrow bridges and to construct some new bridges on gaps within the amount available. On the new roads, included in the Third Five-Year Plan, a large number of gaps, as already indicated, will remain unbridged and some of the existing weak and narrow bridges and culverts will be allowed to continue to serve their full life without much improvement. It is also expected that traffic on these roads will not develop fully during the Third Five-Year Plan Period as the roads will be under construction. As such these bridges and gaps may wait for the Fourth Five-Year Plan, leaving funds for bridges on the old and important roads only during the Third Five-Year Plan Period.

Provision for research and training.—To achieve the maximum mileage of good roads within the available resources, it is necessary to explore ways and means to construct cheaper roads and to exercise rigid quality control. This will require, amongst other things, establishment of roads, research and testing stations and mobile laboratories for research and quality control. Full scale experiments in fields will have to be taken up to test results obtained in the laboratories. These have to be provided for as an integral part of the Plan. Construction of bridges is becoming rather costly mainly as a few firms come forward and thus monopolise constructions, bidding higher rates. The rates of bridge construction have increased from roughly Rs. 1,200 per running foot to Rs. 2,000 per running foot and in some cases, even more. The design and construction techniques have also been changing fast, due to variation in traffic load. It will therefore, be necessary to provide for necessary orientation, study and training to the departmental officers at a much faster rate in order to make the department self-sufficient in modern design and constructional techniques. Provision for this purpose is only Rs. 0.18 crore. This amount may have to be increased on availability of more funds.

Provision of road rollers in the Third Five-Year Plan.—In the Second Five-Year Plan, purchase of 42 road rollers per year had been envisaged. It has been possible to purchase only 18 rollers so far and 24 more are being to be received in 1960-61. It will be necessary to purchase at least 30 rollers per year for P.W.D. during the Third Five-Year Plan besides other appliances. A sum of Rs. 1.33 crores has, therefore, been provided for purchase of tools and plants, which, however, is very inadequate for the requirements,

Construction of Inspection Bungalows and residences for the officers engaged in the development works is very important. Now the roads in interior and amidst forests, etc., are being constructed where difficulties in accommodation present obstacles to speedy achievement of targets. A sum of Rs. 0.435 crore has been provided for this purpose during the Plan.

Personnel.—In the year 1966, P.W.D. will have in its fold, 8,800 miles of roads, on which a sum of Rs. 2.50 crores will be required for maintenance. During that year, when expenditure of Rs. 5.0 crores on other works and Rs. 1.5 crores on maintenance of buildings may be incurred, the total work-load will need at least 15 Superintending Engineers, 60 Executive Engineers, 180 Assistant Engineers and 700 Overseers including the existing ones, i.e., 9 Superintending Engineers, 35 Executive Engineers, 105 Assistant Engineers and 315 Overseers.

2. ROAD TRANSPORT.

The management of nationalised passenger transport services was not included in the First Five-Year Plan but only in the Second Five-Year Plan. At the beginning of the Second Five-Year Plan, the State Government, in the Rajya Transport Department, was running transport services in Patna and Gaya districts, on several routes radiating from these two districts, in Jamshedpur town, on the Jamshedpur-Chaibassa route, in Seraikella and Kharsawan Subdivisions, and in portions of Monghyr and Bhagalpur districts, south of the Ganga. Services in Monghyr and Bhagalpur districts were started from the 26th January 1956, but later on account of the injunction issued by the High Court, monopoly operation was not possible and till June, 1960, services in these areas were operated, in almost all cases, in competition with those provided by the private operators. At first the Rajya Transport Department prepared a scheme involving a total capital outlay of Rs. 236 lakhs during the Second Five-Year Plan Period but unfortunately there was no significant capital expenditure during the years 1956-57, 1957-58 and 1958-59 since the Planning Commission had presumably insisted that Road Transport Services should not be run departmentally and that a Corporation should be set up for the purpose, and as it took time to finalise the details regarding constitution of the Corporation and the framing of the rules under the Road Transport Corporation Act, 1950, until April, 1959. The Bihar State Road Transport Corporation was set up on the 1st May 1959, and the Central Government in the Ministry of Railways have agreed to contribute one-fourth of the capital of the Corporation, including their share on the basis of the capital invested by the State Government till the formation of the Corporation, when the Transport Services were being managed by the Rajya Transport Department. The Ministry of Railways have, however, indicated that the capital contribution to be made available by them would be given to the Corporation in suitable instalments for financing the expansion schemes.

Immediately after the formation of the Corporation, a modest scheme of expansion was drawn up with a view to taking over routes in Patna, Gaya, Bhagalpur and Santhal Parganas districts on the expiry of the permits of the private operators. For the expansion programme during the year 1959-60, the Corporation was given token contribution of Rs. 5 lakhs from the State Government and an amount of Rs. 30 lakhs from the Central Government. It was originally intended to take up 41 new Schedules and purchase an equal number of vehicles, but actually the total number of vehicles purchased as part of the expansion programme, during 1959-60, was 78. Eighteen vehicles originally meant for replacement of condemned vehicles were actually used on new routes in addition to the 41 routes, whose operation had been provided for in the Budget. Moreover, 19 additional vehicles were also purchased for operation in 1960-61; since the relevant routes had to be taken up in April, 1960, advance purchase of vehicles was essential, in order to have fleet ready on hand to operate the vehicles immediately on the expiry of the permits of private operators, in April, 1960. Of course, besides 78 vehicles purchased as part of expansion programme, 29 vehicles were also purchased for replacement and the funds for this purchase were obtained by withdrawing the investments out of the Depreciation Reserve Fund, created by the Rajya Transport Department, which naturally was taken over by the Bihar State Road Transport Corporation.

While the Vehicles Purchase Programme was thus put through and the Corporation was able to obtain on its fleet a larger number of vehicles than had been provided for in the targets, yet the capital expenditure during 1959-60 was Rs. 30.74 lakhs only as against the total contribution of Rs. 35 lakhs received from the Central Government and the State Government. Expenditure could not be fully incurred by the 31st March, 1960, in respect of every purchase since some of the vehicles were actually received at the fagend of the year and the bills could be paid only during 1960-61.

The accounts of the Rajya Transport Department as on the 30th April, 1959, have not yet been audited by the Accountant-General, Bihar. The Valuation Committee set up by the State Government to consider the value at which the assets belonging to the State Government are to be transferred to the Corporation has submitted its report which is under consideration of the Corporation. According to the report the capital of the State Government as on 30th April 1959, out of transfer of assets and liabilities of Rajya Transport to the Corporation, had been determined at Rs. 2,22,59,400. Rs. 4,88,000 and Rs. 28,00,000 were received from State Government during 1959-60 and 1960-61 against token contribution of Rs. 5 lakhs and 17 lakhs respectively. Thus by the end of the Second Five-Year Plan the total capital contribution of the State Government comes to Rs. 2,55,47,400. As against this amount Rs. 30,00,000 and Rs. 49,78,000 have been received from the Ministry of Railways respectively during 1959-60 and 1960-61. At the end of the Second Five-Year Plan, therefore, the total capital contribution of the Ministry of Railways is Rs. 79,78,000. The total capital of the Corporation would thus be Rs. 3,55,25,400 as on 31st March 1961.

Apart from the purchase of vehicles, which was arranged during 1959-60 during the current financial year, as part of the expansion programme, 100 vehicles are being purchased. The total fleet of the Corporation, at the end of the Second Five-Year Plan Period, would be about 630 vehicles. The number of Schedules that would be operated by the Corporation at the end of the Second Five-Year Plan Period will be 472 and since the sanctioned Traffic and Engineering Reserves amount to 33 1/3 per cent of the Schedules, the total fleet on the 31st March, 1961, will be exactly equal to the requirements of the Corporation on the basis of the number of Schedules.

The policy of the Rajya Transport Department was to take over routes as and when the permits of the private operators expired and the same policy is being continued by the Corporation as well. During 1959-60, the Corporation took over certain routes in Patna and Gaya Districts, and also in Bhagalpur and Santhal Parganas districts. During 1960-61, the Corporation has extended its operations to Hazaribagh and Ranchi districts and also to Chaibassa and Daltonganj. It is, of course, necessary to point out here that all the routes in these districts have not been taken up and the routes on which the Corporation operates its services have been chosen with a view to providing adequate co-ordination among the various services operated by the Divisions of the Corporation.

In the Third Five-Year Plan, the object is to cover the remaining routes in the districts of Chota Nagpur Division, in Bhagalpur and Santhal Parganas, and also to step into North Bihar in 1964-65. It is proposed to take up only those routes in North Bihar which touch Samastipur, Muzaffarpur and Sitamarhi. The services of the Corporation already touch Barauni at present, after the opening of the Mokameh Bridge and the possibility of extension of services towards Begusarai has also been kept in view. The statement below shows the districts in which routes would be taken up in each year of the Third Five-Year Plan Period, the number of vehicles that would be required for the expansion programme and the capital outlay on the purchase of scheduled vehicles: -

Year.	Area to be covered.	No. of vehicles.	Capital outlay on the purchase of scheduled vehicles.
			(Rupees in lakhs.)
1961-62	Ranchi, Palamau, Hazaribagh, Bhagalpur and Santhal Parganas.	123	57.81
1962-63	Bhagalpur, Santhal Parganas, Ranchi, Palamau and Shahabad.	100	47.00
1963-64	Dhanabad, Santhal Parganas, Shahabad, Ranchi, Hazaribagh, Palamau and Singhbhum.	188	88.36
1964-65	Dhanabad, Santhal Parganas, Bhagalpur, Palamau, Muzaffarpur and Darbhanga.	52	24.14
1965-66	Muzaffarpur and Darbhanga ..	15	7.05
	TOTAL FOR 1961-66 ..	478	2,24.66

Even the expansion programme detailed above forces the Corporation to leave out a few routes of minor importance in South Bihar and Chota Nagpur and a large number of routes in North Bihar. This has become inevitable since provision has been made for the taking over of routes only on the expiry of the permits of private operators. Moreover, the necessity to curtail the outlay proposed previously has further forced the Corporation to leave out of consideration a very large number of routes in North Bihar, although the relevant permits are expiring in the years 1964-65 and 1965-66.

In addition to the capital outlay on the purchase of vehicles for the scheduled services, the Corporation has also provided for the purchase of departmental vehicles, viz., staff cars, breakdown vehicles and motor cycles for checking staff. The distribution of expenditure over the purchase of departmental vehicles in the various years during the Third Five-Year Plan Period will be as follows:—

						(Rupees in lakhs.)
1961-62	..	..	..	..	..	0.56
1962-63	..	..	..	..	..	0.41
1963-64	..	..	..	..	..	0.83
1964-65	..	..	..	..	..	0.51
1965-66	..	..	..	..	..	0.42
TOTAL						2.73

The Corporation is unfortunately not very well equipped with workshops for the maintenance and repair of the vehicles on its fleet and during the Third Five-Year Plan Period, it is essential not merely to construct such workshop at places which are touched at present by the scheduled services but also at the new places which will acquire importance on the operation of the expansion programme detailed above. In fact, with the stepping into the North Bihar it will be essential to have a separate Regional Workshop in addition to the Central Workshop of the Corporation at Phulwarisharif, Patna. But since the programme of expansion in North Bihar has now been reduced sizeably, no provision for such a Regional Workshop has been made and the scheme will have to be taken up only in the Fourth Plan Period. In order to manage the services, it will be essential to set up separate Divisions at Ranchi, Dhanbad and Dumka and at each of these places, Divisional Offices and Workshops will have to be set up, apart from the construction of such buildings at the Divisional Headquarters operating at present, where necessary, facilities do not exist. There will be Depots and Stations at a large number of places and each of these Depots or Stations will also have an office and a workshop for the maintenance of scheduled services attached to it and also for the carrying out of minor running repairs. It will thus be seen that the expenditure on lands and buildings

to put through the scheme envisaged for the Third Five-Year Plan Period will be heavy and yet only a modest expenditure of Rs. 48.43 lakhs has been provided in the Plan taking into account the type of construction required and the expenditure necessary, specially on the basis of estimates for type plans available with us. The total outlay does not, however, include the expenditure on the construction of passengers' sheds, etc., and any amount necessary towards such construction will be obtained from the provision made for miscellaneous expenditure. The distribution of expenditure on lands and buildings in the various years of the Plan Period will be as follows:—

						(Rupees in lakhs.)
1961-62	..	..	..	..	..	29.09
1962-63	..	..	..	..	..	9.89
1963-64	..	..	..	..	..	8.15
1964-65	..	..	..	..	..	1.30
1965-66	..	..	..	..	..	Nil.
TOTAL						48.43

The expenditure in the first year of the Third Plan Period is very heavy on account of the provision for the purchase of lands for the schemes that would be taken up in the next year as well, and also because of almost all the construction items relating to the provision of buildings at places which are already touched by us. It is hence essential that offices and workshops are constructed in the initial years during the Third Plan Period.

Each of the workshops will have to be equipped with necessary tools, plants and machinery, and adequate furniture and office equipments will have to be provided for the various units. The total expenditure under the head "Tools, Plants and Machinery", is estimated at Rs. 18.50 lakhs for the Plan Period and Rs. 3.25 lakhs and Rs. 7.85 lakhs, respectively under the heads "Furniture" and "Miscellaneous". As stated already, apart from the provision for items not specifically mentioned above, the expenditure that will be incurred on the construction of passengers' sheds, etc., has also been grouped together under the head Miscellaneous. The distribution of these items of expenditure over the various years of the Plan Period is shown below:—

					(Rupees in lakhs.)
Year.				Furniture.	Miscellaneous.
	Tools, Plants and Machinery.				
1	2			3	4
1961-62	3.50	0.60	1.25
1962-63	3.50	0.50	2.25
1963-64	4.50	0.80	2.25
1964-65	3.50	0.60	1.05
1965-66	3.50	0.75	1.15
TOTAL		..	18.50	3.25	7.85

The total capital expenditure during each year of the Third Five-Year Plan and the phasing of the expenditure are shown in the statement below :—

Year.		Total Capital Expenditure.	Percentage to total Plan Expenditure.
1		2	3
		(Rs. in lakhs.)	Per cent.
1961-62	.. .. .	92.81	30.3
1962-63	.. .. .	63.55	20.8
1963-64	.. .. .	104.89	34.4
1964-65	.. .. .	31.40	10.3
1965-66	.. .. .	12.77	4.2
TOTAL		305.42	100.0

It will be noticed that the phasing of expenditure in the various years is not precisely the same as that suggested in the Conference of State Planning Secretaries held on the 21st March, 1960. Presumably, the phasing suggested had taken into account the possibility of a rising tempo of expenditure in the later years of the Plan. In the case of the Corporation, since services are being replaced as and when the permits of private operators expire, the quantum of expenditure, specially on vehicles and buildings relating to the expansion programme, is precisely determined by the number of permits to be replaced and there is, therefore, no possibility of any rising tempo of development in the later years of the Plan.

The necessity to replace services as and when permits of private operators expire, does not unfortunately allow the Corporation to adopt any other phasing and the only method of curtailment available to it was to drop out operation in sizeable areas in North Bihar during the last two years of the Plan.

On the basis of the scheduled scheme of expansion, the estimated daily mileage and the total mileage during each year, on account of the expansion schemes, are given in the statement below, taking into account, as far as possible, the number of days for which a particular schedule will be operated during the year :—

Year.	Daily scheduled mileage of routes to be taken in the year.	Total mileage of routes to be taken in the year.	Total mileage of routes covered by the Five-Year Plan.
1	2	3	4
1961-62	10,036	18,32,000	18,32,000
1962-63	7,886	14,35,000	50,99,000
1963-64	16,833	30,64,000	95,98,000
1964-65	3,370	6,06,000	1,32,68,000
1965-66	1,020	1,84,000	1,40,58,000

At the end of the Second Five-Year Plan Period, the number of schedules is expected to be 472 and during each year of the Third Five-Year Plan Period, the total mileage on account of the continuing schemes is expected to be 1,70,00,000. Thus the total mileage in each year of the Third Five-Year Plan Period is expected to be as follows:—

						Rs.
1961-62	..	..	..	..	..	1,88,32,000
1962-63	..	..	..	..	..	2,20,99,000
1963-64	..	..	..	..	..	2,65,98,000
1964-65	..	..	..	..	..	3,02,68,000
1965-66	..	..	..	..	..	3,10,58,000

During the year 1959-60, the Corporation was just able to equalise its income and expenditure, both of which per effective mile stood at Rs. 1.19. During the year 1960-61 as well, the Corporation does not apprehend that any loss will occur and since there will be heavy additional expenditure mainly on account of the levy of Excise Duties on motor vehicles, batteries and other electrical equipments, and aluminium materials, and also on account of additional cost of living allowance paid to staff, while there may be no profits, the Corporation would be able to equalise again its income and expenditure. It is, however, hoped that expansion of operations will enable the Corporation to bring down the expenditure per mile. At the same time, many of the routes that are to be taken over, are short distance routes and the income of Corporation per bus mile may not be as high as that earned during 1959-60. The problem has been studied in some detail and it is felt that the best estimate of income per bus mile during the Third Five-Year Plan Period will be Rs. 1.16. An additional reason for putting the figure lower than the income earned in 1959-60 is that figures of mileage have all been calculated on the basis of scheduled trips to be run and no provision has been made for curtailments and breakdowns which are often unavoidable. At present such curtailments decrease the total income of the Corporation sizeably and in any case an estimate of Rs. 1.16 per bus mile of schedule mileage is expected to give a correct picture regarding the earnings possibilities of the Corporation. On the other hand, on account of the larger scale of operations, it is felt that the expenditure per bus mile can be brought down to Rs. 1.13 thus leaving a net surplus of 3 nP. per bus mile. It has, of course, to be emphasised that the amounts of interest payable to the State Government and also to the Ministry of Railways on the Capitals contributed by them are included in the estimate of expenditure per bus mile. If the net surplus is estimated at 3 nP. per mile, the actual amount of surplus that will be earned by the Corporation in each of the years of the Third-Five-Year Plan will be as follows:—

						(Rupees in lakhs.)
1961-62	..	..	..	..	..	5.68
1962-63	..	..	..	..	..	6.66
1963-64	..	..	..	..	..	8.01
1964-65	..	..	..	..	..	9.03
1965-66	..	..	..	..	..	9.32
					TOTAL	38.75

The Corporation propose to utilise the entire surplus of Rs. 38.75 lakhs towards expenditure on expansion schemes. A Development Fund would be set up for the purpose, specially since the recent amendment to section 30 of the Road Transport Corporations Act, 1950, enables the utilisation of surplus funds for financing the expansion programmes with the previous approval of the State and Central Governments. Since the total capital requirement during the Third Five-Year Plan amounts to Rs. 305.42 lakhs, after utilisation of the surplus fund of the Corporation amounting to Rs. 38.75 lakhs, the additional capital expenditure that has to be made available to the Corporation amounts to Rs. 266.67 lakhs. This amount will be in the nature of capital contributions from the State Government and the Ministry of Railways in the ratio of 3:1 which has already been agreed upon. Accordingly, the distribution of the capital contribution between the State and the Central Governments will be as follows:—

		(Rupees in lakhs.)
(i) State Government	.. .. .	200.00
(ii) Central Government (Ministry of Railways)	..	66.67
TOTAL		2,66.67

These capital contributions will bear interest at rates prescribed and the Corporation is at present paying interest at $4\frac{1}{4}$ per cent to the State Government and at $4\frac{1}{2}$ per cent to the Ministry of Railways. Such interest payments will be a prior charge on the expenditure of the Corporation before computing any surplus. Thus, it will be seen that unlike items of expenditure incurred by the State Government over many other schemes, they are immediately assured of a return by way of interest payment, on the entire capital contribution made by them to the Corporation.

During 1959-60 on account of the additional capital made available, some new vehicles were put on the road and attempts are equally being made to place as many new vehicles on the road as possible during 1960-61. Improvement in the quality of services is possible only if new vehicles are thus operated and adequate co-ordination is arranged by taking over all new routes adjacent to areas which have been covered already by the services of the Corporation. The Corporation has been able to put a stop to the losses that were continuously suffered by the Rajya Transport Department of the State Government and it is felt that only by planned expansion of operations and proper utilisation of additional capital, the Corporation will be able to turn the corner and earn profits, even after payment of interest to the State and Central Governments. Since the scheme of expansion has been based entirely on the policy of replacement of the permits of private operators, as and when they expire, the programme of expansion, it is submitted, does not permit any modification. If capital contributions as proposed are not made available, routes of private operators cannot be taken up and the Transport Authorities will effect renewal for three to five years as

permitted by the Motor Vehicles Act. It is impossible to take over these routes after renewal since failure to take over the routes on the expiry of the present permits will entail the payment of heavy compensation. Moreover, unless the scheme of expansion stands as proposed, it will also not be possible for the Corporation to earn as great a surplus as has been provided for. Nationalisation of passenger transport in Bihar actually began in 1953 and even this scheme of expansion does not complete the nationalisation by the 31st March 1966; perhaps, even from this point of view, taking into account the obvious disadvantages of an unduly prolonged period of nationalisation, it appears necessary to include in the plan at least as large a scheme as that proposed.

16. No specific provision has been made towards expenditure on training programmes in the proposals mentioned above. Many of the concerns manufacturing automobile chassis or engines have schemes to train up employees deputed by the fleet operators and specially the State transport undertakings and these facilities are fully utilised.

3. INLAND WATER TRANSPORT.

A sum of Rs. 30.00 lakhs has been provided in the State Plan as the State Government's share of the expenditure proposed to be incurred by the Damodar Valley Corporation on inland water transport schemes.

4. TOURISM.

During the First Five-Year Plan, no scheme under Tourism was taken up in Bihar.

It was during the 2500th anniversary of the Mahaparinirvan of Lord Buddha in the financial year 1956-57 that the Government of India decided to open Tourist Centres at Gaya including Bodh Gaya, Rajgir and Nalanda, the places of Buddhist interest in the State. But during the year 1957-58, the Government of India declined to subsidise the Tourist Centres located at Rajgir and Nalanda and instead of this they agreed to subsidise a Tourist Centre at Ranchi which had by that time attracted tourist interest in the locality. However, these Centres were allowed to continue during the year 1958-59. During the year 1959-60, they decided to subsidise the Tourist Centre at Rajgir besides the continuance of the above noted centres.

The Government of India contribute 50 per cent of the actual cost or a maximum of Rs. 5,000 towards the cost of establishment of these Tourist Centres.

During the Third Five-Year Plan, the Ministry of Transport and Communications in the Department of Tourism have, however, included the scheme relating to Patna Reception Centre at an estimated cost of

Rs. 4 lakhs in Part I schemes and the entire expenditure will be met by them over the execution of this scheme. They have further agreed for inclusion of (a) Tourist Shala at Rajgir and (b) Tourist Shala at Vaishali at an estimated cost of Rs. 1 lakh and 0.50 lakh respectively in Part II schemes, 50 per cent cost of which will be borne by the Government of India.

The details of these schemes are as follows:—

Tourist Reception Centre at Patna.—Patna being the capital of the State, foreign tourists as well as tourists of other States visit the place while going to Rajgir, Nalanda, Gaya and Kathmandu and as such the necessity of having a Tourist Centre is acutely felt. Besides, Patna is also important being the site of ancient Patliputra the relics of which have been excavated. It is also the birth-place of Guru Govind Singh and a place of pilgrimage for the Sikhs.

Tourist Shala at Rajgir.—Rajgir is important for its hot springs and scenic beauties. Being a pilgrimage for Buddhists and Jains, people from Far Eastern Countries visit the place in large number during the winter season. Due to recent development of the town, it has also become a health resort. There are only a few places where the tourists can be accommodated. Hence it is considered necessary to have a Tourist Shala at this place.

Tourist Shala at Vaishali.—Vaishali is the seat of ancient Lichchvis and also the birth-place of Lord Mahabira, the 24th Tirthankar of Jains. Recently tourist traffic has increased and hence a Tourist Shala to provide adequate accommodation is felt necessary.

As regards Part III schemes, the State Government have to meet the entire expenditure over the execution of these schemes for which a sum of Rs. 10 lakhs including 0.75 lakh as State share for Part II schemes have been provided, the details of which are given below:—

Construction of Rest House at Game Sanctuary at Hazaribagh.—To facilitate the tourists interested in Wild Life, Hazaribagh Game Sanctuary is probably the best site and the foreign tourists have a keen interest in such game. It is, therefore, felt that some sort of accommodation facilities should be made available.

Tourist Bureaus at Vaishali, Netarhat, Dhanbad and Jamshedpur.—To promote Tourism in the State and to provide the tourists with information the State Government have decided to set up Tourist Bureaus at Vaishali, Netarhat, Dhanbad and Jamshedpur.

Construction of Rest House at Netarhat.—Netarhat is famous for its scenic beauty and has got a mild temperature. The place is now coming up into more prominence from the foreign tourist point of

view because of the concentration of a large number of foreigners at Ranchi in connection with Hatia Project, etc. These foreigners frequently visit the place as a Hill Station and it is necessary that the State Government should provide suitable facilities for such tourists.

Construction of Rest House at Bhainsalotan.—Bhainsalotan, in the north-west of the State on the Indo-Nepal border is the head-works of the existing Tribeni canal in Champaran district. It is on the bank of the river Gandak amidst thick jungle and has got natural beauties. Besides, it is becoming important for being the site for the Gandak Barrage. It attracts a large number of tourists every year and hence some kind of accommodation is needed.

Development of Kharagpur Lake.—This lake is famous for its scenic beauty and boating. Tourists often enjoy the trips to this lake. This needs development to increase the tourist traffic.

Construction of Tourist Shed at Deoghar.—Deoghar, popularly known as Baidyanath Dham, is the pivot of attraction to the home tourists in general. Lakhs of pilgrims visit the place every year and hence need for having a shed is keenly felt.

Construction of Rest House at Topchanchi.—Topchanchi is famous for its natural beauty amidst which there exists a fine lake to attract the tourists for an excursion.

Construction of Cottages at Hundru and Surajkund.—These places are important for their natural beauty. There are springs and falls to attract the tourists and as such some sort of accommodation is felt necessary to shelter the visitors.

Construction of Tourist Shala at Pawapuri.—Pawapuri is a place of Jain pilgrimage and attracts the jains from all over the country. A beautiful temple of Lord Mahabir stands at the centre of a pond which is also an attraction of the tourists visiting Rajgir and Nalanda. To provide adequate accommodation, it is proposed to construct a Tourist Shala there.

Tourist Publicity.—Provision has been made [for publicity of the places of tourist interest in the State, and to attract tourist traffic by publishing booklets, hand-outs, Guide Books, posters and other literature for circulation among the tourists.

CHAPTER X.

SOCIAL SERVICES

1. GENERAL EDUCATION

Bihar stands next to Uttar Pradesh both in respect of the size of its population and the extent of its backwardness in education. In a study of the regional disparities in availability of educational facilities, made by the Education Division of the Planning Commission in 1959, the State has been ranked twelfth among the then 14 Part A States in the country, while significantly, its ability to support education has been assigned the thirteenth place. It has been found that the economic backwardness of the State has a direct relation with its educational backwardness, and unless sustained efforts are made right from now, the State will remain educationally backward even at the end of the Third Five-Year Plan.

2. Bihar has about one-ninth of the population of the whole country. Its revenue receipts, however, are the lowest. The receipts were Rs. 1,55,000 against the all India average of Rs. 2,19,000 per 10,000 of population during 1958-59. Due to its low income there has not been appreciable rise in the percentage of expenditure on educational programmes in the State budget. The following table gives an account of the expenditure on Education vis-a-vis the total expenditure out of the State budget after the attainment of independence:—

(Rupees in Crores.)

Year.	Total expendi- ture.	Expenditure on education.	Percentage of 3 to 2.
1	2	3	4
1946-47	13.88	1.06	7.6
1950-51	32.09	3.19	9.9
1955-56	79.67	7.74	9.7
1960-61 (Estimates)	1,46.61	15.98	10.9

3. The post-war educational development programmes, which were already in operation, were carried over to the First Plan with some minor modifications. The scope of the First Plan being somewhat limited, the State had to undertake many development programmes outside the purview of the plan. This is obvious from the fact that the size of the non-plan budget of education which was of the order of Rs. 2,46.60 lakhs in 1951-52 went up to Rs. 5,75.06 lakhs in 1955-56. As against the revised plan outlay of Rs. 4,83.96 lakhs for the development of general education, a sum of Rs. 6,46.27 lakhs was spent. Besides these, a sum of Rs. 2,08.31 lakhs was spent on Centrally-sponsored schemes.

4. During the Second Plan period an outlay of Rs. 20,50.40 lakhs was visualized for the development of General Education, against which a sum of Rs. 16,96.95 lakhs only has been utilised. In addition, a sum of Rs. 1,00 lakhs has also been spent on Centrally-sponsored schemes. The shortfall in the State plan was mainly due to imposition of

a severe cut in the plan outlay during 1957-58 for finding funds for meeting the famine requirements in the State and allocation of reduced outlay in subsequent years as a consequence of the relatively low expenditure during that year. The phasing of expenditure groupwise during the Second Plan is given below:—

(Rupees in Lakhs.)

Sub-head.	Outlay.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.	Total.
1	2	3	4	5	6	7	8
1. Elementary Education.	10,38.34	77.48	1,24.22	1,48.11	2,66.32	3,59.36	9,75.49
2. Secondary Education.	4,95.09	44.42	39.02	66.32	75.75	1,08.40	3,33.91
3. University Education.	1,76.67	46.05	30.19	17.82	57.39	64.14	2,15.59
4. Other Schemes.	3,19.82	12.51	19.76	34.82	33.81	55.51	1,56.41
TOTAL—EDUCATION	20,29.92	1,80.46	2,13.19	2,67.07	4,33.27	5,87.41	16,81.40
5. Scientific and Cultural Education.	20.48	..	..	2.23	6.73	6.59	15.55
TOTAL—STATE PLAN.	20,50.40	1,80.46	2,13.19	2,69.30	4,40.00	5,94.00	16,96.95
6. Centrally-sponsored scheme (Central share).	..	..	3.72	7.36	68.25	2,46.19	3,25.52
TOTAL ..	20,50.40	1,80.46	2,16.91	2,76.66	5,08.25	8,40.19	20,22.47

5. The outlay approved for the Third Five-Year Plan is as follows:—

(Rupees in Lakhs.)

Sub-head.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6	7
(i) Elementary Education.	1,95.80	2,97.34	3,91.11	4,83.39	5,75.36	19,43.00
(ii) Secondary Education.	99.80	1,24.16	1,44.05	1,65.13	1,80.86	7,14.00
(iii) University and Research.	93.25	1,03.28	1,09.24	1,13.41	1,17.82	5,37.00
(iv) Social Education..	5.55	8.17	9.77	10.73	11.60	45.82
(v) Youth Welfare Activities.	11.74	13.31	18.33	22.68	28.28	94.34
(vi) Miscellaneous Schemes.	2.16	4.88	5.02	5.89	6.45	24.40
TOTAL—GENERAL EDUCATION.	4,08.30	5,51.14	6,77.52	8,01.23	9,20.37	33,58.56
(vii) Scientific and Cultural Education.	9.70	12.10	10.32	6.47	5.85	44.44
GRAND TOTAL ..	4,18.00	5,63.24	6,87.84	8,07.70	9,26.22	34,03.00

ELEMENTARY AND BASIC EDUCATION.

Enrolment in age-group 6—11.

The population of Bihar (after reorganisation of States), which was 3,88 lakhs in 1951, has risen to 4,65 lakhs in 1961 and is likely to rise to 5,12 lakhs in 1966. The estimated number of children in the age-group 6—11 in this State has been reckoned about 59.9 lakhs in 1961 and 71.4 lakhs in 1966 as against the corresponding all-India figures of 5,62 lakhs and 6,45 lakhs respectively.

The following tables will give a picture of the progress of primary education in Bihar after the attainment of Independence :—

			1946-47.	1950-51.	1955-56.	1960-61. (Estimated).		
			1	2	3	4	5	
(i) Number of Primary Schools—								
Boys	..	..	18,296	21,574	26,818	34,000	
Girls	..	..	1,964	2,125	2,721	4,000	
TOTAL			20,260	23,699	29,549	38,000		
(ii) Total enrolment in Primary Classes—								
Boys	..	..	8,95,032	12,51,453	15,36,100	24,00,000	
Girls	..	..	1,49,565	2,13,133	3,24,660	8,00,000	
TOTAL			10,44,597	14,64,586	18,60,760	32,00,000		
			1950-51.		1955-56.		1960-61.	
(iii) Percentage of children of age-group 6—11 in schools—			India.	Bihar.	India.	Bihar.	India.	Bihar.
Boys	59	47.7	69	58.9	80.5	79.8
Girls	25	8.1	33	12.5	40.4	26.8
TOTAL			42	27.9	51	35.7	61.1	53.4

Of 18,60,760 pupils enrolled in primary schools and primary sections of middle and high schools of the State at the close of the First Five-Year Plan, 69,605 pupils were from areas transferred to West Bengal. The State was thus left with 17,91,155 pupils in primary classes at the beginning of the Second Five-Year Plan. As against an increase of 3,96,174 pupils over the Pre-First Five-Year Plan enrolment figure during the First Five-Year Plan, an estimated increase of 14 lakh pupils is expected at the close of the Second Five-Year Plan.

In order to indicate the rate of increase in the enrolment during the Second Five-Year Plan, the following table is given :—

	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61 (Target).
	1	2	3	4	5	6
Boys	15,36,100	15,74,407	16,09,305	19,96,072	22,57,001	24,00,000
Girls	3,24,660	3,55,348	3,82,007	5,76,384	6,79,971	8,00,000
TOTAL ..	18,60,760	19,29,755	19,91,312	25,72,456	29,36,972	32,00,000

It will be seen from the above figures that there has been remarkable increase in the enrolment during the year 1958-59 and 1959-60. The two main factors which have contributed to this unprecedented increase were—

- (i) shifting of the academic session from July—June to January—December, and
- (ii) organisation of special enrolment drive in January, 1959 and 1960.

There were 30,417 primary schools in Bihar in 1957-58. According to the Educational Survey conducted by the State Government in collaboration with Government of India during that year the total number of primary schools required to cater to the minimum needs of the State was nearly 42,500. But taking into account likely omissions of places in the survey and the further probable needs, the Government feel that as many as 45,000 schools will have to be established by the end of the Third Five-Year Plan. A target of 45,000 schools has therefore, been set. It is estimated that by the end of the Second Five-Year Plan period, about 38,000 schools have been opened. The first charge on the Third Five-Year Plan will, therefore, be the opening of the remaining 7,000 primary schools as early as possible.

While fixing the target of enrolment at the end of the Third Five-Year Plan, the following two important factors were taken into consideration :—

- (i) Constitutional directive of providing universal, free and compulsory primary education ; and
- (ii) the high percentage of wastage and stagnation in enrolment, which is about 58 per cent between classes I to V.

In view of the growing consciousness in people towards education, relaxation in the habits of observance of *Purdah* in women, gradual removal of disparity in social status and behaviour of the people, provision of better communication facilities, etc., a target of 50 lakhs (30.00 lakhs boys and 20.00 lakhs girls) in enrolment to primary classes by 1965-66 which will mean 84.3 per cent for boys and 56.1 per cent for girls, would have been quite reasonable and feasible. But considering the financial limitations a more realistic target of 48 lakhs (30 lakhs boys and 18 lakhs girls) has been fixed. This target will, of course, include about 20 per cent over-age and under-age children. Thus as against cent-per-cent primary education for the age-group 6—11, considered desirable as a positive step towards fulfilment of the constitutional objective it will be possible to provide for education to 67.2 per cent children, i.e., 83.7 per cent of the boys and 50.6 per cent of the girls of the age-group 6—11. The net increase in the percentage of school-going children of this age-group in Bihar during the Third Five-Year Plan period will be 13.8 per cent against the all-India target of 14.7 per cent set out in the National Plan.

In order to achieve the target of 16 lakhs additional children (6 lakhs boys and 10 lakhs girls), a minimum of 40,000 teachers will be required. The amount required for establishing these 40,000 teacher units at the rate of 8,000 teacher units per year, will be Rs. 10,00.00 lakhs, comprising Rs. 9,00.00 lakhs recurring on account of salary, allowances and contingencies and Rs. 1,00.00 lakhs for teaching equipments.

The following measures are proposed to be taken to achieve the above target during the Third Five-Year Plan :—

- (i) All the remaining primary schools will have to be set up by the first year of the Third Five-Year Plan.
- (ii) The percentage of wastage in enrolment from class I to class V will have to be reduced from existing 58 per cent to at least 45 per cent by 1965-66.
- (iii) The disparity in the enrolment of boys and girls will have to be reduced from 3:1 to 3:2 by providing special facilities for girls' education by way of attendance prizes, stipends, incentives like stationery, books, rent-free quarters for lady teachers, etc.
- (iv) The single-teacher schools will have to be placed incharge of trained, experienced and the best qualified teachers.
- (v) Steps to orient the primary schools towards basic pattern will have to be undertaken.

Enrolment in age-group 11—14.

14. The following table will give at a glance a picture of the progress of education in the age-group 11—14:—

		1946-47.	1950-51.	1955-56.	1960-61 (Estimated).		
	1	2	3	4	5		
(i) Total enrolment in classes VI-VIII—							
Boys	1,39,368	2,11,764	2,71,881	4,90,000		
Girls	6,021	11,338	19,218	60,000		
TOTAL	1,45,389	2,23,107	2,91,099	5,50,000		
		1950-51.		1955-56.		1960-61.	
		India.	Bihar.	India.	Bihar.	India.	Bihar.
(ii) Percentage of children of age-group 11-14—							
Boys	22	14.7	30	21.3	34.3	34.4
Girls	5	0.9	8	1.5	10.8	4.8
TOTAL	13.9	7.8	19	11.4	22.8	19.4

The estimated number of children of this age-group which was 25.6 lakhs in 1955-56 has risen to 28.4 lakhs in 1960-61 and is likely to rise to 33.5 lakhs in 1965-66. Considering the trend of rise in enrolment in this age-group coupled with the high increase in primary education of age-group 6—11, a target of 9.25 lakhs (7.40 lakh boys and 1.85 lakh girls) for enrolment has been considered reasonable. This will mean, education to about 26.0 per cent of children of age-group 11—14 (comprising 41.5 per cent boys and 10.5 per cent of girls) by the end of the Third Five-Year Plan. A minimum of 8,000 teachers will be required to sustain the increase of enrolment in classes VI and VII during the Plan period for which an outlay of Rs. 160.00 lakhs, comprising Rs. 140.00 lakhs for salary, allowance, and contingencies and Rs. 20.00 lakhs for teaching equipments has been provided.

Improvement of pay-scales of teachers.

15. A monthly basic pay of Rs. 40 has been accepted as the National minimum which should be given to a wage earner. Government of India, on the basis of this policy, have recommended that no untrained teacher should get less than Rs. 40 and no trained teacher should get less than Rs.50 per month. As a step towards realisation of this policy, pay-scales of primary and middle school teachers were raised during 1956-57. It has been decided to further raise their pay-scales so that no teacher gets less than Rs. 40 per month and the disparity in the scales of pay of Government and

non-Government teachers is gradually eliminated. The disparity will, however, continue in the rate of dearness allowance. A sum of Rs. 160.00 lakhs has been provided for the Plan period for this purpose.

Other improvements in Primary and Middle Schools.

16. Out of 38,000 primary schools that may be set up by the end of the Second Five-Year Plan, nearly 22,500 schools are expected to have been provided with at least one classroom each. The remaining 15,500 primary schools together with the proposed 7,000 primary schools will require at least 22,500 classrooms to begin with. About 4,800 classrooms will also be required for 1,600 new middle schools that are proposed to be opened during Third Five-Year Plan. It is proposed to construct nearly 12,000 classrooms out of the total requirement of 27,300 class rooms with the State assistance of Rs. 120.00 lakhs during the Plan period. Public contribution, in kind or cash, to the extent of Rs. 90.00 lakhs is envisaged in this programme.

17. There are 520 Government basic schools which were opened between 1947 and 1952. 400 of these schools have been provided with Trained Graduate Headmasters during the Second Five-Year Plan period and remaining 120 schools will be covered during the Third Five-Year Plan period. Most of these schools are all-equipped and have no adequate accommodation. A sum of Rs. 25 lakhs has been provided for their improvement.

Special schemes for Girls' Education.

18. From a comparison of the enrolment position of boys and girls at various stages in this State, it has been found that there has been a lack of concerted action in respect of expansion of girls' education during the First and Second Five-Year Plans. While there was hardly any scheme included in the First Five-Year Plan specially for improvement of girls' education, the efforts made in the Second Five-Year Plan were also not very encouraging. One of the main difficulties in securing the services of lady teachers, who alone can induce increased enrolment of girls, is the lack of suitable accommodation for them in rural areas. It has been found that most of the lady teachers, who are appointed in village schools, leave their jobs after a couple of months due to this difficulty. Moreover, these low-paid employees can hardly afford to pay rent. With the meagre resources that were available under the centrally sponsored scheme for the expansion of girls' education and training of woman teachers, it has been possible to construct nearly 1,000 rent-free quarters at the rate of Rs. 2,500 per quarters for lady teachers serving in rural areas during the Second Five-Year Plan. Some grants were also sanctioned for giving inducement to girls in selected C. D. Blocks besides improving Middle Schools specially opened for girls.

19. Besides, extending the scheme of construction of 2,000 rent-free quarters at a cost of Rs. 50.00 lakhs during the Third Five-Year Plan, provision has been made for some other special facilities for expansion of girls' education which include (i) extension of free education to girls reading in Girls' Middle Schools (this facility already exists in Boys' Middle Schools),

(ii) award of attendance prizes and other incentives to girls in primary schools, (iii) organisation of condensed courses for lower and upper primary passed women who elect for the teaching profession, (iv) special grants-in-aid to non-Government girls (middle schools situated in urban areas), (v) improvement in buildings of Government Girls' Middle Schools, and (vi) stipends to girls reading at the middle stage.

Training of Teachers.

20. There were 20 Senior, 41 Junior and one Secondary Training Schools and two Women's Training Classes managed by Government in the State at the close of the First Five-Year Plan. Besides, there were a few training classes run by Missions and other voluntary organisations. While, the Senior Training Schools, the Secondary Training Schools and the Women's Training Classes were running two years' courses, the Junior Training Schools were running only one year's course. The annual output of trained teachers (including Women's Training Classes) was nearly 5,000. One of these Training Schools was subsequently transferred to West Bengal. During the Second Five-Year Plan, the duration of training in the Junior Training Schools has also been raised to two years. All the Training Schools are being expanded to provide 200 seats in each of them so that the annual enrolment in the existing 63 Government Training Schools may be raised to nearly 6,000.

21. On the advice of Government of India, 21 Training Schools with capacity of 200 seats in each, have been opened in 1959-60 and 17 schools in 1960-61. Thus by the end of the Second Five-Year Plan there have been in all 101 Training Schools. If all the Training Schools are expanded and developed as per programme, the annual intake capacity will rise to nearly 10,000. Giving a margin of 15 per cent for wastage, it may be assumed that the annual output of trained teachers will rise to 8,500. This output will, however, be available from second year of the Third Five-Year Plan. The total output of trained teachers through regular training courses during the Third Five-Year Plan is likely to be nearly 40,000. The following table will indicate the position of trained and untrained teachers in Primary and Middle Schools, and training facilities provided at the undergraduate level :—

Particulars.	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates).	1965-68 (Targets).
1	2	3	4	5
<i>(a) Position in Primary and Middle Schools.</i>				
(i) Total number of teachers ..	53,119	68,040	87,300	1,35,300
(ii) Number of trained teachers ..	29,054	39,961	60,000	1,00,000
(iii) Number of woman teachers ..	3,454	4,751	7,000	12,000
(iv) Percentage of trained teachers to total number.	56.6%	58.7%	68.7%	74%
<i>(b) Position of Training Facilities.</i>				
(i) Number of training schools ..	66	64	101	101
(ii) Number of seats (enrolment) ..	4,467	7,345	14,000	20,000
(iii) Output (results including S.T.C. Examinations).	2,045	5,189	6,000	8,500

22. The outlay proposed under different groups of schemes of Elementary and Basic Education for the Third Five-Year Plan is as follows :—

Groups of Schemes.	Total outlay.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
1. Administration ..	77.12	5.26	11.84	16.80	20.00	23.22
2. Training of teachers ..	271.18	51.52	54.84	55.04	55.04	54.74
3. Universal, free and compulsory education for the age-group 6—11.	1015.00	59.00	131.00	203.00	275.00	347.00
4. Expansion and Improvement of Elementary Education.	477.06	60.93	78.65	95.41	112.51	129.56
5. Special Schemes for girls' education.	102.64	19.09	21.01	20.86	20.84	20.84
TOTAL ..	1943.00	195.80	297.34	391.11	483.39	575.36

SECONDARY EDUCATION.

23. The principal objectives of secondary education are to ensure training of young men and women and citizenship and to prepare them for useful avocations thereby making secondary education a complete stage and terminal by itself. The reforms in secondary education in recent years have been based chiefly on the recommendations of the Secondary Education Commission which, while broadly maintaining the accepted objectives, have recommended diversification of courses and conversion of high schools into Higher Secondary and Multi-purpose Schools. In other words, secondary education has been sought to be linked up with the pattern of employment opportunities and it has necessarily to move with scientific, industrial and technological progress.

24. Most of the measures recommended by the Secondary Education Commission were put into effect during the Second Five-Year Plan period and the process of change has already begun advancing. It will, therefore, be worthwhile making an appraisal of the progress already made and that which can be reasonably anticipated by the end of the year 1960-61.

25. The following tables will show at a glance the position obtaining in the sphere of secondary education :—

(a) *Number of High Schools, including Higher Secondary and Multi-purpose Schools.*

			1950-51.	1955-56.	1959-60.	1960-61 (Estimates).	1965-66, (Targets).
	1		2	3	4	5	6
Boys	608	918	1,348	1,415	1,700
Girls	35	45	80	100	150
TOTAL	643	963	1,428*	1,515	1,850

*In addition, there were 328 unrecognised High Schools on 31st March 1960.

(b) *Enrolment of children for the age-group 14—17.*

			1950-51.	1953—56.	1959-60.	1960-61. (Estimates).	1965-66. (Targets).
	1		2	3	4	5	6
Boys	1,01,615	1,40,696	2,60,411	2,90,000	4,40,000
Girls	3,583	6,336	16,205	20,000	60,000
TOTAL	1,05,198	1,47,032	2,76,616	3,10,000	5,00,000

(c) *Comparative percentage of Bihar and India.*

	1950-51.		1955-56.		1960-61. (Estimates).		1965-66. (Targets).		
	India.	Bihar.	India.	Bihar.	India.	Bihar.	India.	Bihar.	
	1	2	3	4	5	6	7	8	9
Total	6.4	5.3	9.4	6.5	11.5	12.4	15.1	17.1
Boys	15.4	12.4	18.4	23.0	22.9	30.1
Girls	3.00	0.56	4.2	1.6	6.8	4.1

(d) Output of Matriculates.

	1946-47. (Actuals).	1950-51. (Actuals).	1955-56. (Actuals).	1960-61. (Estimates).	1965-66. (Forecast).
	2	3	4	5	6
Boys	10,857	13,663	31,229	50,000	75,000
Girls	345	742	1,943	5,000	10,000
TOTAL	11,202	14,405	33,172	55,000	85,000

Considering the proposed rate of progress in the enrolment of children of age-group 11—14 during the Third Five-Year Plan as also the rate of progress of education at this stage, a target of 5 lakhs (4.40 lakh boys and 0.60 lakh girls), i.e. 17.1 per cent comprising 30.1 per cent of boys and 4.1 per cent of girls of the estimated population, viz., 29.2 lakhs of this age-group, for secondary education may reasonably be assumed desirable as well as feasible by the end of 1965-66.

26. There were 1,514 recognised secondary schools (including 211 partially recognised) and one Residential School, in the State on 31st March 1961. It has already been decided that applications for according recognition to new High Schools as such will not be entertained after the 31st March, 1959. The High Schools already opened up to 31st March 1959, will, of course, receive consideration for their recognition. Twenty-eight non-Government High Schools (out of which 24 had received non-recurring grants for their conversion into Multi-purpose Schools during the First Plan period) and 51 Government-managed High Schools have been converted into Multi-purpose Schools by the end of the Second Five-Year Plan. Besides these, 100 non-Government High Schools have also been converted into Higher Secondary Schools by 1960-61.

27. The three main directions in which it is proposed to continue the re-organisation of secondary education are: (a) to improve the Multi-purpose Schools established during the Second Plan and increase their number to a limited extent, (b) to set up new Higher Secondary Schools and convert at about 50 per cent of the existing Secondary Schools into Higher Secondary pattern, (c) to improve science teaching in High and Higher Secondary Schools.

28. In a resolution adopted in the Conference of State Education Secretaries in July-August, 1959 (later confirmed in the Conference of State Education Ministers), it was recommended that at least 50 per cent of the high schools should be upgraded into Higher Secondary Schools by the end of the Third Plan. It was also stressed that roughly about 10 to 15

per cent Higher Secondary Schools should be of multi-purpose type. Keeping in view this target, it has been proposed to upgrade 600 non-Government High Schools to higher secondary standard, and to develop 40 schools (including 14 schools which had received science teaching grants at the rate of Rs. 50,000 each during the First Plan period) into Multi-purpose Schools during the Third Five-Year Plan. Besides there, four existing Government High Schools are also proposed to be upgraded into Multi-purpose Schools. This will mean that about 50 per cent of the schools recognised up to the end of the Second Five-Year Plan will have been upgraded by the end of the Third Five-Year Plan. Out of the proposed 600 Higher Secondary Schools, 400 schools will be Bi-purpose Higher Secondary (teaching humanities and natural science) and 200 Uni-purpose Higher Secondary Schools (teaching humanities only).

29. So far secondary education has by and large been the responsibility mainly of the community in villages and towns. The State Government maintain a few schools for boys and girls as models for others. In big towns like Patna and in educationally and economically backward areas where private enterprise is generally not available, the State Government had, however, to take the responsibility of opening Government and State Subsidised High Schools. But there are even now a number of police-stations and development blocks where there are no recognised High Schools and it has, therefore, been proposed to cover all such areas by opening six Government and 50 "State subsidised" Higher Secondary School during the Third Five-Year Plan. Besides these a number of Higher Secondary Schools may be set up by private managements. In all there may be nearly 1,850 recognised Secondary Schools by the end of the Third Plan out of which about 900 schools will be of higher secondary/multi-purpose type.

Special Measures for Girls.

30. There were 35 Girls' High Schools, including 15 Government schools in 1950-51. These schools are mostly located in the district towns. During the First Five-Year Plan, the expansion of girls' education at secondary stage was limited to the development of 15 Government Girls' High Schools, which had already been opened and to the establishment of two more Government Girls' High Schools at the remaining district headquarters. The non-Government High Schools, which were set up during that period, also received some development grants but no planned efforts were made for expansion of girls' education. During the Second Five-Year Plan, some incentive by way of grants for establishing non-Government Girls' High Schools at the subdivisional headquarters has been given. These schools are, however, not likely to be self-supporting for a long time to come. It has, therefore, been proposed to convert these schools, which number nearly 25, into State-Subsidised High Schools during the Third Five-Year Plan. Considering the backwardness in girls' education, it has also been proposed to open at least 25 State-Subsidised Higher Secondary Schools in rural and

semi-urban areas, where there may be pressing demands for the same. Taking into account the Secondary Schools that may be opened by private managements, the total number of High/Higher Secondary Schools for girls may be estimated at 150 by 1965-66.

Teachers' Scales of Pay.

31. The teacher has been acknowledged on all hands to be the pivot of all development schemes in education and it goes without saying that the success of our educational planning will mostly depend upon keeping our teachers satisfied by giving them at least the minimum wage in the prevailing economic structure of the Society.

Although it is not possible to bring the pay-scales and cost of living allowance of teachers of non-Government Secondary Schools at par with those of Government schools, it has been considered desirable to allow Government dearness allowance to teachers of all categories of schools, irrespective of the dates of their recognition, at higher rates, and to improve the pay-scales of certain categories of teachers which are extremely low. Besides, funds will also be required for giving provident fund contribution and other benefits to teachers of non-Government Secondary Schools. A sum of Rs. 65 lakhs has accordingly been provided for providing all these amenities.

Vocational Guidance.

32. Another important programme of improvement of secondary education is to increasingly lend to it a vocational and practical bias. In order to assist the young minds in making choice of their future lines of study suited to their aptitude and ability, teachers trained in the guidance programme are provided to Secondary Schools. Under the scheme, all Government High Schools and some of the bigger non-Government High Schools will have whole-time School Counsellors and the remaining schools part-time Teacher-Counsellors. By the end of the Second Five-Year Plan 54 Government Secondary Schools have got one School Counsellor each and 156 non-Government High Schools one Teacher-Counsellor each. During the Third Five-Year Plan, schemes relating to guidance services in Secondary Schools and expansion of the State Bureau of Educational and Vocational Guidance have been taken out from the State Plan and are proposed to be centrally assisted through the Central sector.

Teachers' training.

33. One of the main problems in the reorganisation of the secondary education is the shortage of qualified teachers. The difficulty is more acute in respect of science teachers. There are a number of experienced graduate teachers with ordinary bachelor's degree who are permanent members of the staff. It is imperative that provision be made for arranging either Special Honours' Course or full course for Master's Degree for them at the Universities so that they may qualify in a year

or so at these courses and take the full Honours' or Master's examination in the subjects. It has been proposed to improve the qualifications of 500 such teachers during the Plan period.

Special Measures for Girl Students and Teachers.

34. At the secondary stage also, as in the elementary, there is considerable disparity between boys and girls, the ratio being 14 : 1. Some special measures for attracting educated women towards the teaching profession and for inducing girls to schools have been included. These are (i) construction of 150 sets of teachers' quarters, (ii) construction of 40 units of hostels for accommodating 1,250 girls, (iii) provision of sanitary facilities for girls in 50 boys' high schools, (iv) purchase of 45 buses for girls' high schools, (v) creation of 3,300 special stipends in addition to the existing 1,450 stipends each tenable for two years for girls, (vi) special improvement grants to non-Government Girls' High Schools.

35. There are five Teachers' Training Colleges in the State including one for women. The intake capacity in diploma course in all these colleges was 510 at the beginning of the Second Five-Year Plan. This has been raised to 725 by now. It has been proposed to establish two more training colleges in the State from the beginning of the Third Five-Year Plan and to increase the intake capacity in all the training colleges to the extent of 200 in each. The total output of trained teachers through regular training courses during Third Plan period is likely to be nearly 5,000.

36. The following tables will show at a glance the position of trained and untrained teachers in High/Higher Secondary Schools and training facilities provided at the post-graduate level :—

Particulars.	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates).	1965-66 (Target).
1	2	3	4	5
<i>(a) Position in Secondary Schools.</i>				
1. Total number of teachers ..	8,108	10,994	13,500	18,000
2. Number of trained teachers ..	1,244	4,255	7,000	12,000
3. Number of woman teachers ..	511	457	1,200	2,500
4. Percentage of trained teachers to total number.	15.34	38.70	51.9	66.6
<i>(b) Position of Training Facilities.</i>				
1. Number of Training Colleges ..	1	5	5	7
2. Number of seats (enrolment) ..	130	510	725	1,400
3. Output in regular course ..	93	494	600	1,150

37. The outlay proposed under different schemes or group of schemes of secondary education is given below :—

(Rupees in lakhs.)

Scheme or group of schemes.	Total outlay.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
1. Administration ..	12.75	3.12	1.75	2.50	2.62	2.76
2. Training of teachers	62.87	11.00	13.20	13.22	12.70	12.75
3. Research and Evaluation.	2.20	0.30	0.45	0.50	0.50	0.45
4. Multi-purpose and higher secondary education.	408.25	53.48	64.32	79.85	98.44	112.16
5. Expansion and improvement of secondary education.	70.69	10.00	13.80	15.19	15.95	15.75
6. Improvement of salary scales and other benefits to teachers.	65.00	9.22	11.75	13.25	14.78	16.00
7. Special schemes for girls' education.	92.24	12.68	18.89	19.54	20.14	20.99
Total ..	714.00	99.80	124.16	144.05	165.13	180.86

University Education.

38. The Patna University established originally in the year 1917 as an affiliating University was converted into teaching-*cum*-residential University in 1952 simultaneously with the creation of the University of Bihar, a teaching-*cum*-affiliating University. At that time there were 24 University departments, 36 colleges for general education and 12 colleges for professional and technological education, with a total of 27,706 students. Due to the increase in the number of colleges and students, two Universities have now been reorganised into four regional Universities with jurisdictions co-terminus with the administrative divisions in the State. At the commencement of the new Universities Act, the Patna University had 34 post-graduate departments, five constituent and 26 affiliated colleges for general education, six constituent colleges for professional and technological education and three institutes. The University of Bihar at Muzaffarpur had 13 post-graduate departments, one constituent and 30 affiliated colleges for general education and four affiliated colleges for professional and technological education. The Ranchi University had 11 post-graduate departments, one constituent and 15 affiliated colleges for general education and seven affiliated colleges for professional and technological education. Similarly, the

Bhagalpur University had six post-graduate departments, one constituent and 30 affiliated colleges for general education besides an affiliated college for agriculture. In short, besides 64 units of post-graduate departments, there were 109 colleges for general education, 18 colleges for professional and technological education and three institutes either wholly maintained by or affiliated to the Universities in the State. The number of students in these colleges in arts, science and commerce has increased from 44,218 in 1955-56 to about 89,000 in 1960-61. The number of science students has increased from 9,103 to about 21,000 at the end of the Second Five-Year Plan.

39. The proportion of science students is nearly 23.6 in 1961 against 20.5 per cent in 1956. The following table will give at a glance the position obtaining in the collegiate and University education after the attainment of Independence :—

Description.	1946-47 (Actuals).	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates).
1	2	3	4	5
<i>(a) Intermediate stage—</i>				
Total	9,349	15,046	31,306	63,500
Boys	9,100	14,505	29,302	60,000
Girls	249	541	1,504	3,500
Science .. .. .	..	2,825	7,290	16,000
<i>(b) Degree stage—</i>				
Total	2,873	5,694	10,668	21,500
Boys	2,749	5,473	10,104	20,000
Girls	124	221	564	1,500
Science .. .. .	..	392	1,393	2,800
<i>(c) Post-graduate stage—</i>				
Total	406	600	2,244	4,000
Boys	388	556	2,092	3,650
Girls	18	44	152	350
Science .. .. .	..	184	420	620

Enrolment.

40. During the Second Five-Year Plan one affiliated college has been converted into a constituent college and five affiliated colleges including three for women have been made deficit-grant colleges. Post-graduate

departments in Rural Economics, Sociology and Social Welfare at Bhagalpur ; in Physics, Chemistry and English at Ranchi ; and Botany and Zoology at Muzaffarpur were started. 3,848 seats in I.Sc. (including 1,112 seats created by private managements), 320 seats in B.Sc. and 205 seats in M.Sc. have been added bringing the total intake capacity to 8,060 seats in I.Sc., 1,400 seats in B.Sc., and 316 seats in M.Sc., in 1959.

41. A series of measures initiated by the University Grants Commission to improve the quality of University education have been given effect to during the Second Plan period. Among these may be mentioned introduction of the three-year degree course, improvement of laboratories and libraries, development of post-graduate studies and research, provision of hostel facilities, institution of merit and research scholarships, organisation of tutorials and greater attention to the welfare of the students. 62 colleges which had more than 400 students on rolls during 1959-60 have been permitted to introduce three-year degree course with the assistance available from Government of India, U.G.C. and the State Government. The remaining colleges are expected to introduce this reform on their own. Since this scheme has been put into operation with effect from the year 1960-61, nothing more could be done except re-arranging the syllabus and sanctioning some *ad hoc* recurring and non-recurring grants. The improvements visualised in the scheme of three-year degree course will actually be given effect to during the Third Five-Year Plan period. More colleges which come up to the mark from the point of view of educational needs, may also be considered for assistance under this scheme. Besides, new colleges on the pattern of three-year degree course may be set up wherever found necessary.

42. One of the main tasks in the Third Five-Year Plan will be to upgrade all the colleges teaching science up to I.Sc. standard to degree standard so that the annual intake capacity in degree course is raised to nearly 5,000 by 1965-66. In the beginning of the Plan period the number of science seats in the Pre-University class will be increased (at present it is the same as in the first year of I.Sc., i.e., 8,060) in order to accommodate the increasing number of science students passing the Matriculation examination. These additional seats may be gradually withdrawn in proportion to upgrading of high schools into Higher Secondary Schools. The laboratory and other ancillary facilities so available may be utilised in increasing the number of seats at the degree stage. Besides these, pre-professional and pre-technical classes, either in the professional colleges or in the general science colleges, will be run until the courses of studies of the professional and technological institutions are reconstructed to incorporate those portions of intermediate syllabus which have been omitted in the higher secondary syllabus. These measures are essential for meeting the increased demands in a number of fields, science teachers for schools, students for engineering and other technical institutions, industries, etc.

43. Besides the expansion of some of the existing post-graduate departments in arts, science and commerce, in all the universities, it has been proposed to set up seven new post-graduate departments in the University of Bihar at Muzaffarpur, nine new post-graduate departments in the Ranchi University, 14 new post-graduate departments in Bhagalpur University and two additional subjects in political science, one in commerce and one in law in Patna University. These proposals are subject to approval of the U.G.C. A few affiliated colleges will be converted into constituent and deficit-grant colleges in phased manner. In addition to the 56 existing research scholarships, some more research scholarships, will be instituted. At the college and University levels a number of merit and merit-*cum-poverty* scholarships based on the results of Matriculation, Higher Secondary and Pre-University and other University examinations for periods varying from one to five years according to the duration of the course, besides the scholarships and stipends allowed by the Universities, book grants and free-studentships have been proposed. A fair percentage of these scholarships and stipends has been reserved for girl students. Other major programmes of developments include (i) construction of hostels for students, (ii) construction of quarters for teaching and non-teaching staff, (iii) introduction of teaching of Home Science in Ranchi University and Library Science in the Patna University, (iv) establishment of Health Centre and University Libraries, (v) improvement of college premises, purchase of buses for women's colleges, replacement of apparatus, equipments, furniture, (vi) replenishing of college libraries, (vii) introduction of Honours' teaching in bigger colleges, etc. Most of these programmes will be financed wholly or partially with the assistance of U.G.C. which has not been included in the State plan.

44. In pursuance of the recommendations of the Sanskrit Re-organisation Committee appointed in the year 1939 by the State Government and the Sanskrit Commission appointed by Government of India, the State Government have established a Sanskrit University with the following aims :—

- (i) To tone up the traditional system of Sanskrit Education ;
- (ii) Sanskrit University should constitute the apex of the reorganised Pathshala system of Sanskrit education ;
- (iii) Its function should be to co-ordinate the Pathshalas and Sanskrit Colleges, regulate their courses of studies, inspect the work and conduct the examinations ;
- (iv) The University should also function as a centre of higher studies and research [in] Sanskrit.

45. While Shri Kameshwar Singh Sanskrit University, Darbhanga, embodies all the functions enumerated above, it will incorporate in its curricula modernised subjects of the same standard as in the corresponding

examinations of other Universities. It will be a teaching-cum-affiliating University controlling Sanskrit (including Prakrit and Pali) education at the collegiate stage. Besides a good number of Sanskrit Mahavidyalayas run on the traditional lines, the State Government have set up four reorganised Sanskrit Colleges teaching up to Acharya standard. These colleges have been established at the divisional headquarters of the State. They provide ample scope for development.

46. During the Third Five-Year Plan it is proposed to convert a privately managed Sanskrit Mahavidyalaya at Darbhanga into a constituent college of the University. The non-Government Sanskrit Mahavidyalayas will be reorganised on the pattern of Government Sanskrit Colleges and modern courses of studies will be introduced in them. Besides, the Government Sanskrit Colleges will be expanded and improved.

47. The Rural Institute for Higher Education, Birauli, is not yet fully developed. It is proposed to introduce teaching of village industries and co-operation and subsidiary crafts besides improving the teaching of other subjects, particularly rural agriculture and extension services during the Third Five-Year Plan. Provision will also be necessary for construction of hostels and staff quarters and replenishing of the college library.

48. There are seven Government-managed and one Government-aided Research Institute in the State. The Rashtrabhasha Parishad, Patna, is engaged in conducting research in national language and local dialects, e.g., Maithili, Magahi, Bhojpuri, Santhali, etc., publication of original works in these languages and translation of standard works of foreign and other Indian languages to these languages. The Mithila Institute, Darbhanga conducts post-graduate teaching and research in Sanskrit learning. The Institute has taken up translation of Mahayana texts in Devanagri script during the Second Five-Year Plan. It proposes to undertake translation of 25 volumes of ancient texts of Vishnupurana in the Third Plan. The Nava Nalanda Mahavihar, Nalanda, conducts post-graduate teaching and research in Pali and Budhology. During the Second Five-Year Plan, the institute has taken up translation of Tripitakas in Devanagri script. It has attracted a good number of foreign students from Tibet, China, Japan, Burma, Ceylon, and Thailand. During the Third Five-Year Plan the Institute proposes to undertake a long-term research programme in Tibetology and Sinology besides a systematic study of Pali literature, history and archaeology. The Kashi Prasad Jayaswal Research Institute, Patna, is devoted to historical research and archaeology. At present it is engaged in deciphering Tibetan Sanskrit manuscript. A very valuable book of Budhist logic and philosophy named "Varti Kalamahara of Prajnaker Gupta" has been published by the Institute. The Vaishali Institute conducts post-graduate studies and research in Prakrit, Jainology and Ahimsa. The Institute is still in its infancy and has been located away from its

permanent site. The Arabic and Persian Institute of Post-graduate Studies and Research, Patna, is engaged in advanced studies in Persian and Arabic literature. It proposes to introduce a short training course in Arabic and Persian for teachers of Secondary Schools during the Third Five-Year Plan. The A. N. Sinha Institute of Social Studies, Patna, was established with a view to conduct research in sociology, social psychology, cultural anthropology and such other allied social subjects. This Institute has recently been established and needs development. The Bihar Research Society which is the oldest institution of its kind in the State has been devoted to historical research. This is a Government-aided institution and needs additional assistance for expanding its activities. The cost of development of Nava Nalanda Mahavihara and Vaishali Institute has been included in the Scientific and Cultural Education group.

49. An outlay of Rs. 5,37.00 lakhs has been approved for University education and research schemes for the Third Five-Year Plan as against an estimated expenditure of Rs. 2,15 lakhs during the Second Five-Year Plan. The contribution received from University Grants Commission and Government of India will be over and above this outlay. The phasing of outlay proposed is given below :—

(Rupees in lakhs.)

Description.	Total outlay.					
	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	
1	2	3	4	5	6	7
(i) Research institutes ..	27.15	5.67	6.96	5.22	5.15	4.15
(ii) Patna University ..	1,25.00	19.50	22.50	26.50	27.50	29.00
(iii) University of Bihar, Muzaffarpur	1,30.00	21.50	25.00	26.50	28.00	29.00
(iv) Ranchi University ..	90.00	16.50	17.00	17.75	18.50	20.25
(v) Bhagalpur University ..	1,20.00	20.00	22.50	24.00	25.50	28.00
(vi) Sanskrit University, Darbhanga	15.00	4.24	3.37	3.14	2.37	1.88
(vii) Rural Institute ..	5.00	1.44	0.95	0.98	1.24	0.39
(viii) Assistance to Tutorial Colleges for Women.	2.00	0.40	0.40	0.40	0.40	0.40
(ix) Scholarships and Stipends ..	22.85	4.00	4.60	4.75	4.75	4.75
TOTAL ..	5,37.00	93.25	1,03.28	1,09.24	1,13.41	1,17.82

SOCIAL EDUCATION.

50. Before the First Five-Year Plan, efforts in social education were mainly confined to literacy drive among the adults. This restricted interpretation of social education was, however, found inadequate to meet the requirements of post-independence years. It was then

suggested that a comprehensive programme of social education should include education in citizenship, health, agriculture and handicrafts in order to bring it as close as possible to social reconstruction. One of the measures taken to translate into action this enlarged concept of social education was to make it an integral part of the community projects programme. It includes literacy drives, establishment of libraries, cultural and recreational programmes, organisation of exhibitions, youth activities, community radio listenings, community centres and women's welfare.

51. During the First Plan, 4.85 lakh adults were enrolled in 1,600 rural social centres and 350 urban social centres (opened under the scheme of relief to educated unemployed), run by the Education Department out of which 3.34 lakhs qualified in literacy tests. A compact area comprising of about 100 villages was selected for intensive educational development which was provided with five model community centres, a library service and a Janta College for giving short course to rural people. Five selected schools of this area were developed as school-cum-community centres. Besides, five social workers' training institutes including one for women were also set up for giving short courses in social education programmes to village leaders and social workers. A State Central Library at Patna, five District State Libraries, 12 District Central Libraries and 17 Children's Libraries were also established. Each of the District and Central Libraries was given a circulating library with a mobile van. These programmes were supplemented by the social education programmes undertaken by the Community Projects Department instituted towards the close of the plan period.

52. During the Second Five-Year plan period nearly 10 lakh adults will have been enrolled in 2,375 re-organised rural adult centres, 337 urban centres and about 5,000 social centres opened under the programme of community development. 140 community centres have been opened by Education Department, over and above the community centres opened in the C.D. Areas at the rate of five centres per block. Out of the five social workers' training institutes two have been upgraded into Janta Colleges. Besides one male and one female social education organisers provided under the programme of community development for each C. D. Block, 17 District Social Education Organisers and four Divisional Social Education Organisers have been appointed by the Education Department. The State and District Libraries established during the First Five-Year Plan have been enriched and about 25 Subdivisional Libraries have been opened. Besides giving development grants to about 4,000 Rural Libraries, about 250 graduates and 600 under-graduates have been given three to one month's training in library science respectively, during the plan period. A Workshop for producing indigenous simple audio-visual aids, puppets, charts, posters, models, etc., has been established and the State Film Library has been enriched. The Audio-Visual Education Programme has been organised and put under a whole-time gazetted officer.

53. It is presumed that by the time of completion of the process of opening of community development blocks nearly 14,225 social centres will have been opened. It is proposed to allow these centres to consolidate during the Third Five-Year Plan. Provision for supply of adult literature, audio-visual equipments and reading and writing materials to these centres will be required. 337 urban, rural and social centres opened during the First Five-Year Plan under the scheme of "relief to educated unemployed" will be required to run continuation classes. About 14,00,000 adults are expected to be made literate during the Third Plan Period.

54. The Social Education Programme, as usual, will be supplemented by the library services and audio-visual education. The State and District Libraries will be enriched and the scheme of opening of Subdivisional Libraries at remaining places will be taken up during Third Five-Year Plan. The number of rural Libraries which would be nearly 5,000 by the end of the Second Five-Year Plan is likely to go up to 6,000 by the end of the Third Five-Year Plan. Besides, there are a few well-established libraries in urban and rural areas which do not fit in any of the set patterns of library services but require assistance for their development. In order to provide trained library workers, it is proposed to institute teaching of library science in Patna University and to continue two short training courses run at the State and Divisional headquarters. A mobile exhibition wing to organise educational exhibitions in rural fairs and festivals and on the occasions of education weeks and conferences is proposed to be set up. Under the programme of exhibition of educational films to schools it is proposed to set up one unit equipped with projectors, generators, films etc., in each district. This programme may be co-ordinated with the programme of circulating libraries. This will also necessitate expansion of State Film Library and audio-visual workshop.

55. The phasing of outlay approved for development of social education, library service and audio-visual education is as follows:—

(RUPEES IN LAKHS).

Description.	Total outlay.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	
		1	2	3	4	5	6	7
(i) Social Education	8.93	1.02	1.24	2.15	2.19	2.33
(ii) Library Service	31.97	4.01	5.75	6.64	7.53	8.04
(iii) Audio-visual Education	4.92	0.52	1.18	0.98	1.01	1.23
TOTAL	45.82	5.55	8.17	9.77	10.73	11.60

Physical Education and Youth Welfare Activities.

56. It is a recognised truth that the youth of a country should not be occupied solely with academic education but should also be given the opportunity to develop qualities of his physical capacity, comradeship, community life and leadership in society required for useful service to the nation. The main objective of the programme is to improve the nation physically and morally. It covers a variety of programmes relating to physical education as well as youth welfare. They are:—

- (i) Physical Education and Recreation.
- (ii) Sports and Games.
- (iii) Youth Welfare.
- (iv) N.C.C. and A.C.C.
- (v) Scouting and Guiding.
- (vi) National Service.

Physical Education.

57. Physical education has been defined as education through physical activities for the development of total personality of a child in body, mind and spirit. Its purpose is to make the child widely alert and develop in him mental, moral and social qualities required for well-adjusted citizenship. Although the importance of physical education has been accepted in the past in theory, few practical steps were taken to give it an integral place in general education. It was perhaps mistakably considered that the time spent in physical education and sports was valuable time robbed from academic studies. The significance of practical values of physical education and through it moral development of youth has been realised rather too gradually after the attainment of independence. But little could be done under the post-war reconstruction plan. In Bihar it was during the First Five-Year Plan that a scheme for opening of a College of Health and Physical Education was sanctioned. At the beginning, this college provided training facilities for 100 students and ran five courses, varying from three months to one academic year. This college was expanded during the Second Five-Year Plan when facilities for 145 trainees were provided. An independent campus was acquired and some building programmes were sanctioned. The college, however, provides scope for further development.

58. As a step towards making physical education an integral part of education at the secondary stage, a scheme of appointing whole-time graduate instructors trained in physical education in High Schools was included in the Second Five-Year Plan. 150 schools are likely to be covered under this scheme by the end of 1960-61. The scheme will be continued in Third Five-Year Plan during which period 250 Secondary Schools will be covered. Other important schemes of physical education include: development of Vyayamshalas, organisation of seminars, and festivals etc.

Sports and Games.

59. In the present context of national reconstruction which calls for sustained stamina and discipline, sports and games which foster those qualities, require careful planning and well-considered expansion. The *Ad hoc* Committee appointed by Government of India in 1958 under the chairmanship of Maharaja of Patiala to enquire into the reasons for the noticeable fall in standards of sports and games, recommended that greater emphasis should be placed on the promotion of sports in educational institutions, specially in those which were located in the rural areas. Planned coaching, the key to success in sports, should be brought about by ensuring the required supply of trained coaches in different sports and games. The All-India Council for Sports have recommended for reorganisation of a similar sports council in the State to look after the promotion of sports and games.

60. In the First Plan no provision could be made for promotion of sports. During the Second Five-Year Plan a coaching scheme, on a small scale, has been started. On the initiative of Government of India a scheme of construction of a sports stadium-cum-sportsmen's guest house at Patna has been approved and work has been taken up. Unfortunately due to a shift in the policy of Government of India no assistance has been extended by them on this scheme. The project has therefore, spilled over to the Third Five-Year Plan. Besides organisation of sports competitions at the district, divisional and State levels, minor grants have also been given for construction of small stadia at the divisional and district headquarters and acquisition of playing fields, preparation of track events, etc., for Secondary Schools. During the Third Five-Year Plan it is proposed to expand these activities on comparatively large scales.

Youth Welfare.

61. The objective of youth welfare is to offer young people opportunities to use their leisure profitably and to develop their personal capacities in the most satisfying manner possible. The concept of youth welfare is comparatively new and has been given trial in a limited sphere during the Second Five-Year Plan. Under this programme, 21 youth hostels, with financial assistance received from Government of India, have been constructed by the N.C.C. and A.C.C. cadets of the colleges and schools. Several study tours and small distance excursions were organised for school and college students. Youth Welfare Committees have been set up in the universities and a Section of Youth Welfare has been added to the Education Directorate. The establishment of youth centres and clubs has been linked up with the programme of community developments in N.E.S. Blocks. It is proposed to continue all these programmes during the Third Five-Year Plan.

N. C. C. and A. C. C.

62. N. C. C. and A. C. C. programmes have, by now, established their position in providing training and leadership in discipline in school and college youths. By the end of the Second Five-Year Plan 215 N. C. C. Infantry units have been set up in 57 colleges and 184 schools. Out of these, 26 units are in Senior Division and 189 units in Junior Division. Besides these, ten Girls' Troops, two Air Wings, one Naval Wing and nine Technical Wings in Senior Division and 23 Girls' Troops, 12 Air Wings and 11 Naval Wings in Junior Division have been set up in these colleges and schools. 2,310 A. C. C. units also have been set up in about 850 high schools. N. C. C. and A. C. C. programmes embrace over 1,56,000 school and college students. A new scheme known as "N. C. C. Rifles" introduced during 1959-60 and 1960-61 has covered nearly 15,000 students.

63. During the Third Five-Year Plan, it has been proposed to raise 8 Inf. sub-troops for senior girls, 225 Coys. for Rifle training, 99 Inf. troops for junior boys, 36 Inf. troops for junior girls, 12 Navy troops and 11 Air Wing troops for junior boys and girls, four units of technical training for senior boys and 700 sections of A. C. C. training. The total number of additional cadets brought within the purview of these programmes will be about 95,000.

Scouting and Guiding.

64. Till 1950, Scouting and Guiding in India was in charge of various associations. These associations have now merged into a single organisation called "Bharat Scouts and Guides" and it is the only organisation now recognised by Government. The association has two broad sections : the one dealing with the scouts, being affiliated to the Boy Scouts International Bureau and the second dealing with guides, being affiliated to the World Association of Girl Guides and Girl Scouts. This association has got branches all over the country. The movement has rendered valuable services in promoting spirit of discipline and selfless service among the student community. Of late, this organisation has been neglected. After the institution of N. C. C. and A. C. C. training programmes, since the organisation offers valuable services in comparatively lesser cost, it is proposed to extend financial assistance to it to revitalise its activities.

National Service.

65. Manifestations of indiscipline particularly among the students, have been for some time, a source of national anxiety. Government of India have, for some time past, been engaged in drawing up of a suitable programme of national service as a measure among other things to eradicate indiscipline among students. The scheme aims at channelling the energies of youth to socially truthful purposes and bringing to the

students an intellectual and emotional awareness and of identification of the various tasks of social and economic reconstruction and of the security of the country. It is essentially a measure of educational reform and is designed to inculcate among students a sense of discipline, national unity and cohesion, spirit of social service and dignity of labour.

66. The scheme having been conceived of recently no provision could be included in the First and the Second Five-Year Plans. Government of India have been stressing the desirability of including a scheme of this kind but it has not been possible mainly due to the gigantic task and the meagre resources of the State Government. It is presumed that, in case it is decided to include this scheme in the Third Plan it will be treated as a Centrally sponsored scheme and will be executed through the agencies of the State Government. No provision of cost has, therefore, been made in the State Third Five-Year Plan.

67. The phasing of outlay proposed for the promotion of different programmes in this sector during the Third Five-Year Plan is given below:—

(FIGURES IN LAKHS.)

Description.	Total outlay.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
(i) Physical Education and Recreation	3.49	1.52	0.39	0.45	0.53	0.60
(ii) Sports and Games	17.05	4.70	5.12	4.49	1.37	1.37
(iii) Youth Welfare	3.00	0.20	0.70	0.70	0.70	0.70
(iv) N.C.C. and A.C.C.	70.55	5.27	7.05	12.64	20.03	25.56
(v) Scouting and Guiding	0.25	0.05	0.05	0.05	0.05	0.05
TOTAL—Youth Welfare Activities..	94.34	11.74	13.31	18.33	22.68	28.28

MISCELLANEOUS SCHEMES.

Sanskrit Education.

68. Sanskrit education at the University and collegiate levels has been dealt with earlier in the University and Research Sector. This sector will be confined to the scheme relating to school stage.

69. Before the commencement of the First Five-Year Plan, Sanskrit education was confined to traditionally run Vidyalayas and Tols. During the First Five-Year Plan, a comprehensive scheme of reorganisation of

Sanskrit education was prepared. It was decided to introduce teaching of modern subjects of Literature, Economics, Philosophy, Mathematics, etc., side by side their counterpart traditional subjects in Sanskrit High Schools and Colleges. Under this scheme eight Sanskrit High Schools were opened by Government in which modernised syllabi were introduced.

70. During the Second Five-Year Plan, the scheme received general support and nine more Sanskrit High Schools, on modern lines, were opened in the chain of opening one Model Sanskrit High School in every district. Besides, ten private managed Sanskrit Vidyalyayas have introduced modernised courses of studies with the assistance given by Government.

71. During the Third Five-Year Plan, it is proposed to improve the already opened 17 Government Sanskrit High Schools besides introducing modernised syllabi in 20 more non-Government Vidyalyayas. Provision has also been included for organising private coaching to Sanskrit students by unemployed Sanskrit Pandits, Sashtrārtha competitions and training facilities to Sanskrit teachers in pedagogy.

Arabic and Persian Education.

72. Teaching of Arabic and Persian at the post-graduate (Fazil) stage has been centralised under the Institute of Arabic and Persian Education. There is a Government Madarsa called "Islamia Shamshul Hoda" at Patna which provides instructions up to degree standard (Alim). This Madarsa along with other non-Government Madarsas of degree standard is still run on traditional lines. The State Government have decided to introduce modernised syllabi providing teaching in modern subjects side by side the traditional subjects on the lines of Sanskrit education in these institutions as well.

73. Under this scheme Islamia Shamshul Hoda will be improved and a non-Government Madarsa at Darbhanga will be provincialised. The latter scheme was included in the Second Five-Year Plan but could not be implemented. Besides this, it is also proposed to provincialise a few non-Government Madarsas providing teaching up to High School (Maulvi) standard. There are 120 recognised non-Government Madarsas of different standards in the State, out of which 66 are in receipt of Government grants. The remaining 54 Madarsas will be brought under the system of grants-in-aid. Provision also includes for giving training to Arabic and Persian teachers in pedagogy.

Education for Handicapped.

74. There are six schools for blind and two schools for deaf and dumb in the State, out of which one Blind School has recently been provincialised. It is proposed to provincialise one Blind School during

the Third Five-Year Plan and to give grants to the remaining institutions run on voluntary lines. Provisions have also been made for deputing teachers of these schools for specialised training outside the State and for stipends to handicapped children.

Reformatory School and Pilot Centre.

75. Towards the close of the First Five-Year Plan, a Pilot Centre for juvenile delinquents was opened at Hazaribagh. The Pilot Centre has been concerned with scientific service of delinquents and other types of problems, children training of technical personnel in the fields of social defence and child guidance and research in these fields. This centre and the attached Reformatory School stand in the need of considerable improvement.

Training in Craft.

76. There is a Craft Training Wing attached to the Reformatory School in which 100 teachers are trained every year in various crafts. It has been found that one year's training is not sufficient in all the crafts subjects to make them specialised crafts teachers fit for teaching in Higher Secondary Schools. It is, therefore, proposed to extend the duration of certain courses.

Other Schemes.

77. Provision has also been included for giving assistance to voluntary organisations doing educational and cultural work in a number of ways and for improving the quality of teaching in commercial institutions. The phasing of outlay proposed for schemes grouped under the head "Miscellaneous" is as under:—

Description.	Total 1961-62. 1962-63. 1963-64. 1964-65. 1965-66.					
	outlay.					
1	2	3	4	5	6	7
(i) Administration Headquarters ..	4.50	0.34	0.71	0.90	1.15	1.40
(ii) Sanskrit Education ..	9.90	0.97	1.94	2.17	2.32	2.50
(iii) Arabic and Persian ..	4.80	0.43	0.69	0.91	1.34	1.43
(iv) Handicapped Education ..	4.70	0.32	1.44	0.94	0.98	1.02
(v) Other Schemes ..	0.50	0.10	0.10	0.10	0.10	0.10
TOTAL ..	24.40	2.16	4.88	5.02	5.89	6.45

OTHER SCHEMES.

Scientific and Cultural Education.

78. In this sector, the schemes which fall within the purview of Ministry of Scientific Research and Cultural Affairs have been dealt with. These are—

- (i) Museums and Archaeology.
- (ii) Art and Culture.

DEVELOPMENT OF ARCHAEOLOGY.

79. Historical treasures and monuments are scattered all over Bihar, most of which require timely repair and conservation, and it is quite possible that untold monuments have been lying underground for centuries in many places of the State. Some recent excavations at Vaishali in Muzaffarpur, Nalanda and Kumhrar in Patna and Sonitpur in Gaya district amply testify this presumption. According to the Constitution, Archaeology is concurrent subject and it provides for the preservation of monuments which are not of national importance, by State Government. The Central Board of Archaeology has been pressing for the establishment for a Department of Archaeology in all States. Government of India have advised all State Governments to take steps for early implementation of the suggestions made by the Central Board. Keeping in view this suggestion the State Government have taken steps for the establishment of a Directorate of Archaeology and museums under the administrative control of Education Department. Provision has also been included for creation of two excavation units in addition to the two excavation units already working under the supervision of the Director of K. P. Jayaswal Institute and to undertake extensive excavation of the sites already selected and to survey ancient sites at other places in different regions of the State for this purpose.

DEVELOPMENT OF MUSEUMS.

80. There are two good museums, one at Patna, and the other at Darbhanga, in the State. The Patna Museum which, in matters of archaeological treasures, compares favourably with the best museums in the country has practically no addition to its staff for almost a quarter of a century, due primarily to the financial stringency of the State. During the Second Five-Year Plan funds were sanctioned both by the Government of India and by the State Government for purchase of antiquities and equipments. There is, however, sufficient scope for its further development. The Chandradhari Museum, Darbhanga, was taken over by the State Government during the year 1957-58. This museum has got rich collection of antiquities, old coins, ancient paintings, models, rare manuscripts, etc. It deserves to be placed in the category of State Museums. After taking over the museum by the State Government, a cultural section has been attached to it. This section needs further

expansion. Provision of funds is also required for construction of a new museum building and purchase of antiquities. Some provision has also been made for the development of small museums established or proposed to be established at different places in the State.

DEVELOPMENT OF ART AND CULTURE.

81. With the advent of Independence, there has been a great cultural awakening and revival of all forms of fine arts, classical and folk forms of dances, drama and music all over the country. In this State also, which is very rich in tribal dances and music and has a long tradition of classical music and paintings, there was a great urge in the people to give full expression to their cultural activities. On the one hand there was this urge of the masses to develop their tribal and folk arts and on the other, with the abolition of zamindari, the traditional patrons of classical music were vanishing and music was languishing for want of patronage.

82. During the First Five-Year Plan, a school of Fine Arts and Crafts was established at Patna. This school provides instruction in the following subjects :—

- (i) Fine Art Paintings.
- (ii) Commercial Art Paintings.
- (iii) Modelling.
- (iv) Crafts.

83. Provision for a Certificate course of three years' duration followed by a diploma course of two years' duration and a post-diploma course of one year's duration has been made in the curriculum of the school. Since the Government took over the management of the school, more improvements in the standard and quality of teaching and expansion in the curriculum of the school have been made but much remains still to be done in order to develop it into a first grade school of fine arts and crafts. It is proposed to upgrade this school into a Degree College for Fine Arts and Crafts during the Third Five-Year Plan.

84. For the development of dance, drama and music a Cultural Grants Committee was established in the First Five-Year Plan and some grants were sanctioned to institutions devoted to these arts on the recommendations of the Committee. The number of institutions affiliated to Bihar Academy of Music, Dance and Drama, an organ of the Cultural Grants Committee, went up to about 50 by the end of the First Five-Year Plan. Having felt that these institutions require more and more technical guidance, supervision and financial assistance for their consolidation and development, a State Board of Cultural Education, entrusted with the planning and execution of these programmes, has been constituted.

85. Having felt the necessity of a well-equipped theatre hall, the State Government included a scheme of construction of a State Theatre Hall at Patna in their Second Five-Year Plan. Government of India have extended their assistance in this scheme. The work has recently been taken up but a good portion of it has spilled over to the Third Five-Year Plan.

86. The State Government after experiencing great difficulties in providing qualified and competent teachers of classical music to Girls' High and Middle Schools, where it has been included in the curriculum, have decided to start a college of music at Patna, on the pattern of Moris College of Music at Lucknow and Bhatkhande School of Music at Poona. This scheme was included in the Second Plan but due to financial difficulties it could not be implemented. It is proposed to establish this college during the Third Five-Year Plan. It is also proposed to take over an aided institution devoted to dance and drama named 'Bhartiya Nritya Kala Mandir' under the management of Government. This institution is doing pioneer work so far as the classical forms of Indian dances are concerned. Other schemes included in this chapter are—

- (i) Development of folk dances and music in tribal areas.
- (ii) Reorganisation of Moda Mandalies.
- (iii) Organisation of festivals, cultural functions and annual competitions for music, dance and drama.
- (iv) Assistance to institutions devoted to music, dance and drama.
- (v) Assistance to institutions engaged in development of fine arts.
- (vi) Celebration of Tagore centenary.

87. The phasing of outlay proposed for development of schemes in this sector is given below. This includes development of Nav Nalanda Mahavihara of Post-Graduate Studies and Research in Pali and Budhology and Vaishali Institute of Post-Graduate studies and Research in Prakrit, Jainology and Ahimsa.

Description.	Total 1961-62. 1962-63. 1963-64. 1964-65.1965-66. outlay.					
	1	2	3	4	5	6	7
(i) Museums and Archaeology ..	6.38	0.87	3.15	0.83	0.83	0.70
(ii) Art and Cultural Education ..	38.06	8.83	8.95	9.49	5.64	5.15
Total—Scientific and Cultural Education.	44.44	9.70	12.10	10.32	6.47	5.85

2. TECHNICAL EDUCATION.

1. At the end of the First Plan period, facilities existing for technical education, at degree level, were for 192 and at the diploma level for 390. This will have been raised to 1,048 at the degree level and to 1,595 at the diploma level by the end of the Second Plan, including the facilities available at the Birla Institute of Technology, Ranchi and the Bihar College of Engineering, Patna. No facilities for post-graduate studies or research development were available at the end of the First Plan. A number of Post-Graduate Courses and Research Units were, however, sanctioned at the Bihar Institute of Technology in the Second Plan.

2. *Research.*—Third Plan proposals include provision for more facilities for research studies at the Bihar Institute of Technology, Sindri.

3. *Expansion of Technical Education at the degree level.*—At the degree level, the existing institutions at Patna, Muzaffarpur and Sindri would be expanded. The only one new degree level institution proposed to be set up in the Third Plan is an Engineering College at Bhagalpur where there is no such institution within a radius of 200 miles, and which is close to Barauni where the Oil Refinery and Thermal Power Stations are located.

4. Proposals have also been made to provide part-time degree courses in Engineering with an annual intake capacity of 90. In all, 134 seats are proposed to be provided by way of expansion of existing institutions and 180 through the establishment of a new Engineering College at Bhagalpur. With this, the facilities for training at the degree level will have been raised to 1,362 admissions annually, at the end of the Third Plan.

5. The change in the structure of the secondary education in the country has also necessitated the conversion of the four-year degree courses in Engineering to five-year courses. Adequate provision has also been made for this.

EXPANSION OF TECHNICAL EDUCATION AT THE DIPLOMA LEVEL.

6. At the diploma level, facilities available at the end of the Second Plan will be of the order of 1,595 admission annually. It will be seen that the rate of production of diploma-holders is disquietingly low and is perhaps the lowest in the country. It is, therefore, proposed to provide 1,080 additional seats at the diploma level during the Third Plan period.

7. At the end of the Second Plan, there will be eight Engineering Schools in Bihar. But there are 17 districts and the number of districts is likely to increase in the near future. It has also to be remembered that the districts of Bihar are considerably larger in area and population than those in most other States of the country. On these considerations,

5 more new diploma level institutions have been proposed during the Third Plan Period. These schemes would raise the admission capacity at the diploma level to 2,675. In addition, some provision has also been made for expanding part-time diploma courses in mining and introducing similar courses in Engineering.

8. The proposals also include certain miscellaneous schemes like expansion of the Directorate of Technical Education, construction of staff quarters and development of services facilities for the existing institutions. Another important item is the construction of hostels for students undergoing practical training in mining areas where the problem of accommodation is most acute. Construction of hostels under the various schemes, funds for which are usually available in the form of loans from the Government of India, is shown as a separate item.

9. Provision has also been made for the establishment of six Junior Technical Schools attached to the Engineering Schools or Polytechnics and two Junior Schools as independent and separate institutions, in the State, during the Third Five-Year Plan.

10. Spill over expenditure of 85 lakhs for completion of schemes continuing from the Second Plan is also covered in these proposals.

11. The total plan outlay for technical education including the post-graduate and research courses, construction of hostels and some staff quarters, etc., comes to Rs. 5,04 lakhs.

3. HEALTH.

1. Before 1944-45 the curative and preventive services were primarily looked after by the Local Bodies. For the curative service and teaching there existed a medical college at Patna, a medical school at Darbhanga with its attached hospital, the Mental Hospital at Ranchi and Tuberculosis Sanatorium at Itki and besides these there were a few Government dispensaries at different places. It was only from 1944-45 that Government decided that the district hospital should be taken over by Government and improved. As such, in 1944-45 all the district hospitals were taken over by Government under the Post-War Reconstruction Programme and some subdivisional hospitals were also taken over. Thus at the time of the beginning of the First Five-Year Plan 14 district hospitals and 8 subdivisional hospitals were taken over by Government under its direct management. Thus the initiation of expansion of the health facilities, both curative and preventive, were taken up only to a partial extent before the First Five-Year Plan.

2. The health services in this State were much lower than most of the other States, as an example of which may be cited the fact that the number of beds in the district hospitals were less than 100 and as little as 38 beds in the case of Santhal Parganas. There were also more than 70

thanas in the State which had no dispensary in its entire jurisdiction. The *per capita* expenditure in 1944-45 was Re. 0-3-0 per annum per head of the population which rose to Re. 0-4-0 in 1946-47 and was only Re 0-7-6 in the first year of the First Plan as compared to the sister State of West Bengal where the *per capita* expenditure was about Rs. 1-12-0.

3. When the First Five-Year Plan began the total number of hospitals and dispensaries in the State were 728 of which 40 hospitals and dispensaries with a bed capacity of 4,266 were managed by the State. At the beginning of the Second Plan the total number of hospitals and dispensaries was 816 of which the number of Government institutions were 137 with a bed capacity of 5,702. By the end of the First Plan all subdivisional hospitals had been taken over by the State. Thus the curative services, both at the district and subdivisional hospitals, were provided by the State in addition to the 55 new dispensaries sanctioned in different thanas during the First Plan Period. The bed strength for treatment of tuberculosis was increased from 209 at the beginning of the First Plan to 451 at the end of the First Plan.

4. For the expansion and improvement of the health scheme it was necessary to provide facilities for training of medical officers and other health personnel. For this the admission in the Patna Medical College was raised to 100 and at Darbhanga to 60. As the output of medical graduates with this admission was inadequate to meet the demand of Medical Officers for the Health Schemes it was decided to start a Medical College at Ranchi and pending construction of buildings at Ranchi admission of students against Ranchi was made at Patna and Darbhanga in the ratio of 20 and 30. It has been decided that from 1960-61 the admission in each of the three Medical Colleges would be 150 so that the demand for medical personnel may be adequately met. Training School for Lady Health Visitors was started at Patna and Ranchi and for Auxiliary Nurse Midwife at Gaya and Ranchi towards the end of the First Plan period and during the Second Plan period two more schools at Bettiah and Darbhanga started functioning and the latter has since been transferred to Bhagalpur. A fifth school has also been sanctioned during 1960-61 to be located at Muzaffarpur. The training of Pharmacists, according to the regulations has been started with an annual admission of 60. For the Rural Health Service the training of Auxiliary Health Workers with an annual admission of 100 has also been started at Patna. To provide specialists, facilities for higher studies abroad were provided and Medical Officers were also given leaves for this purpose.

5. There is still some shortage of Medical Officers, Nurses and Lady Health Visitors. The number of registered Medical Officers in 1951 was 4,813 which works out to a ratio of one doctor for every 8,352 of the population. By the end of 1955 the number of registered Medical Practitioners in this State was 5,816 and by the beginning of 1961 it is 6,995 which works out to one doctor for 6,643 of the population.

6. The salient features of achievement during the Second Plan are given below :—

- (a) *Budget*.—The budget of 1955-56 was Rs. 416 lakhs against which the budget of 1960-61, the last year of the Second Plan is Rs. 562.96 which works out to a *per capita* expenditure of Rs. 1.21 nP. at the end of the Second Plan.
- (b) *Hospitals and Dispensaries*.—In 1955-56 there were 816 hospitals and dispensaries of which 137 were under the control of the State Government. The number of hospitals and dispensaries in 1960 was 1,012 out of which the Government hospitals and dispensaries would be 587. During the Second Plan 236 dispensaries were provincialised by March, 1961. The number of new dispensaries sanctioned during the Second Plan period is 86.
- (c) *Number of beds in the State*.—In 1951-52 there were 4,256 beds^s which rose to 5,702 in 1955-56 and 10,161 by the 31st^t March 1961, out of this the increase in the number for tuberculosis beds is 451. The expansion of bed strength was slowed down due to slowing of the building programme as a result of annual ceiling.

7. The salient features for the programme proposed during the Third Plan are given below :—

- (a) *Hospital Bed*.—Every district hospital should be improved to provide specialist services and to have a bed capacity of at least 150 and about 300 in some of the important divisional headquarters. In the case of subdivision the bed strength should be minimum 50. The hospitals in N. A. C. areas should have a bed strength of 12 to 25.
- (b) *Tuberculosis*.—Under this it is proposed to complete accommodation for 200 patients at Koilwar and to provide a Tuberculosis Clinic at every district and subdivisional headquarters where a clinic could not be provided during the Second Plan as the tuberculosis is major problem in the State. These tuberculosis clinics will provide facility for domiciliary treatment generally round their headquarters and provide facility for B.C.G. Vaccination to susceptible population.
- (c) *Leprosy*.—The incidence of leprosy is also fairly high and it is proposed to start a number of leprosy subsidiary centres and also provide facilities for treatment of leprosy cases through the health centres of the blocks where the incidence in a compact area is not sufficiently high to justify the opening of a leprosy subsidiary centre.
- (d) *Mental Diseases*.—Provision has been made for improvement of the Mansik Arogyasala. This institution was not included for development either in the First or the Second Plan and had

remained more or less stationary at the stage it was originally started. Under this scheme it is proposed to provide home for mental incurables so that such patients do not keep the beds occupied in the Mansik Arogyasala and beds thus released would be available for admission of early cases. It is also proposed to have psychiatric clinics at Darbhanga and Ranchi attached to the Medical Hospitals and at Bhagalpur divisional headquarters so that early cases should be referred to these clinics for necessary advices and treatment.

- (e) During the first two Plans no specific provision was made for research. This shortcoming is proposed to be remedied in the Third Plan for which provision is being made to help in the research and investigation of different diseases, etc.
- (f) *Training.*—Since the admission in each of the three medical colleges has been increased to 150 and also in view of the fact that the allocation during Third Plan is not likely to be high it is not proposed to start any other medical college. For post-graduate training of medical officers provision has been made to give study leave to about 30 medical officers during the Plan period. A new Nurses' Training School would be started along with Ranchi Medical College Hospital, as there is shortage of auxiliary nurse midwives. It is proposed to start two more schools during the Third Plan so that the total number of schools for auxiliary nurse midwives would become 7.
- (g) The Malaria Eradication Scheme would continue according to the pattern decided by the Ministry of Health.
- (h) It is proposed to take up eradication of small-pox by mass vaccination during this Plan period. For this purpose production of vaccine lymph at Namkum is also proposed to be increased. It is also proposed to start production of dry vaccine lymph, which was sanctioned previously but the work could not be taken up due to non-availability of equipments.

Indigenous System of Medicine.—Before the First Plan period the State Government used to meet the expenses for the Ayurvedic and Tibbi Colleges and their attached hospitals. In addition, some financial assistance was also given to the private Ayurvedic Colleges. Under the scheme of Government, financial assistance used to be given to the District Boards to meet part of the expenditure for subsidised medical practitioners practising Ayurvedic, Unani, Homeopathy and also some scientific medicines.

During the First Plan, provision was made for improvement of the Ayurvedic and Tibbi Colleges and under this scheme the construction

of new buildings for Ayurvedic College was taken up which was completed in the Second Plan period. To expand the facility for treatment by Ayurvedic system Government also sanctioned financial assistance to the District Board for starting two Ayurvedic dispensaries in each district.

During the Second Plan expansion and improvement of the Ayurvedic College and the Tibbi College was taken up. A pharmacy for production of medicines was also started attached to the Ayurvedic College. A scheme for research of Ayurvedic and Unani medicines was also started and beds for research purposes both for Ayurvedic and Unani systems have been provided in the Ayurvedic College building. There was a scheme to take over the private Ayurvedic Colleges, but this did not materialise and Government have given assistance to the private Ayurvedic Colleges.

During the Third Plan the provision for indigenous system of medicine including Homeopathy amounts to Rs. 42 lakhs. It is proposed to construct a Homeopathic College, the land for which has already been acquired. It is proposed to grant financial assistance to three private Ayurvedic Colleges working in this State. For expansion of treatment facilities, funds have been provided for starting one Ayurvedic and one Unani dispensary in each district.

This State has to make up a lot of the leeway to approach the all-India level in some spheres. As for example at the end of First Plan period, 1955-56 the number of hospital beds per million population was 146 as against 320 for the country as a whole. The anticipated position by 1960-61 will be 210 against the all-India average of 360.

By the end of the Third Plan additional health personnel that would be available will be—

Medical Officers	..	..	..	1,100
Nurses	..	..	..	150
Lady Health Visitors	..	..	..	250
Auxiliary Nurse Midwives	..	..	..	750
<i>Dais</i>	..	..	..	1,500
Compounders	..	..	..	200
Auxiliary Health Workers	..	..	..	450
Sanitary Inspectors	..	..	..	450
Anticipated increase in beds	..	..	..	2,910

The details of the financial provision and the physical targets proposed for the scheme are given below :—

(1) *Administration of Plan—Proposed provision Rs. 6 lakhs.*—The proposal is for increase of Administrative staff at the headquarters, divisional level and district level. Out of this Rs. 2.50 lakhs are for construction of buildings and staff quarters at different levels.

(2) *Improvement of Patna Medical College Hospital—Proposed provision Rs. 50 lakhs.*—Out of this Rs. 30 lakhs are for construction of buildings including the completion of the I.D. Hospital buildings and the balance of Rs. 20 lakhs is for provision of equipment for recurring expenditure for the new I.D. Hospital as well as the Patna Medical College Hospital.

(3) *Integrated Nationalised Health Services—Proposed provision Rs. 15 lakhs.*—Out of this, Rs. 9 lakhs are for provision of buildings to expand the bed strength at Saharsa, Madhepura, Supaul, Khagaria and Madhubani by a total of 80 beds and construction of wards, etc., at the rural dispensaries in these areas and for recurring expenditure for the increased bed strength.

(4) *Improvement and expansion of Sadar Hospitals—Proposed provision Rs. 53 lakhs.*—Out of this Rs. 38 lakhs are for increase of bed strength in those Sadar Hospitals where the bed strength is low. Total increase of beds is 500. The balance of the provision is for equipment, and for providing specialists services in all Sadar Hospitals.

(5) *Improvement and expansion of Subdivisional Hospitals—Proposed provision Rs. 65 lakhs.*—Out of which Rs. 50 lakhs are for building to provide additional accommodation for 600 beds. The balance is for equipment and for recurring expenditure for these additional beds and improvement of medical facilities.

(6) *Thana dispensaries—Proposed provision Rs. 10 lakhs.*—To complete the buildings of all thana dispensaries and provide some additional equipment.

(7) *Provincialisation of rural dispensaries—Proposed provision Rs. 35 lakhs.*—Out of this Rs. 20 lakhs are for buildings especially to provide 6-bedded wards in all dispensaries. The target is to provincialise 60 dispensaries @ 15 during the last four years.

(8) *Health Centres in N. E. S.—Proposed provision Rs. 236 lakhs.*—This provision is for taking over for maintenance of 99 old Primary Health Centres on reversion of blocks from C. D. Stage I to C. D. Stage II and for meeting an additional expenditure on 219 new C. D. Stage I Blocks and construction of Health Sub-Centre buildings and staff quarters and also provision of vehicles for all the Health Centres to be started during the Third Plan.

(9) *Dispensaries in backward areas—Proposed provision Rs. 15 lakhs.*—Out of this Rs. 10 lakhs are for construction of buildings for the dispensaries and staff quarters. The balance is for opening 32 dispensaries @ 8 each year for last four years in the backward areas and the headquarters of the block where there are no dispensaries.

(10) *Dental Centres at each district headquarters—Proposed provision Rs. 3 lakhs.*—It is proposed to open 12 Dental Clinics 3 each year during last four years in the important subdivisional hospitals.

(11) *Anti-T. B. Measures—Proposed provision Rs. 20 lakhs.*—Out of this Rs. 7 lakhs are for buildings to provide additional 150 beds attached to some subdivisional hospitals and the Koilwar T. B. Hospital.

(12) *Leprosy Control—Proposed provision Rs. 40 lakhs.*—The main proposal under this is to have one Survey unit in each division and to provide Grants to each Primary Health Centre for special medicine for treatment of leprosy, and also to provide one Non-Medical Assistant @ 50 each year in the different blocks where the incidence of leprosy is fairly high. It is also proposed to open 6 Leprosy Subsidiary Centres @ 2 each year. Provision has also been made for special scheme for rehabilitation of lepers especially, through Orthopaedic treatment and training in crafts for rehabilitation.

(13) *V. D. Control—Proposed provision Rs. 3 lakhs.*—Out of this Rs. 1.80 lakhs are provided for improvement of buildings for the Patna V. D. and Skin Clinic and the rest is for opening of 10 V. D. Clinics.

(14) *T. B. Clinic including domiciliary service—Proposed provision Rs. 60 lakhs.*—Out of which Rs. 17 lakhs are for construction of Tuberculosis Clinic buildings and the rest is for meeting the recurring and non-recurring expenditure for the 27 clinics to be started during the Plan period in a phased programme. A provision of Rs. 10 lakhs is for starting domiciliary service in bigger towns as a part of the scheme of the T. B. Clinic.

(15) *T. B. Demonstration Centre, Ranchi—Proposed provision Rs. 10 lakhs.*—Out of this Rs. 6.50 lakhs are for buildings and the balance for equipment and recurring expenditure.

(16) *National Malaria Eradication Programme—Proposed provision Rs. 450 lakhs.*—This is to meet the cost of the Malaria Eradication Programme as indicated by the Health Ministry.

(17) *B. C. G.—Proposed provision Rs. 2.0 lakhs.*—This is for meeting an additional expenditure for each of the District B. C. G. Teams, for regular B. C. G. inoculation work in conjunction with the Tuberculosis clinic.

(18) *National Falaria Control Programme—Proposed provision Rs. 3 lakhs.*—This is for provisions of anti-falaria drugs and opening of filaria clinics in some District Hospitals.

(19) *Maternity and Child Welfare—Proposed provision Rs. 4 lakhs.*—This includes provision for training of *Dais* and *Chamains* annually with a stipend of Rs. 30 per month each in 6 months' course. The balance of the provision is for opening of 15 Maternity and Child Welfare Centres attached to Sadar or Subdivisional Hospitals or important urban and

rural hospitals at 5 every year. Out of this 1.00 lakhs is for construction of buildings.

(20) *Family Planning—Proposed provision Rs. 40 lakhs.*—This is for supply of contraceptives to each Primary Health Centre for Family Planning work by the staff of the Health Centre and also for opening of 50 Urban Family Planning clinics @ 10 each year and the divisional mobile team for operation of tube ligation and vasectomy.

(21) *Drug Control—Proposed provision Rs. 2.50 lakhs.*—The provision is for appointment of one Drug Inspector with necessary staff for each district.

(22) *Patna Medical College—Proposed provision Rs. 5 lakhs.*—This is to be given as a grant to the Patna University for improvement of buildings, equipment and staffing of the Patna Medical College.

(23) *Darbhanga Medical College Hospital—Proposed provision Rs. 85 lakhs.*—Out of which Rs. 65 lakhs are for buildings which comprises ward hostel for students and house-men and expansion of girls' hostel as well as quarters for some staff.

(24) *Post-graduate training—Proposed provision Rs. 5 lakhs.*—This is for higher training abroad for 30 Medical Officers in a phased programme.

(25) *Reorganisation of Nursing Services—Proposed provision Rs. 30 lakhs.*—Out of this Rs. 18 lakhs are for buildings for expansion of the Nurses' Training School, Darbhanga and construction of permanent buildings for two A. N. M. Schools and the balance of the provision is for recurring expenditure for increasing the nurses' training and opening of one or two Auxiliary Nurse Midwives Schools. This also includes a provision of Rs. 1.0 lakh for post-graduate training of nurses particularly in specialised branches.

(26) *Teaching of Pharmacy—Proposed provision Rs. 6 lakhs.*—Out of this Rs. 4 lakhs are to meet the balance of the cost of construction of buildings at the new site and the remaining is for additional equipment.

(27) *Department of Preventive and Social Medicine—Proposed provision Rs. 4 lakhs.*—This is for cost of construction of buildings as well as additional cost for the Field Training Centres in Darbhanga and Ranchi. Out of this Rs. 2.50 lakhs are for construction of buildings and staff quarters.

(28) *Dental College—Proposed provision Rs. 14 lakhs.*—Out of this Rs. 8.50 lakhs are to complete the building of the Dental College at Patna and to meet its recurring and non-recurring expenditure.

(29) *Public Health Institute and Vaccine Institute, Namkum—Proposed provision Rs. 5 lakhs.*—The provision is for increased production of

Cholera, T. A. V. Vaccine and Small-pox lymph as well as other vaccines.

(30) *School Health Service—Proposed provision Rs. 15 lakhs.*—It is proposed to provide School Health Services for examination of children in collaboration with the Medical Officers of the block for the schools located in the urban areas.

(31) *Health Education—Proposed provision Rs. 2 lakhs.*—This is to meet the cost of improvement of Health Education Units started during the Second Plan period.

(32) *Nationalisation of Private Ayurvedic Colleges—Proposed provision Rs. 8 lakhs.*—It is proposed to sanction building and maintenance grants to private Ayurvedic Colleges in the State.

(33) *Expansion of separate Pharmacy of Ayurvedic and Unani Medicine—Proposed provision Rs. 2 lakhs.*—This is for expansion of the unit for production of Ayurvedic and Unani medicines attached to the college at Patna.

(34) *Improvement of Government Ayurvedic College, Patna—Proposed provision Rs. 3 lakhs.*—It is primarily for construction of buildings for the staff as well as for some additional improvements and purchase of equipments.

(35) *Improvement of Government Tibbi College—Proposed provision Rs. 8 lakhs.*—This is for construction of new buildings for the Tibbi College and equipment and additional staff.

(36) *Opening of New Government Ayurvedic Dispensary—Proposed provision Rs. 5 lakhs.*—It is proposed to provide one Ayurvedic dispensary in each district of the State at a place where existing medical facility is inadequate and also to construct buildings for these dispensaries. It is also proposed to purchase equipments and furniture for these dispensaries.

(37) *Opening of New Government Tibbi Dispensaries—Proposed provision Rs. 5 lakhs.*—It is proposed to open one Tibbi dispensary in each district as in the case of Ayurvedic dispensary on a phased basis. This would be located in those areas where the existing medical facility is poor.

(38). *Establishment of a Research Unit of Ayurvedic and Unani medicines—Proposed provision Rs. 1 lakh.*—This is for expansion of the scheme of research started in the Second Plan period.

(39) *Ranchi Medical College—Proposed provision Rs. 250 lakhs.*—Out of this about Rs. 180 lakhs would be required to meet the balance of cost for construction of hospital of 1,000 beds and other buildings and the remaining is for equipment and recurring expenditure.

(40) *Improvement of Indian Mental Hospital—Proposed provision Rs. 20 lakhs.*—Out of this Rs. 13 lakhs are for buildings particularly of sanitary installation and the balance is for improving equipment and staffing pattern and provision of medicine.

(41) *Small-pox Eradication—Proposed provision Rs. 90 lakhs.*—It is proposed to start mass Small-pox Vaccination programme in a phased way with a view to eradicate small-pox. This is required for additional staff both for the purpose of vaccination and maintenance of records.

(42) *Trachoma Control—Proposed provision Rs. 2 lakhs.*—This is for starting four units for Trachoma Control for the State in a phased basis.

(43) *Psychiatric and Child Guidance Clinic—Proposed provision Rs. 2 lakhs.*—It is proposed to start Psychiatric and Child Guidance Clinics at Darbhanga and Ranchi attached to the Medical College Hospitals and at Bhagalpur attached to the Bhagalpur Hospital so that one such clinic would be available in each division.

(44) *Transfusion Service—Proposed provision Rs. 4 lakhs.*—This is for production of pooled plasma and other transfusion fluids for supply to State hospitals and dispensaries.

(45) *Virus Laboratory—Proposed provision Rs. 4 lakhs.*—This is to meet the expenditure for the Virus Laboratory to be started during the Third Plan period.

(46) *Health Statistical Bureau—Proposed provision Rs. 4.5 lakhs.*—It is proposed to start a proper Statistical Bureau which besides statistics would also take up the investigation of certain epidemics and this is essential for Health Planning.

(47) *Home for incurable mental diseases—Proposed provision Rs. 8 lakhs.*—This is for construction of a new hospital where incurable mental cases from the Indian Mental Hospital could be transferred so that available beds will be used for those patients who could be benefited by treatment. Out of this 4 lakhs are for construction of buildings.

(48) *Medical Research—Proposed provision Rs. 20 lakhs.*—It is proposed under this to take up different research programme, both therapeutic and otherwise with the help of both permanent staff and by grant of stipends. It is also proposed to establish a properly equipped Research Laboratory.

(49) *Establishment of a Homeopathic College at Patna—Proposed provision Rs. 10 lakhs.*—It is proposed to start a Homeopathic College at Patna. Out of this Rs. 8.00 lakhs are for construction of college buildings and the remaining for staff and equipments, etc.

WATER-SUPPLY AND SANITATION.

1. *Urban water-supply.*—Urban water-supply schemes have occupied by far the most conspicuous place in the State Plans. During the First Plan, a sum of Rs. 165.00 lakhs was spent under this scheme and during the Second Five-Year Plan, the expenditure is expected to go up to Rs. 300.00 lakhs.

The physical target sought to be achieved under the Second Plan was to provide water-supply generally in all towns having population of 25,000 and above in addition to the reorganisation or improvement of existing waterworks. The towns in which this scheme is under operation or is proposed to be taken up during the Second Plan are Ranchi, Giridih, Chaibasa, Darbhanga, Purnea, Dumka, Katihar, Bhagalpur, Monghyr (first phase), Arrah, Khagaria, Deoghar, Jugsalai, Muzaffarpur, Barh, Dehri—Dalmianagar, Begusarai, Dhanbad, Adityapur, Dinapur, Hajipur, Colgong and Hatia. The schemes in these places are expected to be completed during the Second Plan period except in case of Adityapur, Hatia, Monghyr (second phase) and Muzaffarpur water-supply schemes which will be spilled over to the Third Plan. The spill-over relating to the second phase of water-supply in Monghyr will amount to about Rs. 9.00 lakhs, Bhagalpur Rs. 10.00 lakhs and Muzaffarpur Rs. 9.00 lakhs. The spill-over cost of completing the scheme of Hatia and Adityapur will approximately be Rs. 85.00 lakhs and Rs. 15.00 lakhs respectively.

In the Third Plan, therefore, provision has been made for these spill-over schemes with a cost of Rs. 128.00 lakhs. The new schemes will cost approximately Rs. 242.26 lakhs or say Rs. 243.00 lakhs. But in the Third Five-Year Plan only Rs. 140.00 lakhs will be available for new water-supply schemes. With this amount it is proposed to take up new schemes of water-supply in towns having a population of 15,000 and above up to 25,000. It may be possible to take up new water-supply schemes of the following towns only :—

Name of town.	Population.	Estimated cost of the scheme.
(RUPEES IN LAKHS)		
1. Khagaul	15,748	4.20
2. Buxar	18,087	6.16
3. Barahiya	20,752	8.25

Name of town.	Population.	Estimated cost of the scheme.
(RUPEES IN LAKHS)		
4. Lakhisarai	17,320	8.30
5. Dumraon	16,605	6.47
6. Siwan	22,625	9.02
7. Samastipur	19,366	7.90
8. Madhubani	22,283	8.82
9. Jamalpur	44,172	19.34
10. Shoikhpura	15,785	18.04
11. Suhibganj	25,669	12.00
12. Madhupur	17,144	9.81
13. Chakradharpur	19,948	14.75
14. Mokameh .. ..	..	6.94
TOTAL .. ..	..	140.00

2. *Rural water-supply.*—The plan outlay during the Second Plan for this scheme was Rs. 50.00 lakhs. Six schemes of piped water-supply at Rajgir, Bodh Gaya, Nabinagar, Areraj, Singheshwar Asthan and Basukinath were under execution. With the taking up of additional schemes for Latehar and Mahender, rupees eight lakhs will be required to meet the spill-over cost of the schemes, which has been provided in the Third Plan.

3. *Drainage and sewerage in urban areas.*—The only scheme of urban drainage on a comprehensive scale taken up by the State Government so far is that of Patna at an estimated cost of Rs. 57,26,000. The scheme has, however, been revised and the revised cost is Rs. 222.12 lakhs which includes Saidpur and Beur sewage purification schemes as well as extension and improvement of sewage disposal scheme in New Capital area. The total expenditure incurred so far on this scheme is Rs. 98,08,500. Hence, the scheme will have to be spilled over to the Third Plan to the extent of Rs. 1,24,03,500. In the Third Plan, therefore, provision has been made for the spill-over scheme of Patna, as noted above.

During the Second Plan it has not been possible to undertake drainage scheme of any town other than that of Patna only on account

of paucity of funds. According to the recommendation of the Environmental Hygiene Committee drainage and sewerage scheme should simultaneously proceed with the water-supply scheme in a town to avoid insanitation which is sure to follow in absence of good drainage causing incidence of diseases like filaria, etc. This State is lagging behind in this respect. While water-supply schemes have been completed or are in operation in 22 towns of the State, drainage scheme has been kept confined to Patna only. The result is insanitation everywhere and there is clamour all around for drainage schemes to be undertaken. But the cost involved in undertaking drainage schemes is, rather very heavy. Hence, it is not possible to undertake such schemes in all the towns of the State at one and the same time where water-supply schemes have been completed or are being completed. Under these circumstances and keeping in view the extent of funds to be made available, it is proposed to take up new drainage schemes for Muzaffarpur, Gaya and Ranchi in addition to that of Patna but during the Third Plan not more than Rs. 8.00 lakhs will be available for the purpose which will be utilised on the preliminary works in respect of these schemes.

4. *Rural drainage and sewerage.*—The ceiling fixed for this scheme during the Second Five-Year Plan was Rs. 20 lakhs. Two schemes of sewage disposal at Bodh Gaya and Rajgir are under execution. The total expenditure on these schemes during the Second Plan is expected to be Rs. 6.75 lakhs.

Arrangement for drainage of sullage water from the areas where piped water-supply schemes has been introduced is necessary to prevent stagnation taking place. Drainage schemes are also required to be taken up in model villages which may be set up in the Third Plan. In bazars lying in non-municipal areas the problem of drainage has assumed a problematic magnitude which requires to be tackled effectively to guard against diseases taking place. Hence, a sum of Rs. 2.00 lakhs has been provided in the Third Plan, for all these purposes.

4. HOUSING.

With the rising tempo of developmental activities, there is greater awareness of the need for better housing facilities. The need for clean, healthy and sanitary houses cannot be over-emphasised. In fact, housing is one of the basic necessities of life. The perpetual migration of population from the rural to the urban areas—an inevitable consequence of industrialisation and developmental activities—has brought into sharp relief the need for having a proper housing programme to prevent the creation of slums. The houses in rural areas also are ill-planned congested and insanitary. Rural housing, therefore, also needs a complete overhaul and proper planning.

2. The programme for the Third Five-Year Plan covers the following Schemes :—

- (i) Subsidised Industrial Housing Scheme;
- (ii) Low Income Group Housing Scheme;
- (iii) Slum Clearance Scheme (State portion only); and
- (iv) Village Housing Project Scheme.

Each of these schemes has been briefly discussed below to indicate the achievements of the Second Five-Year Plan and the programme for the Third Five-Year Plan :—

- (i) *Subsidised Industrial Housing Scheme.*—Under this Scheme Houses are constructed for industrial workers, which are given to them on standard rent. The Second Five-Year Plan had, as its aim, construction of a little over 4,000 tenements for industrial workers at a total cost of Rs. 170 lakhs. The first few years of the Second Five-Year Plan were spent in arranging for suitable land for construction of these houses. It was only from the year 1958-59 that the programme got into motion and gradually gathered momentum. The expenditure in the year 1958-59 was a little over Rs. 12 lakhs and in the year 1959-60, it was a little over Rs. 48 lakhs. The expenditure in the year 1960-61 was of the order of about Rs. 50 lakhs. Due to late execution of the programme, there has been some shortfall in expenditure, which has been carried over to the Third Five-Year Plan. The need for houses for industrial workers is acute. A rapid housing survey conducted by the Labour Department in 1957-58 to find out the magnitude of the housing problem in various industrial units of the State revealed that we need minimum of 14,000 houses for industrial workers in the immediate future. Since then the programme of industrialisation has received great fillip in the State; and now, keeping in view the growth of big industries at Barauni and Hatia, which would, in the normal course of things attract numerous ancillary industries, the need for a sizeable housing programme is imperative. Under the Third Five-Year Plan, it is proposed to incur an expenditure of Rs. 225 lakhs which would, at best, help in constructing nearly 6,000 tenements. Having learnt from past experience about the difficulties in getting suitable land for these houses, preliminary steps have already been taken to acquire sizeable plots of land in the main industrial centres of this State so that the construction work may start in full swing right from the beginning of the Third Five-Year Plan.

(ii) *Low-Income Group Housing Scheme.*—This is one scheme which has really caught the imagination of the people in the State as would be clear from the expenditure figures of the last five years given below :—

				(Rupees in lakhs.)
1956-57	..	..	..	26.59
1957-58	..	..	..	50.15
1958-59	..	..	..	46.48
1959-60	..	..	..	46.55
1960-61 (anticipated)	..	..	..	44.00

Applications for this long-term house-building loan are being filed by the people belonging to the Low-Income Group in ever increasing number. As such the State Government has for the present decided that there will be no time-limit for filing applications which were previously invited four times in a year. Hitherto, the scheme was in operation in municipalities, notified area committees, sub-divisional and district headquarters and such rural areas as are covered by C. D. Blocks. But now the scheme is proposed to be made applicable to the entire State, covering thereby the non-block areas also. It is thus expected that the demand for loans under this scheme would rise tremendously in view of the fact that the non-block areas had so far been deprived of assistance under this scheme. A provision of Rs. 225 lakhs has been made in the Third Five-Year Plan, which would normally enable construction of about 3,000 houses. The State Government may also embark upon a programme of direct construction for sale of houses on hire-purchase basis as was done in the Second Five-Year Plan, when a colony named 'Sri Krishna Nagar' was constructed in Patna. Apart from Patna, such direct construction will have to be taken up in other principal towns, particularly Ranchi, where the demand for more and better housing facilities is great.

(iii) *Slum Clearance Scheme.*—Slums are the breeding centres of disease and squalor, and prove a festering sore to any civilised township. Their existence has to be put an end to as quickly as possible. During the Second Plan period, seven projects of the Patna Improvement Trust, Patna Municipal Corporation and the Gaya Improvement Trust were sanctioned, which are under execution. It is proposed to take up further projects at other places as there is pressing demand for allotment of funds under the scheme from various municipalities and Local Bodies. On the basis of a rapid survey of slum dwellers in five principal towns of Bihar, viz., Patna, Ranchi, Bhagalpur, Muzaffarpur and Gaya, it appears that the State has to construct about 24,000 one-roomed and 16,000 two-roomed tenements at a total estimated cost of Rs. 19 crores. The completion of the projects already on hand would need about

Rs. 25 lakhs in the Third Five-Year Plan. It has been decided to make a provision of Rs. 100 lakhs in the Third Five-Year Plan, out of which the State's contribution would be Rs. 25 lakhs.

(iv) *Village Housing Project Scheme*.—This scheme was introduced by the Government of India to improve the housing conditions in rural areas. The funds, which are spent in the shape of loans to individuals, etc., are provided by the Government of India. The State Government has to share 50 per cent of the cost of establishment of State Rural Housing Cell. The Government of Bihar set up the Rural Housing Cell in the Second Five-Year Plan itself. The State share of establishment charges for this cell during the Third Five-Year Plan would amount to Rs. 2.50 lakhs, which was provided in the State Plan. Now this scheme will form the part of the State Plan during the Third Plan. A sum of Rs. 100 lakhs has been provided for the implementation of this scheme during the Third Five-Year Plan period in the State sector.

5. WELFARE OF BACKWARD CLASSES.

According to the Census of 1951, the total population of the Scheduled Castes, the Scheduled Tribes and other Backward Classes in the State of Bihar (before reorganisation) was 50,57,812, 40,49,183 and 62,76,445, respectively, which worked out to 12.57 per cent, 10.06 per cent and 15.60 per cent respectively, of the total population.

The scheduled areas in the State are the following :—

	Area.	Population of the Scheduled Tribes.
(a) Ranchi district	6,917	11,25,802
(b) Singhbhum (excluding Dhalbhum subdivision), Chandil and Ichagarh police-stations newly amalgamated with Seraikella subdivision.	3,308	4,84,074
(c) Santhal Parganas (excluding Godda and Deoghar subdivisions).	3,715	7,51,318
(d) Latehar subdivision of Palamau district ..	1,671	96,799
TOTAL ..	15,611	24,57,993

The Backward Classes are scattered over the entire State but not evenly. They are fairly concentrated in certain pockets of the State. The total population of the Scheduled Tribes in the scheduled areas has been determined to be 24,57,993 only. They are, however, predominant in all the districts of Chotanagpur Division and in Santhal Parganas but are in fairly considerable number in other districts of the State as well, viz., Shahabad, Monghyr, Purnea, Bhagalpur. The

Scheduled Castes and the other Backward Classes are in larger number in the North Bihar districts. About 14 years ago when special measures for the welfare of these people were initiated, their problems were not alike. While the educational and economic backwardness had been common to all, untouchability and other social disabilities were problems peculiar to the Scheduled Castes. Then the entire tribal population was not homogeneous group. These people had for ages been open to various unplanned and undesirable social forces and they had changed according to the intensity of the forces. In course of time, thus while some of the tribes had more or less settled down on agriculture and other allied occupation or had migrated to urban or semi-urban areas and taken to industries or other vocation, some had largely assimilated with the non-tribal population. There were still certain tribes who confined themselves to original forest habitants and were still distinctive in their pattern of life. Thus, the Backward Classes, as a whole offered a multifaced problem to be tackled. Speaking about the special measures and special provision made in the Constitution for the Scheduled Castes, the Scheduled Tribes and the other weaker sections of the people, the Commissioner for Scheduled Castes and the Scheduled Tribes in his first report for 1951 observed :—

“The general underlying spirit of all safeguards for the Scheduled Castes and the Scheduled Tribes embodied in the Constitution is that with a period of ten years from the commencement of the Constitution, the Scheduled Castes, the Scheduled Tribes and the weaker sections of the people, socially and educationally Backward Classes of citizens who should be protected from social injustices and all forms of exploitation and whose educational and economic interests should be protected, should be brought in line with others so that after the period of ten years they may stand on their own legs without the help of crutches in the form of safeguards.”

It is now obvious that within the span of ten years as contemplated, the Backward Classes could not be helped to come up to the level of the so called advanced communities of the population as a result which, the special reservation in favour of the Scheduled Castes and the Scheduled Tribes have been extended for a further period of ten years.

During the last 14 years, however, the Backward Classes have undergone considerable changes and their advancement towards the set goal has, nevertheless, been marked, though it is not possible to express in quantitative terms as to how much they have advanced educationally and economically. And the Third Five-Year Plan for their welfare has to be formulated on the plinth of all these. The special measures for their welfare initiated since 1946 and successful execution of the two plans for them, have undoubtedly, thus the main sources of assistance to the Backward Classes, but they do not represent the total efforts made by the Government for their welfare. The Backward Classes sector of the

Plans have been and are only to supplement and not to supplement the efforts of the other sectors of the Plan and other general activities for better administration and welfare of the people in general but it will be stupendous to describe them all here. Moreover in the context of the Five-Year Plan it is not necessary even. A brief description of the Backward Classes sector of the first two Plans and of the proposals for the Third Plan is, therefore, given in the paragraphs that follow.

The Five-Year Plans started from the year 1951-52. In order to appreciate the achievements during the First and the Second Plans, therefore, a mention of the works done before the First Plan period is necessary. The expenditure incurred and the results achieved in respect of the special schemes taken up for the welfare of the Scheduled Tribes, the Scheduled Castes and the other Backward Classes during the period 1946-51 is given below :—

(a) Scheduled Tribes—

Expenditure incurred—Rs. 44,64,602—Achievements.—Twenty hostels had been opened and three hostel buildings constructed. The number of schools and hostels under Thakkar Bapa Scheme was 243. Three persons had been given loans for development of Cottage Industries. Grants were given to 29 institutions and non-official organisations. 126 Minor Irrigation Schemes were executed. The number of staff for the welfare of the Scheduled Tribes was 347. Stipends, book-grants and exemption from payment of examination fees were also available to the Scheduled Tribe students.

(b) Scheduled Castes—

Expenditure incurred—Rs. 21,10,575—Achievements.—Seventeen hostels had been opened and one hostel building had been constructed. 100 Primary Schools had been opened. 32 Co-operative Societies for municipal sweepers had been organised. 260 persons had been given loans for development of Cottage Industries. Stipends, book-grants, petty grants and exemption from payment of University Examination fees were also available to the Scheduled Caste students. Special staff for their welfare had also been appointed. Their number was 189.

(c) Other Backward Classes—

Expenditure incurred—Rs. 17,09,345—Achievements.—6,791 stipends had been awarded. Four hostels were opened and one hostel building had been constructed. 560 *maktabs* had been started for the students of the Backward Muslim

Communities. The number of special staff for their welfare was 17. Book grants, library grants, petty grants and exemption from payment of University examination fees were also available to the students from Backward Muslim Communities.

First Five-Year Plan.—In the First Five-Year Plan, 18 schemes were included and a sum of Rs. 1,60.00 lakhs had originally been provided for the welfare of Scheduled Castes, the Scheduled Tribes and the other Backward Classes as given below :—

				(Rupees in lakhs.)
(i) Scheduled Castes	..	..	..	65.43
(ii) Scheduled Tribes	..	..	..	61.66
(iii) Other Backward Classes	..	..	..	32.91
TOTAL				1,60.00

The Government of India started giving grants-in-aid to the State Government for the welfare of the Scheduled Tribes and development of scheduled areas under Article 275(i) of the Constitution from 1951-52 and for the welfare of the Scheduled Castes, and removal of untouchability, for the welfare of the Denotified Tribes and the other Backward Classes for the year 1953-54, and most of the schemes included in the Plan for welfare of the Scheduled Tribes became eligible for grants from the Government of India, under Article 275(i) of the Constitution. The Planning Commission, therefore, advised that the schemes which were being assisted under Article 275(i) of the Constitution should be excluded from the State Plan. Accordingly, in the final adjustment of the Plan, the original provision of Rs. 1,60.00 lakhs was reduced to Rs. 1,41.40 lakhs as noted below :—

				(Rupees in lakhs.)
(1) Scheduled Tribes	..	..	..	15.17
(2) Scheduled Castes	..	..	..	82.86
(3) Other Backward Classes	..	..	..	43.37
TOTAL				1,41.40

The total expenditure incurred on all the 18 schemes during the First Plan period, however, amounted to Rs. 2,57.72 lakhs. A brief review of the work done with their expenditure is also given below :—

(a) Scheduled Tribes—

Expenditure incurred Rs. 1,24.76 lakhs—Achievements.—The number of staff employed for the welfare of Scheduled Tribes was

760. 16,050 stipends and 3,981 book-grants had been awarded. The number of hostels was 93 (57+36) and 28 hostel buildings had been constructed. The number of schools was 575. 531 wells had been dug. Nine cottage industries centres and 11 medical centres had been started. 187 miles of roads had been constructed. 404 *graingolas* had been opened and 68 *graingola* buildings had been constructed. Forty-three institutions had been given aid for doing welfare work among the Scheduled Tribes. 290 families of *Kharias* and 10 families of *Paharias* had been rehabilitated and various activities had been carried on for the cultural development of the Scheduled Tribes. A Tribal Research Institute to conduct researches on right lines into the customs, manners, etc., of the tribes inhabiting the different parts of the State was also established at Ranchi.

(b) Scheduled Castes—

Expenditure incurred Rs. 86.08 lakhs—Achievements.—The number of staff for welfare of the Scheduled Castes was 190. 45,209 stipends had been awarded. 38 hostels had been opened and 12 hostel buildings had been constructed. 200 quarters for the municipal sweepers had been constructed and about 14,705 students had been given various grants. 1,404 houses had been constructed for the Scheduled Castes and 155 wells had been dug. 39 Co-operative Societies had been started for the municipal sweepers and 258 institutions working for the welfare of the Scheduled Castes had been subsidised.

(c) Other Backward Classes—

Expenditure incurred Rs. 46.88 lakhs—Achievements.—The number of staff working for the welfare of the Backward Classes was 20. 12,282 stipends to the Backward Class Hindus and 13,108 stipends to the Backward Class Muslims had been awarded. The number of hostels was four and that of hostel building three. 560 *maktabs* for the Backward Muslim Community students had been maintained and 16 schools for the *Tharus* of Champaran had been opened. 63 libraries for the Backward Muslims had been given subsidies and 1,824 students given book-grants.

The expenditure likely to be incurred and physical targets likely to be achieved during the Second Five-Year Plan are given below :—

(a) *Staff for welfare of the Scheduled Castes, the Scheduled Tribes and the other Backward Classes including Backward Muslims—Expenditure likely to be incurred—Rs. 27.74 lakhs—Achievements.*—The headquarters Gazetted establishment of the

Welfare Department consisted during the First Plan period of a Secretary, and Under-Secretary and one Registrar. But in order to cope with the increased activities during the Second Plan period one post of Deputy Secretary-cum-Director, Social Welfare and one post of Additional Under-Secretary were created. The Director supervises the actual implementation of the welfare programme in the mufassil. The field staff of the department consisted of separate sets of officers for the welfare of the different communities. Thus, for Harijan welfare work, there were Divisional Welfare Officers in the divisions and District Harijan Welfare Officers at the district level with a number of Zonal Sevaks to assist them at the subdivisional or lower levels, for Adivasi welfare work, there were District Aboriginal Welfare Officers in the district of Chotanagpur and in the district of Santhal Parganas, for Backward Muslims welfare there was a Superintendent of Backward Muslim Communities Welfare at the State level with four Divisional Supervisors to assist him. Besides, there was a special Paharia Welfare Officer in the district of Santhal Parganas to look exclusively after the welfare work for the *Paharias*, a Special Officer for *Tana Bhagats* in the Ranchi district and Special Officers for the tribals of Rohtas-Adhaura in the district of Shahabad and the *Tharus* in the district of Champaran. In addition, there were Thana Welfare Officers in charge of *graingolas* opened to provide credit facilities to the Scheduled Castes and Scheduled Tribes.

With effect from 1st April, 1958, however, the entire field staff of the department has been reorganised with a view to achieving greater co-ordination in work and to ensure expedition in the execution of the various schemes launched under the auspices of the department. In this reorganisation, the entire set up of the existing staff has been replaced by a Deputy Collector in every district designated as District Welfare Officer and a number of Welfare Inspectors posted in each subdivision, to begin with, but eventually one Welfare Inspector will be posted to each block. The only posts of the old set-up which have been retained are those of the Special Paharia Welfare Officer in Santhal Parganas, Special Officer for *Tana Bhagats* and the Thana Welfare Officers in charge of *graingolas*. The new set-up of staff will now be in charge of all the schemes pertaining to the welfare of the Scheduled Castes, Scheduled Tribes and other Backward Classes with their respective jurisdictions and will be responsible for their proper execution subject to the general control and guidance of their respective District Officers.

The staff appointed and maintained during the Second Plan period are as below :—

(1) District Welfare Officers	..	..	17
(2) Assistant District Welfare Officers		..	17
(3) Welfare Inspectors	..	..	395
(4) Kalyan Graingola Sevak	..	..	39
(5) Ministerial Staff, etc.	..	..	570

(b) *Scheduled Tribes—Expenditure incurred Rs. 1,76.46 lakhs—Achievements.*—18,000 stipends and 3,000 book-grants will be awarded. 85 hostels have been opened and 28 hostel buildings have been constructed. 223 schools of different standards have also been started. 310 *graingola* buildings have been constructed. 54 Training-cum-Production Centres in various crafts have been started. 606 families of *Kharias*, *Paharias*, and other tribes practising shifting cultivation have been rehabilitated. 28 medical centres to cater to the needs of the tribal people have been started. One leprosy centre, viz., Thakkar Leprosy Cure Centre at Fatehpur in the district of Santhal Parganas has also been started. By the end of 1960-61, 3,200 wells, 325 miles of roads, five culverts and two bridges are expected to be constructed and two Forest Labourers' Co-operative Societies have been sanctioned to be organised. For development of Cottage Industries 380 families have been given loans and pigs, bucks, eggs, etc., have also been distributed for upgrading the local stock. Under cultural development programme about 100 individuals and persons have been given financial assistance for cultural activities and about 150 non-official organisations have also been given financial aid for carrying welfare activities among the Scheduled Tribes. For the Tribal Research Institute at Ranchi, one suitable building has been purchased and one training centre attached to this institute has been started for imparting necessary training to the workers employed in the tribal areas. Schemes for legal aid and medical aid to the Scheduled Tribes have also been taken up.

(c) *Scheduled Castes including Denotified Tribes—Expenditure Rs.1,54.54 lakhs—Achievements.*—By the end of 1960-61, 58,686 stipends, 14,846 book-grants, 2,107 hostel grants and 286 stipends in Technical Institutions will be awarded. 14 hostels have been opened and 23 hostel buildings have been constructed. 21 residential schools and 289 primary schools have been opened. 14 societies of municipal sweepers have been organised and the Theosophical Industrial Training

Institute, Patna, has been reorganised. 150 *graingolas* have been opened. 400 persons have been given loans and 446 persons given subsidies. 100 institutions and individuals have been given aid for carrying on various welfare activities among the Scheduled Castes and for removal of untouchability. 2,000 copies of the biography of Shri Jagjiwan Ram have been purchased and distributed. By the end of 1960-61, 1,347 wells will be dug and 1,069 houses constructed. Schemes for legal assistance to Scheduled Castes in which they need assistance and protection and for medical aid have also been taken up. For the Denotified Tribes a comprehensive scheme for their welfare envisaging opening of residential schools, T. C. P. Centres, social centres, medical centre, residential houses, wells and various educational grants have also been started.

- (d) *Other Backward Classes—Expenditure Rs. 74.95 lakhs—Achievements.*—By 1960-61, 50,342 stipends will be awarded, five hostels will be started and three buildings will be constructed besides book-grants and exemption from payment of University and Board Examination fees. Middle Schools have been upgraded to H. E. schools. U. P. schools have been upgraded to Middle schools. 25 *graingolas* have been opened in *Tharuhat* areas and 501 persons have been given loans for development of Cottage Industries. 2,290 persons have also been given subsidy for agricultural operations. A scheme for medical aid to other Backward Classes has also been taken up.

PROPOSAL FOR THE THIRD FIVE-YEAR PLAN.

(i) *Establishment—Rs. 25.00 lakhs.*—178 Welfare Inspectors will have to be appointed in order that each of the 575 blocks in this State may have one Welfare Inspector. Besides, it is proposed to create a separate post of Director of Welfare and of one Accounts Officer.

(ii) *Scheduled Tribes—Rs. 3.93 lakhs.*—It is proposed to sanction 15,000 stipends to high school students, 1,375 stipends to students in Technical Institutions, book-grants to 4,000 students, educational grants to 45,000 middle school students, 6,000 educational grants to primary school students during the Third Plan. Besides, it is proposed to grant exemption from payment of tuition fees to the secondary school students (including middle, post-basic and senior basic schools and exemption from payment of University/Board Examination fees, to open 8 junior basic type and 2 senior basic type schools, to sanction grant-in-aid for publications in tribal language and about tribal culture, to construct 79 hostel buildings and open new hostels. It is proposed to open 600 *graingolas*, construct 500 wells, sanction medical aid in illness, grant-in-aid to institutions and individuals working for welfare of the Scheduled Tribes.

Scheduled Castes—Rs. 2,95 lakhs.—It is proposed to sanction 77,850 stipends to high school students, 1,000 stipends to students in technical institutions (other than general colleges), book-grants to about 5,000, 6,000 stipends to middle school students, 12,500 stipends to primary school students, exemption from payment of University/Board Examination fee, to open 19 hostels, to reorganise 18 basic schools and to open new basic schools. Grant-in-aid has to be sanctioned to the primary schools catering to the needs of Scheduled Castes, 110 stipends for dance, drama and music have to be sanctioned. Co-operative Societies have to be organised. Drinking water wells have to be dug. Medical aid in illness, grant-in-aid to non-official institutions and individuals working for the welfare of Scheduled Castes have to be sanctioned.

Other Backward Classes—Rs. 40 lakhs.—4,000 stipends to high school students, 1,675 stipends to students in technical institutions, educational grant to 10,000 middle school students and 10,000 primary school students, have to be sanctioned. Exemption from payment of University/Board Examination fee has to be granted.

The State Plan proposals total to Rs. 7,28 lakhs. It is also expected that in addition Rs. 6,34 lakhs would be available for this sector from the Central Plan of the Ministry of Home Affairs, Government of India. The sum of Rs. 6,34 lakhs has not, therefore, been included in the State Plan.

6. SOCIAL WELFARE.

WELFARE EXTENSION PROJECTS.

In pursuance of the recommendations of the Planning Commission, the Central Social Welfare Board was set up in August, 1953, to enlist the Co-operation of voluntary agencies engaged in Social Welfare services and to canalise their efforts for promotion of social welfare, to strengthen, improve and extend their activities and to develop new programmes and carry out pilot projects. The need for an organisation at the State level soon became apparent and accordingly, Bihar State Social Welfare Advisory Board was set up, composed predominantly of non-officials with experience of social service, by the State Government in consultation of course, with the Central Social Welfare Board. The chief functions assigned to the State Board were as follows :—

- (a) To act as media for exchange of information between the field and the centre and *vice versa* ;
- (b) to invite, receive, examine and recommend to the Central Board applications for grants-in-aid from voluntary welfare institutions ;
- (c) to supervise generally and report on the working of the aided institutions ;

- (d) to advise and assist the Central Board in sponsoring new welfare programmes and activities wherever they are needed within the State ;
- (e) to co-ordinate the welfare and development activities undertaken by the various departments of the State Government with a view to avoiding duplication ; and
- (f) to undertake such other activities as may be conducive to the fulfilment of these objectives.

All the schemes to be dealt with by the State Board are Centrally sponsored. While some of them are run with financial assistance from the State Government there are certain others, mainly grants-in-aid programmes which are entirely financed by the Central Social Welfare Board.

Achievements during First and Second Plan Periods.

(a) *Projects.*—During the course of First Five-Year Plan period, the State Social Welfare Advisory Board opened six Rural Welfare Extension Projects with 30 centres covering a population of 1,50,000. This entailed an expenditure of Rs. 15,108 on behalf of the State Board. All these Projects were of original pattern whose area of operation was limited to 25 villages in each case. Their number has gone up to 16 during Second Plan, with 80 centres covering about 400 villages having a population of nearly 4 lakhs. In addition to these, the State Board has opened six Welfare Extension Projects in five C. D. Blocks of 1957-58 series and 29 Welfare Extension Projects of the co-ordinated pattern in 1958—60 series Blocks. These 35 Projects have 250 centres and cover a population of about 26,24,894 within 42.15 villages.

(b) *Grants-in-aid.*—A large number of voluntary organisations have been working in this State for a long time for the welfare of the women and children. 26 of such institutions had received grants to the extent of Rs. 84,900 from the Central Social Welfare Board direct, before the State Board came into existence. After its creation, the State Board recommended grants to 43 more institutions during the First Five-Year Plan period. The total grant made to voluntary organisations during this period came to Rs. 1,78,000. In the Second Plan, against a provision of Rs. 9 lakhs made for this purpose, the State Board has already out-spent this amount. The total amount of grants up to 1959-60 has reached a figure equal to Rs. 8,95,800. Besides, the Central Board has sanctioned about Rs. 1,87,380 as grants-in-aid to 115 institutions for the year 1960-61. These grants are financed wholly by the Central Board.

(c) *Other Schemes.*—Other schemes being implemented by the State Board at the instance of the Central Social Welfare Board include condensed course of training for middle-aged women, holiday homes for children, Urban Welfare Extension Projects, hostels for working women, buildings for Project Centres, Night shelters, Socio-economic programmes,

etc. The State Government has not to give any financial assistance for these schemes.

The backbone of the social welfare programmes launched so far by the State Board is the Welfare Extension Project Programme. The co-ordinated pattern of Welfare Extension Project has the entire C. D. Block area as its area of operation with ten centres suitably located within the block. The staff comprises of one Mukhyasevika, six Gramsevikas, two lady craft instructors, four trained *Dais*, six part-time Balwadi teachers, a few office staff besides one Lady Social Education Organiser, two Gramsevikas and four midwives made available from the block budget. The five-year budget of a co-ordinated pattern Welfare Extension Project involves an expenditure of Rs. 2,08,000 which consists of Rs. 96,000 from Central Board, Rs. 48,000 from State Government, Rs. 64,000 from block budget including Rs. 24,000 in shape of salary of the staff available from block side.

Training.—The various programmes in the Welfare Extension Projects are to be executed mostly with the help of female staff, specially trained for the purpose. The availability of trained personnel has constantly remained a problem for the State Board. At present there is only one training centre for Gramsevikas at Waini in Darbhanga where about 40 to 50 Gramsevikas are trained every year. A few other candidates are trained at Siwait, Allahabad. The total number, however, proves insufficient to meet the requirement. The problem is more acute in case of Mukhya-sevikas and *Dais*. Educated and trained ladies are not coming forward to take up posts in villages. State Social Welfare Board had to take 20 untrained mukhya-sevikas, which would be trained up in 1961-62. Provision of Rs. 3.30 lakhs only as the State share for continuing the existing projects during 1961-62 has been made in the Plan.

SOCIAL DEFENCE OR CARE PROGRAMMES.

Progress in Second Plan—Probation.—This State had no 'Care Programme' during the First Plan period. During the Second Plan period some 'Care Programme' Schemes were authorised towards the second half of 1958. Since then a foundation has been laid for a comprehensive care and protection service in the State. The Probation of Offenders Act, 1958 has been brought into force throughout the State. Probation centres have been built up at each district headquarters. The volume of reference by courts is increasing and has already reached a substantial level. The number of those granted probation is also fairly large, considering the short period of the working of the Act. The Probation units have worked as the field service for the After-care and follow-up programmes and provided information to the institutions for developing institutional treatment. They have also worked in the field for the enforcement of Suppression of Immoral Traffic Act and Child Care. This service has enlisted the cooperation of voluntary social workers and enrolled them as Associate Probation Officers and remunerates them by fees. It is also developing voluntary societies and institutions for providing care and protection as

well as opportunities for employment and recreation to the various groups in need of such treatment. In short it has developed as a nucleus for social case work service of all types required by the State.

Probation Hostels.—During the Second Plan period the State has developed something which is unique in Indian conditions, viz., institutional treatment in Probation set up. Full advantage was taken of the provision of Probation Hostels in the Care Programme of Second Five-Year Plan and two hostels were organised and fifty-five persons were rehabilitated.

Remand Homes.—In the Second Plan period seven Remand Homes have been organised in this State. These Remand Homes are providing shelter to the 'Care and Protection' children as well as delinquents below 15 years. The Probation service works hand in hand with these institutions and helps to secure the social rehabilitation of the children coming to these institutions. These institutions function under Managing Committees with large representations of local non-officials. They are in a way an exceptional experiment in this country since they are working purely on a voluntary basis, i.e., without the support of the Children's Act. This experiment has revealed that there are social problems contributing to insecurity in children, lack of parental responsibility even where means are available and at the same time a social goodwill, which can be harnessed through proper field work. Children's Act together with an effective Probation service which might secure adjustment in families, develops family responsibility, mobilises social assistance, finds foster parents and develops voluntary Homes is mere necessity and in fact a better approach to the problem of Child Care than assuming direct State responsibility and building up gigantic State-run Children's Homes to take care of our numberless ill-cared for children. The work during the Second Plan has thus revealed the nature of our problem in this field as well as the appropriate approach for the same, and the Third Plan has to meet the needs of situation to the limits of means available.

Borstal school.—In the Second Plan a Borstal School has been organised in this State and the Probation service is helping to individualise treatment in Prisons and other institutions by providing sociological reports and helping in Parole work.

THIRD FIVE-YEAR PLAN.

I. SOCIAL DEFENCE OR CARE PROGRAMME.

1. *Probation Services*—(a) (i) *Probation Units for Subdivision.*—On account of the enforcement of Probation of Offenders Act, 1958, throughout the State, it is necessary to provide probation units at all subdivisional headquarters (since courts are held at all such places). Senior Probation Officers will be appointed at seven subdivisions in 1961, five in 1962, five in 1963 and four in 1964. Thus 21 subdivisions will have probation units by the end of the Third Plan.

(ii) *Reserve strength of Assistant Probation Officer for Subdivisions.*—Since nearly half the subdivisions would still remain without probation units and it is necessary to keep in readiness the necessary staff to meet their requirement, provision is made for a reserve strength of Assistant Probation Officers attached formally to head office from which officers would be deputed to the subdivisions and district headquarters where case load demands such allocation.

(b) *Provision of Lady Probation Officer at Divisional Headquarters.*—Probation Rules require posting of a Lady Officer at each court. One Lady Officer on a pay-scale of Rs. 175—12—235—E.B.—15—400 plus rent free accommodation or 10 per cent of pay in lieu thereof shall be provided at each of the Divisional headquarters, viz., at Patna, Ranchi, Bhagalpur, and Muzaffarpur from 1961-62 onwards.

(c) *Welfare in Prisons Programme.*—Welfare in Prisons Programme would have three main planks, viz., (i) strengthening services and facilities for moral instructions and social education at four central jails where Welfare Centres have been established in the Second Plan, (ii) developing the Multi-purpose Secondary High School at Hazaribagh Central Jails and (iii) assisting in Parole service.

(d) *Provision of Principal Probation Officer.*—With a view to secure scientific technical guidance and integrity in probation and social case work in all districts two districts would be grouped together under one Principal Probation Officer and placed under a whole-time Principal Probation Officer. Thus eight Principal Probation Officers would be provided in course of the plan period. Till such whole-time Principal Probation Officers are not provided a sum of Rs. 50 only per month will be given to such part-time officers as are appointed to perform the duties of the Principal Probation Officers in districts not covered by the whole-time Principal Probation Officers. The Principal Probation Officers at Patna will assist the Director of Probation Services as a Deputy Director and be given an allowance of Rs. 100 only for the same.

(e) *Head Office Organisation.*—The Head office organisation will be strengthened adequately so as to provide scientific guidance and effective control and integrate the various programmes belonging to the sector.

A provision of Rs. 5 lakhs as the State share has been made in the State Plan for these Probation Services.

(2) *Probation Homes.*—Two Probation Homes (a) one for women and children and (b) another for men will be established. Under the Probation of Offenders Act, 1958, which has already been brought into force throughout the State, some adults may be ordered to be detained in the Probation Home. These Homes are essential to meet the legal requirements. These Homes would accommodate 50 inmates each. The Probation Home for men is meant for persons between 16 and 24 and it would be developed at the Probation Hostel, Ranchi. State's share of Rs. 1.25 lakhs has been provided in the Third Plan.

(3) *Care for Women*.—One Protective Home will be established. The Suppression of Immoral Traffic Act provides detention and corrective training for a period ranging from two to five years for the hardened type of offenders. One State Home for detaining and imparting suitable training to such hardened offenders is immediately required to meet the requirement of the law already brought into force. This Home would accommodate 100 inmates. The scheme would cost Rs. 1.25 lakhs (state Share). An additional provision of Rs. 0.57 lakh has been made for appointment of field staff for inspecting licensed institutions.

(4) *Care for Children*.—(a) One Children-cum-Probation Home will be established. Quite a large number of children released under probation lack suitable Home in our State. This Home would accommodate 100 inmates and impart suitable training to them.

(b) Ten Remand Shelters in ten district headquarters will be established. With the application of the Children's Act, places of temporary stay for children who are brought under the Act would become necessary at all district headquarters. These Remand Shelters would be established at Bhagalpur, Saharsa, Santhal Parganas, Daltonganj, Ranchi, Hazaribagh, Darbhanga, Chapra, Motihari and Shahabad. These shelters would accommodate five inmates. The inmates would be sent to the Remand Homes of the division concerned when not required by courts or otherwise.

(c) *Improvement in existing Remand Homes*.—The number of inmates of the Remand Homes of divisional headquarters would increase due to the transfer of inmates from the Remand Shelters. Effective supervision and care of larger number of inmates would require improvement in the existing Remand Homes.

The following improvement would be effected in the existing Remand Homes:—

- (i) One Assistant Probation Officer will be attached to each of the seven Homes.
- (ii) The scale of pay of the Deputy Superintendents at three Remand Homes situated at divisional headquarters will be upgraded and brought to the level of that of Probation Officer.
- (iii) One Supervisor will be provided to three Remand Homes at Divisional Headquarters.

Rs. 3 lakhs as State share has been provided in the Third Plan.

(d) *Beggars' Home*.—The existing Beggars' Home at Patna was established during the last quarter of the year 1959-60 under the care

programme. Due to the paucity of funds, provision for giving training to the inmates of the Beggars' Home in craft, weaving and tailoring, etc., was not made. With the establishment of the Beggars' Home, the Government had in mind to check begging and at the same time to make them useful citizens of the society. Provision of Rs. 1 lakh as State share has been made and it is proposed to spend over the above items during the Third Five-Year Plan period.

II. SOCIAL AND MORAL HYGIENE AND AFTER-CARE SERVICES.

(a) *After-care Home-cum-Production Centre.*—One After-care Home-cum-Production Centre for providing residence-cum-employment to such socially handicapped offenders, as are unable to find employment in open market, shall be set up during the plan period.

(b) *Non-institutional After-care.*—After-care Service for assisting discharged offenders will be organised and material assistance would be given to discharged prisoners in suitable cases.

A provision of Rs. 1.50 lakhs as State share has been made.

(c) *State Homes and Shelters.*—The scheme of opening After-care Homes, District Shelters and Reception Centre was sponsored by Ministry of Home Affairs, Government of India under their After-care Programme for Social and Moral Hygiene. The State Government were advised to establish five State Homes and one District Shelter and also one Reception Centre in each district of the State for accommodating both men and women before their transfer to State Homes. Accordingly, two State After-care Homes (one for men and one for women) and three District Shelters-cum-Reception Centres (one for men and two for women) have been opened at Patna, Muzaffarpur, Purnea, Chapra and Gaya during Second Five-Year Plan. It is proposed to open three After-care Homes and ten District Shelter-cum-Reception Centres on a phased programme during the Third Five-Year Plan at a total cost of Rs. 2.50 lakhs.

III. OTHER SCHEMES.

1. *Training Research and Publication*—(a) *Training for Diploma Course.*—Ten officers of the rank of Probation Officers and above would be trained in two years' diploma course at the Tata School of Social Sciences or in similar courses of training elsewhere in course of the Plan.

(b) *Training of Certificate Course.*—Sixty officers of the rank of Probation Officers, Assistant Probation Officers, House Masters and above would be trained in certificate courses lasting for 6 to 9 months at suitable institutions.

(c) *Refresher and Orientation Course*.—Seminars and short term courses principally to orient about 200 Associate Probation Officers and Social Workers for Probation and other kinds of social work in the Programme would be organised.

(d) Research Section will be organised at the Head Office to collect and collate information and statistics from Probation Officers and Social Workers regarding problems in Social Pathology of special interest for developing effective probation work in the State. Such material would be published.

A provision of Rs. 1.28 lakhs has been made for these schemes.

Other Schemes of Social Welfare.—A sum of Rs. 14.09 lakhs has been provided for schemes of Social Welfare excluding welfare of and rehabilitation of handicapped and women and child welfare. Specific Schemes would be worked out later. A proposal for setting up a Department of Social Welfare to co-ordinate the various Schemes (at present executed by the Jail, Education, Health and Community Development Departments) is under consideration of the State Government.

7. LABOUR WELFARE.

PROGRESS UNDER THE FIRST AND SECOND PLANS.

The Minimum Wages Act came into force in the year 1950. Special attention was, therefore, paid to the efficient implementation of the Act and its proper administration. For this purpose the administrative machinery had to be strengthened by appointing four Labour Superintendents, seven Labour Officers and a number of Labour Inspectors. The State Government fixed the minimum wages for all employments in Part I of the Schedule to the Act. Minimum Wages for certain categories of workers of these employments which were left out earlier were fixed by the end of 1954. The State Government fixed the minimum wages for the agricultural workers in the district of Patna on an experimental basis at the first instance. The experiment, having proved successful and treading upon the experience gained, minimum wages for agricultural workers were fixed in the districts of Gaya and Shahabad in the year 1953. The operation of this Act was then extended to the whole of Chotanagpur Division and minimum wages for agricultural workers in Chotanagpur Division were fixed by the end of 1954. Rapid Wage Survey and other preliminary enquiries for fixation of minimum wages in Bhagalpur and Tirhut Divisions were also completed during the plan period. With the amendment of the Minimum Wages Act, providing for the fixing of minimum wages after the extension of the date-limit, minimum wages in agriculture in Bhagalpur and Tirhut Divisions were fixed during the Second Plan period.

2. With the enforcement of the Factories Act, 1948, the number of registered factories in the State of Bihar considerably increased on the eve of the First Five-Year Plan. Before the First Five-Year Plan period, the total strength of the Factory Inspectorate consisted of one Chief Inspector of Factories and seven Inspectors of Factories. With the increase of the number of registered factories, it became difficult for the staff to cope with the proper administration of the Act and the rules framed thereunder. With a view to increasing the efficiency of the Inspectorate and to ensuring more effective supervision of the factories, one post of Deputy Chief Inspector of Factories and two more posts of Inspectors of Factories were created in 1953-54 and filled up in 1954-55. During that plan period, the Inspectorate was reorganised and more circles were created to implement the scheme and thereby a large number of factories were registered and brought under the administration of the Factories Act, yielding a larger revenue to Government in the shape of registration fees. During the same period a small research unit was set up in the Inspectorate to carry on investigation and researches in day-to-day problems and to advise field staff on all such matters. This unit under the Medical Inspector of Factories, Bihar, looked after the health and hygiene of the industrial workers and one Industrial Hygiene Laboratory was set up at Patna. Silicosis survey in refractories industries in Bihar was conducted by the Medical Inspector of Factories with the help and assistance of the Chief Adviser of Factories, Government of India and the industrial hygiene unit. The survey report furnished valuable data on the incidence of silicosis and its rate of frequency in relation to gas exposure. With the growing industrialisation of the State and the springing up of both large-scale and small-scale factories, the strengthening of the Factory Inspectorate during the Second Plan period attracted the attention of the Government. Ten posts of Inspectors of Factories and one post of Deputy Chief Inspector of Factories for productivity council have already been created during the Second Plan. It is, however, felt that the standard of staffing of the Inspectorate achieved by the end of the Second Plan period would remain much below the actual requirement and, therefore, it has been planned to include the creation of one more post of Deputy Chief Inspector of Factories, four posts of Divisional Inspectors and 10 posts of Inspectors of Factories during the Third Plan period mainly for productivity unit and to put a check to the increasing trend of accidents in factories in Bihar.

3. For the proper inspection of boilers necessity was felt for suitable augmentation of the strength of the Boiler Inspectorate as it stood prior to the First Five-Year Plan period. Before the First Plan period, the total strength of the Boiler Inspectorate consisted of one Chief Inspector and seven Inspectors of Boilers. So two more Inspectors of Boilers were appointed during the year 1953-54. The contemplated assignment of separate circles for each Inspector of Boilers could not materialise during the First Plan period, but it materialised during the Second Plan period. At the time of drawing up of Second Five-Year Plan, it was considered

that with the augmentation of the staff done during the First Plan period it would be possible for the Inspectorate to carry out all duties and responsibilities on it for the implementation of the provisions of the Boilers Act and the rules and the regulations framed under the said Act. In the circumstances, the Second Plan did not contemplate to strengthen this Inspectorate. Towards the closing part of the Second Five-Year Plan, it has been felt that considering the number of boilers in this State as also the various new rules such as Fuel Economy Rules, Engineers and Operators Examination Rules, Pressure Vessels (Unfired Vessels) Rules, Welders Test Rules and Miniatural Boilers Rules, it is necessary to strengthen this Inspectorate during the Third Plan period by appointing more field officers and supervisory staff with necessary buildings and equipments.

4. For the achievement of the aims and objects of the new labour legislations, such as Minimum Wages Act and the Bihar Shops and Establishments Act, the field and supervisory staff of the Labour Department was further strengthened during the Second Plan period by the appointment of one Deputy Commissioner of Labour, 29 Labour Officers, 7 Labour Superintendents and also setting up of two Labour Courts in this State. So far the strengthening of the conciliation and execution machinery under the Commissioner of Labour, Bihar, is concerned, the speedy growth of consciousness among the working class and the expanding economy of the State demand that the various problems of industrial relations, growth of trade unionism on healthy lines, etc., be attended to with the greatest efficiency. It is, therefore, proposed to appoint one more Joint Labour Commissioner, one Deputy Commissioner of Labour, ten Superintendents of Labour with staff, equipments and proper accommodation during the Third Plan period.

5. The First Plan made a beginning in the direction of the collection of statistics and conduct of surveys of the matters concerning the labour problems. A handful of staff was engaged in the implementation of the provisions of the Census of Manufacturing Rules, 1945 and the Industrial Statistics Act, 1942, from the beginning of the First Plan period. Several surveys, such as Industrial Hygiene Surveys, Survey of Industrial Indebtedness and implementation of the Industrial Statistics Labour, Rules were taken up during the First Five-Year Plan. These surveys proved useful and the statistics collected was found to be of assistance in dealing with problems on those subjects. During the Second Plan period, the work connected with the statistics surveys and researches of the labour matters was intensified and a full-fledged wing of Research, Statistics and Information was set up under the Commissioner of Labour, Bihar. Various kinds of surveys were undertaken and completed. Several survey reports were published and others are being published which would serve as valuable data for making an assessment of the labour problems in the State and their background. A State Wage Board was also set up during the same plan period. The publication of the fortnightly Labour Bulletin *Shramik* was improved. Several types of researches in

Labour matters were taken up both departmentally and through the graduate students and professors of the Universities in Bihar. The importance of the collection of statistics and conducting of surveys and researches, as also the publication of reports and publicity of the matters connecting the interest of the labour, demands further move in the direction. Accordingly, the Research, Information and Statistics Division under the Commissioner of Labour is proposed to be expanded during the Third Five-Year Plan by the strengthening of the Statistics Wing and setting up Field Research, Office Research and Publicity and Publication Divisions. It is also proposed to implement the recommendations of the Bihar Unemployment Committee under the Third Five-Year Plan.

6. The implementation of the Employees' State Insurance Scheme was started during the First Five-Year Plan period. During the year 1955-56, important surveys were conducted. During the First Plan period only preliminary work could be done and the actual implementation of the scheme could not start. During the Second Plan period the scheme was implemented at four places, viz., Patna, Katihar, Mukhtapur (Samastipur) and Monghyr. In the year 1959-60, the scheme had been extended to three more industrial places in Bihar and by the end of the Second Plan period it is expected that 52,600 workers would be covered by the scheme. During the Third Plan period, it is proposed to provide full hospital facilities to the families of 52,600 workers covered during the Second Plan period and the coverage of the scheme would be extended to 1,22,000 more family units.

7. Prior to the First Five-Year Plan period there were only two Government Labour Welfare Centres in this State. It was, therefore, proposed to have at least five fully equipped Labour Welfare Centres with their own buildings, staff and equipments by the end of 1955-56. Accordingly, during the First Plan period, three more Labour Welfare Centres were set up, as planned, thus bringing the total number of centres to five at the end of that Plan. The old two centres were also re-oriented and brought on the lines of the new centres. Building for the Labour Welfare Centre at Jamshedpur was constructed during the First Plan period and the construction of buildings for three more centres was also taken up during that period. The programme for the Second Five-Year Plan was to set up five more centres of the existing pattern and ten centres of smaller type. The bigger centres were classed as 'A' type and the smaller ones as 'B' type. Both these types were to have their own buildings, staff and equipments. All the 15 new centres have been opened. The programme of work in the centres has been revitalised and Industrial Health Service Wings have been opened at 10 of these centres as planned in the scheme of the Second Five-Year Plan. All these 20 Labour Welfare Centres established so far have been opened at places where the concentration of the industrial labour is heavy. During the Third Five-Year Plan period, it is proposed to establish ten smaller type of centres which are to be termed as Utility Centres. Such centres would be opened at places with lesser number of labour population with

a view to extend the welfare facilities to the far off places. It is also proposed to open three Rest Houses at places of historical importance, pilgrimage or at some hill station during the Third Plan period. The main object of the opening of Rest Houses is to provide for the workers a place to accommodate them during their holiday trips to these places and to arrange for their food and recreation during the period of their stay at those places.

8. Besides doing the welfare work of the workers in the industries directly by the State Government, the Government have been encouraging the organisations of the workers and the managements in doing the welfare work and for this purpose, annual non-recurring grants began to be given to such organisations. A considerable amount was disbursed on this account to the trade unions and other workers' organisations which helped th₃ setting up of Voluntary Labour Welfare Centres (now termed as C type centres). During the Second Plan period, a scheme was drawn up for getting the buildings of these centres constructed on the basis of joint contribution by the workers, the management and the State Government. By the end of the Second Five-Year Plan period buildings for 25 such centres would be constructed. It is proposed to continue this assistance to the C type Labour Welfare Centres during the Third Plan period. During the Third Plan period, it is also proposed to give financial assistance to the Co-operative and Credit Societies in order to make the benefits of the Co-operative and Credit Societies easily available to the workers.

9. There was no scheme under the group heading "Manpower and Employment" during the First Five-Year Plan period. As a result of recommendations of the Shiva Rao Committee, certain schemes were formulated by the Government of India, Ministry of Labour and Employment, Directorate-General of Resettlement and Employment for inclusion in the Second Five-Year Plan which was done with the approval of the Planning Commission and the State Government. These schemes relate to the expansion of the Employment Service, "Collection of Employment Market Information", establishment of Youth Employment Service and Employment Counselling at the Employment Exchanges and "Occupational Research and Analysis". The schemes were centrally sponsored with the Government of India contributing 60 per cent of the cost. The physical targets fixed for all the schemes, under this sector for the Second Five-Year Plan have already been achieved.

10. *Craftsmen's Training.*—Maintenance of a steady supply of trained skilled workers is an essential pre-requisite for the success of the industries programme. Accordingly considerable emphasis has been laid during the Second Plan period for the training of craftsmen. It will be evident from the simple fact that against 492 seats only at the beginning of the Second Plan period, the annual intake capacity at the end of the Plan will be 5,244—an increase of more than 1,000 per cent. This has been achieved through the expansion of an existing training centre and

establishment of 18 new institutions, including four Industrial Training Institutes at Ranchi, Dumka, Daltonganj and Lohardaga exclusively for the benefit of Scheduled Tribes.

THIRD FIVE-YEAR PLAN PROGRAMMES.

Labour Welfare and Administration.—The creation of industrial democracy which is a pre-requisite for the establishment of a socialistic society is dependent on many factors. The prosperity of the workers is essential before one can think of an industrial democracy. This prosperity can be achieved largely by better understanding and peaceful relationship between the employers and employees. The level of productivity also determines the extent of prosperity. It is the policy of the State Government to take steps for promoting social progress and for strengthening the economic foundations of the working people. Higher productivity, peaceful industrial relations, social, economic and moral uplift of the workers are some of the important aspects of the Labour Welfare and Administration. Besides numerous legislative measures there are tripartite decisions and various schemes formulated on the recommendations of the Tripartite Bodies at national and State level which have to be properly implemented. To achieve this a well-designed machinery is necessary. The existing machinery has been strengthened in the First Five-Year Plan and the Second Five-Year Plan. The task of this machinery is likely to become more onerous and complicated with the inevitable growth and expansion of industries and consequential increase in the number of workers in the Third Five-Year Plan. For achieving better industrial relations, growth of enlightened Trade Unions and better personnel management are necessary. Though primarily, it is the responsibility of the workers and the employers to develop their own organisation and to follow enlightened policies and practices yet in developing countries, the Government has to provide assistance in this form of advice and guidance through a specialised agency.

Prevention of accidents and extension of safety provision in factories—
Increase in productivity.—(a) The statistics of factory accidents have shown a steady increase in the rate of accidents which is a matter of deep concern. On account of these accidents, the workers are faced with grave hazards. A large number of man-days are also lost to the nation which results in loss of production. The State machinery has to see that the employers take all precautions and provide safety devices and make efforts to realise the responsibility about safety. The workers are to be educated in safety methods and Safety Committees have to be formed in various enterprises which require constant supervision and guidance from the administrative machinery. Safety propaganda, Safety campaigns and training of officers employed on Safety work are necessary besides literature for the same. The State has got an Industrial Hygiene Laboratory which requires expansion. A number of Local Productivity Councils have been established in this State and a drive for increasing productivity which would imply the full, proper and efficient utilisation

of available resources of man, machines and materials, is necessary. The present waste of the resources has to be stopped. An urge amongst the employers and employees has to be created for manufacturing a thing cheaply, quickly and easily. The tasks enumerated above are not easy to achieve. The present shortage of field and supervisory staff has to be removed. Hence, it is proposed to strengthen the machinery besides providing residential accommodation and equipments at a total estimated cost of Rs. 3.15 lakhs.

(b) *Training of personnel and increase in operational efficiency—Research in fuel economy.*—The Inspectors of Boilers besides carrying on inspections are also required to do survey of inland steam vessels. The power supply is not so adequate as to replace the use of boilers and during the Third Five-Year Plan it is expected that there will be further growth in the duties of the Inspectors on account of installations of new designs of boilers which are likely to come into existence. The inspectorate would also be required to see implementation of Fuel Economy Rules, Engineering and Operators' Examination Rules, Pressure Vessels (Unfired Vessels) Rules, Welders Tests Rules and Registration of Miniature Boilers Rules. There is dearth of trained personnel for running the boilers. The operational efficiency has to be raised. For these a training programme has to be introduced and the major responsibility will have to be taken by the State Government. Considering these expansions and developments, it is proposed to equip the inspectorate with more field officers and supervisory staff besides proper buildings and equipments at a total estimated cost of Rs. 1.45 lakhs.

(c) *Creation of Personnel Advisory Service—Enforcement of Code of Discipline and General Improvement of Industrial Relations.*—The Code of Discipline has been formulated for governing the relationship between the employers and the employees in spirit of mutual understanding and accommodation. Implementation of the Code of Discipline is vital for industrial peace and as it has no statutory force the task for conciliation and implementation machinery is by no means easy. A Tripartite Standing Committee (Evaluation and Implementation) has been set up at the State level which investigates into the complaints against the breach of the Code of Discipline. Gradually the task is assuming large proportions and it is hoped that during the Third Five-Year Plan, Regional or Industrywise Committees may have to be formed with necessary staff and equipments. In this State the Evaluation and Implementation Committee has also been entrusted to secure the implementation of the decision and recommendations of the Bihar Central Standing Labour Advisory Committee which meets at least once in a year and tenders advice on important matters concerning labour policies, and their enforcement. The industrial relations and other problems of Labour Welfare connected with workmen in different sectors specially the public sector and in agricultural industry have become more complicated. Maintenance of industrial peace is becoming more and more a complex problem. The question of maintaining proper discipline in industrial

undertakings and cordial relations between the workers and employers so as to ensure maximum production in the wider national interest has been discussed at All-India level many a time. As a result of these deliberations a grievance procedure has been evolved and a scheme of workers' participation in management has been recommended. The State machinery has to assist the workers and the employers in implementing the scheme mentioned above. The problems connected with the Trade Union Organisations and with the machinery dealing with collective bargainings are to be dealt with in a more scientific manner now. The faithful observations of the Inter-Union Code of Conduct require more adequate attention from the organisation of workers. If this is done, better atmosphere in which employers would find it easier to carry on negotiations would emerge. The State machinery has a moral responsibility to get the Code of Conduct observed by the workers' organisation. To make collective bargaining a greater success, assistance has to be given to the workers to organise the collective strength on proper lines. The managements have to show a genuine desire to co-operate with the representatives of the workers in exploring the possibilities for agreement. All these will require a specialised machinery and because the burden will be heavy senior officers will be required to shoulder it. It is, therefore, proposed to create the posts of one Joint Commissioner of Labour in the A. D. M. rank with a special pay of Rs. 150, one Deputy Commissioner of Labour and few other junior posts. The posts of the Labour Inspectors may have to be upgraded so that they can be given higher responsibilities. For creating the above posts and for providing them with accommodation, staff and equipments, a total estimated cost of Rs. 6 lakhs is proposed.

To provide a service to the employers as well as to the workers for giving them necessary assistance in the matter of personnel management, it is proposed to establish a Personnel Advisory Service. Such a service has been provided in some of the industrially advanced countries which has been responsible for improvement in industrial relations. The problems arising from the stage of recruitment to the stage of discharge or retirement require very careful and intelligent handling. Since the Personnel Management Advisory Service will function purely by persuasions, education and guidance, the job will not be an easy one. The service will organise regular study group, conferences and discussion on problems requiring solution. Unintelligent handling of personnel matters generally leads to strained relations affecting the efficiency and output of the workers. Many of our schemes like workers participation in management, implementation of the Code of Discipline or Code of Conduct may not succeed unless the workers and the employers follow a satisfactory Personnel Management Policy. A senior officer having specialised knowledge about personnel matters will have to be posted as Personnel Adviser at the State level, besides having such advisers at regional level in this State. The Personnel Adviser at the State level will be in the rank of the Joint Commissioner of Labour while in the regional level they may be in the rank of Labour Superintendent. It is,

therefore, proposed to create these posts with proper accommodation, staff and equipments at a total cost of Rs. 0.90 lakh, bringing the grand total under this head to Rs. 6.90 lakhs.

Expansion of Research—Information and Statistics Division.—The idea of having a full-fledged Research and Statistics Unit in the Labour Department was considered during the First Five-Year Plan period. A modest programme of work mainly relating to codification of awards and agreements, analysis of the strike, etc., carrying on of statistical survey in respect of housing and indebtedness was undertaken and completed during the first two plan periods. During the Second Plan period, this wing was strengthened and housing survey in sugar factories, wages census in the mica factories, preparation of reference folders for the State, preparation of consolidated report of indebtedness carried on in the State, a survey into the work and living conditions in saloons, goldsmith and tailoring shops, rapid housing survey in factories employing 250 and more workers were also conducted. It is, however, felt that only the fringe of the vast work has been touched and much remains to be done during the Third Five-Year Plan period. The programme of work in the research section during the Third Five-Year Plan deserves to be carried on in such a way as not only to continue the tempo created during the Second Plan but to enlarge the scope and to accelerate the phase of research work. Certain items of work undertaken during the Second Plan will have to continue during the Third Plan period. Besides, it would be necessary to give some attention to the unorganised and sweated industry with a view to adopt ameliorative measures. An enquiry into the work and living condition of workers in unorganised industries like Biri, stone-breaking and stone-crushing, rice and oil mills, hotels, and theatres, etc., seems to be overdue. Some study in the agricultural sector is also necessary. A study of the welfare facilities organised directly by the Government or through agencies and the worker's attitude towards these facilities would also be worthwhile. It is also felt that the time has now come to undertake certain studies for the successful implementation of social security measures and impact of the schemes like workers' participation in management, workers' education, etc., would also need a close study. The collection of the statistics of employment, wages, general labour statistics, etc., would also have to be paid serious attention.

The Bihar Unemployment Committee has made many useful recommendations for tackling the unemployment problem. Besides, implementing the various recommendations it would also be necessary to carry on survey in various fields, collect statistics, etc., in accordance with those recommendations. Although the task is a gigantic one but would require considerable amount for the purpose. In view of the low ceiling fixed for the Labour and Labour Welfare Sector, it has only been possible to earmark a sum of Rs. 2 lakhs over this scheme in the Third Plan. With these points in view, it is proposed to set up field research, office research and publicity and publication units, besides strengthening of statistical wing during the Third Plan period.

Considering all these a total sum of Rs. 7 lakhs has been provided under this head for the Plan period.

Welfare.—In order to provide opportunities and facilities for social and moral uplift of the workers, the State Government started a number of welfare centres in the industrial areas during the First and the Second Five-Year Plan periods. The need for major industrial centres would more or less reach a saturation point by the end of the Second Plan period, and it may not be necessary to continue the programme of expansion or having costly buildings and centres in the Third Plan period. It would, however, be necessary to further widen and diversify the scope of various activities in the field of labour welfare. The social backwardness of the working class is mainly due to the lack of knowledge about family planning, maternity and child welfare, hygiene and sanitation, care of the sick, and knowledge of first-aid and of simple indigenous remedies and their preparation at home for balanced diet, problem of wifehood and motherhood, lack of sense of morality, etc. Experience gained in running the labour welfare centres, started during the First and the Second Five-Year Plan periods, has shown that most of the industrial population, specially the women-folk, do not take the advantage of the facilities provided by the Labour Welfare Centres, because of their social prejudice against moving out of homes, habit of drinking, inferiority complex, gambling, indebtedness, etc. The facilities provided by the Centres have, therefore, to be carried to the homes of the workers, if they are to take full advantage of these facilities. The children of the industrial areas are faced with particular problems, and these problems need be tackled in their right perspective. The problems mainly are about (a) children working in the factories and facing industrial hazards, (b) children living in homes where both the parents are working, (c) destitute and deserted children due to broken families in the industrial areas, (d) children exposed to evils prevailing in the industrial areas, such as, drunkenness, gambling, etc. Such children need special physical and psychological handling and need to be diverted to social education or training-cum-production centres. Another step would be to prohibit the employers from employing children under 14 years of age and to start homes of destitute and deserted children of broken families and to educate them against the evils of drunkenness, gambling, indebtedness, etc. With these ends in view, it is proposed to undertake the following schemes for the welfare of the workers and their dependants during the Third Plan Period.

Opening of Utility Centres.—It is proposed to open ten well-equipped centres with buildings, staff and equipments in industrial areas even with small concentration of labour which will be turned as utility centres. In providing such centres, care would be taken to see that they do not overlap with the working of the centres which are available at Block and Community Project Headquarters. The total cost of this scheme during the Third Five-Year Plan period is estimated to be Rs. 12 lakhs.

Rest Houses for workers.—Provision of holiday camps or homes is regarded as an important labour activity and has also been accepted as a necessity with the growing paid holiday movement, particularly with the increase in the strain of workers and high cost of living, which make it difficult for the workers to have a real holiday. The main object of giving holidays to the workers is to enable them to have rest and recreation and gain new vigour and strength. This is possible only when workers are able to spend their holidays away from the usual surroundings and without any additional expense. The necessity to provide some incentive to the workers for a better way of living, and spending their holidays in a suitable way does not need much stress. It is, therefore, proposed to start three holiday homes and rest houses at places of historical importance, pilgrimage or some suitable hillstations in this State during the Third Five-Year Plan period. In these Rest Houses, provision will be made for boarding, lodging and sports to the workers. As there is great dearth of suitable accommodation at such places in this State, it would not be possible to accommodate the workers without constructing buildings with staff and equipments. The total estimated cost at the end of the plan period is expected to be Rs. 4 lakhs 73 thousand.

Financial assistance to Voluntary Labour Welfare Centres.—Several Labour Welfare Centres run with the contribution of the workers and employers were constructed during the Second Five-Year Plan period in accordance with the scheme under which suitable buildings for the centres are constructed by contribution from the employers, the employees and the Government. Governmental activities in establishing welfare centres are model in nature. It cannot cater to the needs of all workers in the State. The employers and the trade unions have their own responsibility in this field. The State Government have already evolved a scheme which is under progress whereby the State Government gives a subsidy to the industrial establishments for constructing buildings for welfare centres provided the employers and employees also make similar contribution. It is proposed to continue the system of giving financial aid to the Labour Welfare Centres run by the workers and the employers during the Third Five-Year Plan period. A total sum of Rs. 1 lakh is proposed to be earmarked for the purpose during the plan period.

Financial Assistance to the Co-operative and Credit Societies.—A survey report regarding Indebtedness amongst the industrial workers at Jamshedpur disclosed that 75 per cent of the families are in debt, mostly for unproductive purposes. Another unhappy feature noticed was that the increase in wages was followed simultaneously in the rising of prices of essential commodities. The position is still worse in the areas where new industries are coming into existence. Consumers' co-operative stores have to be organised and it seems necessary to provide funds for financing them by giving loans. The workers also need cheap credit to enable them to pay *mahajans* and money-lenders. Credit Societies which will

have to be organised would require suitable assistance from the State Government. The purpose for which this assistance would be made available is not covered by the schemes in the Department of Co-operation. Hence it is proposed to make provision for a sum of Rs. 5 lakhs during the Third Five-Year Plan for giving such assistance.

Employees' State Insurance Scheme.—During the Third Five-Year Plan period a phased programme of implementation of the scheme has been decided upon in consultation with the Employees' State Insurance Corporation. During the first year of the Third Five-Year Plan it has been decided to provide full hospital facilities to 52,600 family units already covered till the end of the Second Five-Year Plan period.

The phased programme for the subsequent years is as below :—

- 1962-63—Coverage of 55,000 family units.
- 1963-64—Coverage of 22,000 more family units.
- 1964-65—Coverage of 22,000 more family units.
- 1965-66—Coverage of 22,000 more family units.

Thus by the end of the Third Five-Year Plan period it is proposed to cover 1,22,000 workers and their families besides the 52,600 workers already covered during the Second Five-Year Plan period. The Budget figures for the Third Five-Year Plan period have been worked on the basis of provision of full-scale medical facilities to the insured workers and their families. In the budget estimates for expenditure annexed hereto only State share of expenditure has been shown. The share of Employees' State Insurance Corporation for medical care has been shown separately. The expenditure shareable between the Employees' State Insurance Corporation and the State Government on account of provision of medical care has still been shown in the ratio of 7:1. A total provision of Rs. 27.00 lakhs has, therefore, been made in the budget as State Government's share.

MAN-POWER AND EMPLOYMENT.

Any nation committed to rapid economic development must plan for the development of its man-power resources as an integral part of its planning. Man-power requirements flow from economic plans and activities. Man-power, particularly technical and specialised man-power, is the key resource required for economic development. Material equipment, power and money resources can be effectively used only if there is man-power capable of processing them into goods and services. The development, utilisation and distribution of man-power require a complex of activities. Consequently great stress has been laid on man-power planning and development.

The Shiva Rao Committee recommended for the expansion of the spheres of activities of the Employment Service in different directions to meet the above objectives. Accordingly during the Second Five-Year

Plan period, a number of schemes were implemented. During the Third Five-Year Plan period, the schemes launched during the Second Five-Year Plan have to be further expanded and developed, with a view to make their coverage and scope wider and to increase their effectiveness. The schemes, which are all Centrally-sponsored, consist of the following:—

(i) *Expansion of the Employment Service.*—Even before the Second Five-Year Plan period, this State had an Employment Exchange in every district. In addition, a few Exchanges at important industrial centres had also been set up. During the Second Five-Year Plan period, three more Exchanges were set up at the industrial centres, Bokaro, Dalmianagar and Jharia, the last one being specially for catering to the needs of the collieries and colliery workers. Since, unlike several States, there is an Exchange in every district and some in industrial areas also, it is proposed to establish one more Exchange only, in the district of Hazaribagh, during the Third Five-Year Plan period.

In order that the assistance, offered by the Employment Service to employment-seekers, be more easily available to the people in the rural areas it is also proposed to set up 20 Employment Information and Assistance Bureaux in selected Community Development Blocks of the State, in addition to the two such Bureaux already set up at the end of the Second Five-Year Plan period.

The need for catering to the special needs of the University students and alumni has also been felt. It is, therefore, proposed to set up four University Vocational Guidance and Employment Assistance Bureaux, one each in the four Universities of the State.

Satisfactory arrangements for regular inspections and effective supervision of the developing activities of the Employment Exchanges are indispensable for efficient and impartial functioning. The need has, therefore, been felt to reorganise and strengthen the inspectional and supervisory set-up both at the Directorate and the field levels. It is proposed, therefore, to divide the State into three zones and to place each under the charge of a senior officer and to strengthen the supervisory strength in the Directorate.

For training the non-gazetted staff of the Employment service and for holding refresher courses, it is proposed to set up a Staff Training Unit at the headquarters of the State Directorate.

With the proposed setting up of the University Vocational Guidance and Employment Assistance Bureaux, which, apart from registering for employment the alumni of the Universities, will also handle vacancies for highly qualified applicants, the need for setting up a Unit at the headquarters for co-ordinating the work in the Universities and for catering to the needs of other highly qualified applicants in the State has also been felt and it is accordingly proposed to set up an Appointment Branch Unit at the headquarters of the State Directorate.

The recent legislation about the Compulsory Notification of Vacancies to the Employment Exchanges by all employers in the public sector and those with 25 or more employees in the private sector has increased the work-load of all Exchanges. Some provision for the strengthening the existing staff and for upgrading of a few posts of Employment Officers has also, therefore, been made.

The scheme will be implemented in a phased manner.

The total estimated cost on these schemes during the Third Five-Year Plan period—both recurring and non-recurring—will be Rs. 5,12,700 of which 60 per cent will be met by the Government of India and 40 per cent (i.e., Rs. 2,05,080) will be the State Government's liability.

(ii) *Collection of Employment Market Information.*—Lack of adequate and timely information about the volume of employment, changes in the level of employment and employment trends was keenly felt by the planning authorities, at the time of framing proposals for the Second Five-Year Plan. Consequently, the Employment Service launched a programme for collection of Employment Market Information during the Second Five-Year Plan. The aim of this programme is to provide reliable and regular information service on matters relating to employment and unemployment. The information will be very useful in planning. In the long run, man-power budgeting will also have to be a part of this programme. During the Second Five-Year Plan period, all establishments employing five or more workers in the private sector and all public sectors—establishments of the States were covered by this programme. It is proposed further to expand this programme so as to cover other sectors, such as the self-employed, etc. Besides, not much work on the research side could be possible during the Second Five-Year Plan period. For this, some provision has been made. With the increasing number of establishments covered by this programme, there will be need for suitably strengthening the existing set-up for which some provision has been made.

The total estimated cost on this scheme during the Third Plan period—both recurring and non-recurring—will be Rs. 1,44,100 of which 60 per cent will be met by the Government of India and 40 per cent (i.e., Rs. 57,640) will be the liability of the State Government.

(iii) *Vocational Guidance at Employment Exchanges.*—One of the greatest needs of the State and the country is to guide young men and women, leaving schools and colleges, in the proper choice of careers, suited to their aptitudes and talents. In the absence of such a guidance we have, in this country, the spectacle of a large number of young persons coming out of schools and colleges swelling the ranks of aspirants for clerical jobs, unaware of the various other openings available in the country, which would suit their aptitudes and talents and secure for them profitable employment. Satisfactory matching of jobs and workers

through a process of Employing counselling is not only in the interest of individual workers but also in the national interest. Apart from the inexperienced and uninitiated youths, that are badly in need of Vocational Guidance, in the matter of choosing right careers, the need for Vocational Guidance to such adults as cannot have adequate opportunities in the occupation for which they have experience or training, or who find themselves occupationally mal-adjusted or under-adjusted in their present vocations, cannot be underestimated. It is with a view to this end that a programme for vocational guidance to youths and to adults was taken up in a modest way during the Second Five-Year Plan period when Vocational Guidance Units were set up at four selected Employment Exchanges of the State. The Central Committee on Employment and the Bihar Unemployment Committee have strongly urged that the Vocational Guidance Service should be considerably expanded. The programme for the Third Five-Year Plan envisages the opening of ten more units at ten more Exchanges at the rate of two per year, so that by the end of the Third Five-Year Plan all the districts, except three, in the State would have been covered by this programme.

In addition to the non-gazetted staff, eight posts of Assistant Employment Officers will be created. The total estimated cost on this scheme—both recurring and non-recurring—will be Rs. 1,81,300 of which 60 per cent will be met by the Government of India and the balance (i.e., Rs. 72,520) will be the liability of the State Government.

(iv) *Collection of Occupational Information.*—This programme, which was also launched during the Second Five-Year Plan, is intended to improve people's knowledge of the content of jobs, particularly about the worker requirements, as well as to provide information essential for competent counselling to juveniles and adults at the Employment Exchanges, Vocational Guidance Bureaux and to pupils in the schools. The scheme involves a detailed on-the-spot study of jobs, the requirement of skill, knowledge and abilities—physical and mental—as also the educational and training requirements which each occupation requires for its satisfactory performance and of the relationship among jobs based on similarity of work performed and performance requirements. The material collected is then published in the shape of National Classification of Occupations, Career Pamphlets, Occupational Field Reviews, etc. The information, apart from its value to employers and the general public, will be of considerable value to the Employment Service itself. The work is of a continuing nature and it is proposed to further expand this work during the Third Plan.

The total estimated cost on the strengthening of the existing staff on this scheme will be Rs. 29,000 of which 60 per cent will be borne by the Government of India and the balance of 40 per cent (i.e., Rs. 11,600) by the State Government.

CRAFTSMEN TRAINING.

During the Second Plan, facilities have been created for the training of about 5,244 craftsmen in the various Industrial Training Institutes. It has been proposed in the technical education plan to increase the training facilities at the diploma level to about 2,675 at the end of the Plan period. Basing the requirements of craftsmen on a modest estimate of 12 for every diploma-holder, facilities required to be provided in this State for craftsmen training will have to be of the order of 32,100 at the end of the Third Plan. This fits in also with the estimates worked out by the Training Committee set up by the Government of India. According to this committee five lakhs of craftsmen will have to be trained in various trades in the Third Plan. Out of them, training requirements for craftsmen in Bihar in different trades must take note of 50,000 trainees at any time, which is 10 per cent of the all-India figure. Since a part of this requirements will be met by the training facilities available in the industrial establishments, both in the public and private sectors in Bihar, it was originally envisaged to provide additional 10,500 seats under this scheme during the Third Plan period which involved a total outlay of Rs. 7,58 lakhs. However, during the State representatives' meeting held in the Ministry of Labour, Government of India, funds were allocated to different States for this scheme from the allotment made by the Planning Commission for the country as a whole. Bihar has accordingly been allotted a sum of Rs. 5,21 lakhs for providing facilities for expansion of craftsmen training. Commensurate with the above allocation, a target of 8,948 additional seats has been proposed through expansion of the existing training institutions and establishment of new Institutes as well as by the Apprenticeship training as detailed below :—

(1) Through expansion of existing Industrial Training Institutes.	4,892 seats.
(2) By establishment of New Industrial Training Institutes	3,056 seats.
(3) By Apprenticeship Training Schemes	1,000 seats.
TOTAL	<u>8,948 seats.</u>

2. Following table gives details of the schemes to be taken up during the Third Plan :—

Institutions to be Expanded.

Serial no.	Location of the I. T. I.	Additional no. of seats to be provided.
1	Dighaghat	564
2	Gaya	304
3	Dakri	160
4	Chaibasa	304

Serial no.	Location of the I. T. I.	Additional no. of seats to be provided.
5	Dhanbad	456
6	Ranchi	348
7	Hazaribagh	208
8	Bhagalpur	256
9	Monghyr	304
10	Supaul	164
11	Katihar	272
12	Darbhanga	512
13	Motihari	304
14	Muzaffarpur	480
15	Marhowrah	256
TOTAL ..		4,892

New Institutions to be set up.

Serial no.	Location.	Intake capacity.
1	Siwan or Hathua	304
2	Sitamarhi	256
3	Bettiah	256
4	Ghoghardiha	304
5	Sahibganj	256
6	Forbesganj	256
7	Birpur	256
8	Begusarai	304
9	Bokaro	304
10	Buxar	304
11	Nawadah	256
TOTAL ..		3,056
Apprenticeship Training		800
Evening Classes		200
GRAND TOTAL ..		8,948

3. Staff quarters and hostels for trainees in the Industrial Training Institutes were not provided for in the Second Plan. Construction of some essential staff quarters and hostel buildings for 50 per cent of the trainees are, therefore, included in the schemes under this sector.

4. A small amount has also been provided to cover expenditure on expanding activities of the State Council for Vocational Training.

5. As a necessary consequence of the proposed expansion of facilities for craftsmen training the Directorate staff will also have to be considerably strengthened.

6. The total Plan outlay over the proposed schemes is estimated at Rs. 5,21 lakhs. Out of Rs. 5,21 lakhs, about Rs. 36 lakhs will be required for putting up the buildings for staff quarters and hostels and Rs. 3.60 lakhs approximately over strengthening of staff at the Directorate level. This also includes spill-over expenditure of Rs. 20 lakhs for completion of the schemes continuing from the Second Plan.

7. According to the existing pattern of Central assistance, 60 per cent of the total expenditure under this scheme (Rs. 3,12.60 lakhs) is to be borne by the Government of India, Ministry of Labour and only 40 per cent of the total outlay, i.e., Rs. 2,08.40 lakhs is to be borne by the State Government. A sum of Rs. 2,08.40 lakhs only has, therefore, been provided in the State Plan, out of which a sum of Rs. 8 lakhs is the State's share of expenditure on the schemes carried over from the Second Five-Year Plan.

8. PUBLIC CO-OPERATION.

In a framework of democratic planning, association of people with the formulation and execution of the plans is absolutely necessary. This not only ensures economy but also a sense of participation in the plan by the people. In fact, development through people's own efforts is one of the most accepted techniques of planning in India.

2. The experience of the two plans has been quite encouraging in the sphere of public co-operation and participation. A number of voluntary organisations like the Bharat Sevak Samaj, the Harijan Sevak Sangh, the Adimjati Sevak Sangh, the Bharat Scouts and Guides, the Gandhi Smarak Nidhi and Social Welfare Board have come up and taken keen interest in the development work. Among the intelligentsia, particularly students and teachers, the organisation of Planning Forums has become notable for its work of spreading the plan consciousness and participation in suitable development works and programmes.

3. The Planning Forum's movement started in August, 1955. By now, its total in the country is about 500 and in Bihar about 60. Considering its size, it has been decided to properly plan and co-ordinate its activities. With this end in view, a State Executive Committee of Planning Forums has also been formed.

4. Throughout the Second Five-Year Plan, the Planning Forum's movement was a part of the Central programme. In the Third Plan, it will be a Centrally-sponsored scheme, the actual expenditure being shared between the Centre and the State in the ratio of 60 : 40. In the Third Five-Year Plan of the State, a provision of Rs. 25,000 has been made for the Planning Forum's programmes, representing 40 per cent of the State share of expenditure. The main activities of the Planning Forums will be to organise seminars, symposia, lectures, essay and debate competitions, exhibitions, savings campaigns and to undertake socio-economic surveys.

CHAPTER XI

MISCELLANEOUS

1. STATISTICS

During the Third Five-Year Plan, the following schemes would be undertaken :—

(a) *Strengthening the State Statistical Bureau for overall planning needs.*—

(i) The State Statistical Bureau being a recent creation has not so far developed fully so as to be able to meet all the demands on its services. It not only has co-ordinating functions, as in some other States, but it has to function as a Controlling Department, for most of the official statistics relating to agriculture, price, medical, vital, jail and other allied and miscellaneous statistics, higher researches, preparation of frame and analysis work for various planning needs are also essential function of the Bureau.

It is proposed to undertake the following surveys : (i) State income estimation work, (ii) Bench Mark Socio-Economic Survey of pre-project areas of Bhainsalotan, Barauni and Hatia, (iii) Preparation of middle class cost of index numbers, (iv) Farmer's income and expenditure survey for construction of an index parity between prices received and prices paid by the farmers, (v) Conducting type studies and analysing the impact of community development schemes on production, consumption, social and cultural life of the community, etc.

In addition, several studies in the field of agricultural statistics are proposed to be undertaken during the Third Five-Year Plan. Some of the important studies will relate to (i) estimation of area under mixed crops—how to determine the ratio of individual components in the mixture, (ii) comparative study of various sizes of crop-cutting plots and estimation of sampling error in each case, (iii) effect of development activities on acre-yield of the principal crops, (iv) causes of increase/decrease in area sown, etc.

Research studies on all types of statistics relating to demography, industries, etc., are also proposed to be undertaken by this section.

With the expansion of the Bureau it will also be necessary to assist the Director in administrative matters.

For undertaking the works indicated above the additional posts of a Senior Deputy Director (Rs. 350—1,000) and a Deputy Director (Administration) (Rs. 220—800) besides two posts of S. S. A., six posts of Compilers, one post of U.D. II, two posts of steno-typists and three

posts of peons will be essential. The estimated cost of this scheme is Rs. 1.70 lakhs.

(ii) *Special statistical assistance at the subdivisional level.*—In Bihar, unlike other States, collection and compilation of agricultural and vital statistics is done by the State Department of Statistics. There is no representative of this department at the subdivisional level. With the opening of the blocks, the need for making technical advice readily available at the subdivisional level and co-ordinating and supervising field surveys and inspection works is urgently felt. Scrutiny of efforts in the various processes involved in compiling figures of agricultural statistics for the various crop seasons is also essential as the data are collected and supervised by staff belonging to several departments. Statistical Officers at the subdivisional level are also expected to be of help to the administration in planning development work. There are 41 mufasil subdivisions in the State. Therefore 41 posts of Junior Statistical Officers (Gazetted) in the scale of Rs. 175—400 will be essential. The estimated cost is Rs. 9.66 lakhs.

(iii) *Graphical assistance for the State Statistical Bureau.*—Graph, chart, etc., are pre-requisites for standard statistical publications. The need for a Senior Draftsman to cope with increased graphical work in the Directorate has been felt. It is proposed to appoint one Senior Draftsman in the scale of Rs. 150—350 under this scheme. The total cost over this scheme is Rs. 0.137 lakh.

(b) *Training of Statistical Personnel.*—This State is a permanently settled State and till recently it had no permanent revenue agency. In the year 1945, for the first time, the area enumeration work relating to crop statistics was entrusted to specially appointed Sarkari Amins. They were subsequently absorbed as Karamcharis under the Land Reforms Department. The Karamcharis were continued to do crop survey work. With the post-Zamindari abolition administration work entrusted to them it became difficult for them to devote much attention to it and the coverage figure dropped down considerably. Therefore crop survey work was distributed among Karamcharis, Panchayat Sewaks and the Jan Sewaks. This was done under the orders of the Chief Secretary to Government (vide his letter no. 1142/58—1194, dated the 26th February, 1959). The supervision work has respectively been entrusted to the Circle Inspectors, Gram Panchayat Supervisors and Agricultural Extension Supervisors. The Karamcharis and Circle Inspectors of Revenue Department were conversant with this work. But the Panchayat Sewaks, Jan Sewaks, Agricultural Extension Supervisors and Gram Panchayat Supervisors were unfamiliar with it and accordingly it became necessary to give them thorough training, both theoretical and practical. Special Training Officers, posted to each district of the State, are giving them the training. But with the opening of new development blocks and new Gram Panchayats, the number of Panchayat Sewaks, Jan Sewaks, Supervisors, etc., is progressively on the increase,

Moreover, fresh batches of primary supervisory staff become available for field work because of new appointments, transfers, promotions, casualties, etc. Refresher courses are also necessary in view of the large number of agencies and the different types of surveys undertaken from time to time. The total number of these agencies roughly comes to 30,000. In the circumstances, it is essential to post one Training Officer at each divisional headquarters for organising training courses for new recruits, imparting refresher course training, for imparting lectures to trainees in the training institutes of the Revenue, Agriculture and Gram Panchayat Departments. Provision has, therefore, been made for the appointment of three Training Officers and one Deputy Director (Training and Publicity). The three Training Officers will work under the direct supervision of the Deputy Director (Training and Publicity) who will remain posted at the headquarters. The Deputy Director will be responsible for the preparation and revision of syllabus, arrangement of various training classes and other allied matters. In addition, he will impart training to the Deputy Collectors and Sub-Deputy Collectors while under training at the Administrative Training School, Ranchi. He will also be responsible for arranging practical training to the members of the Indian Administrative Service while under Secretariat training. The Deputy Director will also be in overall charge of the training work relating to Junior Statistical Supervisors and others at the State headquarters. This scheme will cost Rs. 1 lakh.

(c) *Transport and Traffic Surveys.*—(i) To assess the total volume of goods carried, type of vehicles employed, amount of freight paid, etc., a pilot survey was conducted in Delhi in 1957. It is proposed that surveys on similar lines should be conducted by the States during the Third Plan period. Such data would be useful for study of growth in road traffic, road-rail competition and other aspects necessary for formulation of transport policies and assessment of the results of their implementation.

The Bureau had conducted a pilot survey during the year 1958-59 at Patna. The errors arising out of geographical distribution of population and localisation of industries cannot be avoided by centralising the survey at one place. To get a representative figure, this survey must have Statewide coverage. The Ministry of Transport also suggested undertaking of such surveys.

(ii) *Socio-economic condition of rickshaw pullers.*—A large number of people remain engaged in rickshaw-pulling. It is proposed to undertake a survey of their socio-economic condition at all district headquarters. It is also expected to throw some light on unemployment, under-employment, etc.

It is proposed to put this scheme under one Statistical Officer who will be assisted by one Supervisor, one Inspector, one Computer, six Field Investigators and one peon. The cost involved is estimated at Rs. 1.30 lakhs.

(d) *Pre-harvest estimates of crop acreages.*—At present area and yield estimates for preliminary forecasts are based on the reports received from the primary reporting agencies. The estimates are, however, far from accurate for several unavoidable reasons. The position will improve if a number of villages are selected on random sampling basis in each season, and area under different crops on a few randomly selected plots is observed and on the basis of reports relating to crop acreages in these selected plots total area under major crops is estimated. These estimates can very well be utilised for preliminary forecasts. For this scheme no separate field staff is necessary but for detailed planning and analysis work it will be necessary to have a separate statistical section at the headquarters. It is proposed to collect data under this scheme for all the principal crops for which crop forecasts are issued. There are about 25 such crops.

It is proposed to place one Statistical Supervisor, three Compilers and one Lower Division Assistant under this scheme. The estimated expenditure on this scheme will be Rs. 0.43 lakh.

(e) *Extension of Crop Cutting Surveys.*—The importance of accuracy in the yield estimates of crops and the increasing demand for information about the influence of various factors such as irrigation, manure, community development, cropping pattern, etc., on yield, makes it incumbent to see how far the scope of crop-cutting survey can be adjusted to provide these informations. It is also proposed to extend the coverage of crop-cutting surveys to various important crops which have come under the purview of this survey, for example, *jowar, bajra, ragi, arhar, khesari*, rape and mustard, potato and sweet potato. It is, therefore, intended to organise these surveys under the control of Deputy Director in the scale of Rs. 220—800. He will be responsible for planning and organising the survey, will inspect field work and direct the analysis. He will be assisted by the necessary complement of office and field staff. The estimated cost over this scheme will be Rs. 3.57 lakhs.

(f) *Setting up of the Regional Survey unit at the State headquarters.*—Various departments of Government want certain investigations to be conducted and therefore they request this department for planning and designs of such surveys. Various *ad-hoc* surveys to be conducted by this department also require proper planning. It is, therefore, necessary to strengthen the staff for designing and planning of surveys. It is proposed to place one Deputy Director (Design and Survey) in the scale of Rs. 220—300 besides one steno-typist and one orderly under this scheme. The total cost over the scheme is Rs. 0.383 lakh.

2. INFORMATION AND PUBLICITY.

The schemes under this sector do not constitute in the sense of physical targets any independent schemes by themselves like those of other sectors. The schemes are designed primarily to popularise the schemes of other sectors of developments by acquainting the people

with the objectives of these schemes, and their physical targets with the purposes of securing for their progress and achievement popular co-operation, response and support in ample measure. These schemes, therefore, have the essential object of eliciting the desired popular co-operation for the successful implementation of the Plan through different media.

During the Third Five-Year Plan, following schemes are proposed to be taken up:—

- (1) Community Listening.
- (2) Field Publicity.
- (3) Workshops.
- (4) Information Centres.
- (5) Film Publicity.
- (6) Songs and Drama.
- (7) Publications.
- (8) Exhibitions.
- (9) Press Advertisement.
- (10) Information Cell.

(1) *Community Listening*.—The object of the scheme is to instal community listening sets in villages having a population of one thousand and above. The sets are purchased from the Government of India on 50 per cent subsidy basis subject to a maximum of Rs. 125 per set. A sum of Rs. 100 per set is recovered from the beneficiaries of the sets. The targets of the Second Plan was to instal 5,750 community listening sets in villages but due to curtailment in the plan allocation only 3,931 sets were received in the State. To achieve the desired target of installation of 5,750 sets it is now proposed to instal 2,000 sets during the Third Five-Year Plan. The additional 2,000 sets are proposed to be installed by a phased programme during the Third Plan as detailed below:—

During—1962-63	..	..	300
1963-64	..	..	400
1964-65	..	..	500
1965-66	..	..	800

The scheme would involve expenditure of Rs. 4.75 lakhs. A sum of Rs. 2.00 lakhs would be recovered from the beneficiaries.

(2) *Field Publicity*.—The object of the scheme is to ensure intensive publicity of the plan schemes through the various field units of the department and thereby to secure active co-operation of the people in the implementation of the plan schemes.

At present 24 Field Publicity Mobile Units are functioning, each equipped with a van and the ancillary audio-visual equipments,

Seventeen units are stationed at the district headquarters and the rest at certain important subdivisions, e.g., Begusarai, Deoghar, Giridih, Gumla, Chaibasa and Jamshedpur in addition to an additional headquarters unit at Patna.

During the Third Five-Year Plan, it is proposed to open twenty additional publicity units at the other important subdivisional headquarters of the State at a cost of Rs. 25.80 lakhs, as per following programme:—

1961-62 ..	..	Seven publicity units.
1962-63 ..	..	Three publicity units.
1963-64 ..	..	Three publicity units.
1964-65 ..	..	Three publicity units.
1965-66 ..	..	Four publicity units.

This will mean at least two units in each district of State in addition to the additional units at the other important subdivisional headquarters.

(3) *Workshops*.—The object of the scheme is to provide for the establishment of departmental workshops for speedy and efficient repairs of the vehicles and equipments at economical cost.

During the Second Plan a workshop was established at Patna. Another workshop elsewhere in the State is proposed to be established at an estimated cost of Rs. 2.00 lakhs during the Third Plan period.

(4) *Information Centres*.—During the Second Five-Year Plan period 19 Information Centres at unit headquarters other than those at the State and Divisional headquarters were started.

During the Third Five-Year Plan it is proposed to establish 20 additional centres at additional unit headquarters according to the phased programme followed under Field Publicity Scheme. The scheme involves an expenditure of Rs. 1.60 lakhs.

(5) *Film Publicity*.—During the Third Five-Year Plan it is proposed to establish a Film Auditorium-cum-Stage at Patna for giving regular shows of departmental films, documentaries and children's films and also for the indoor shooting of the departmental films at a cost of Rs. 2.75 lakhs.

(6) *Publications*.—During the Third Five-Year Plan it is proposed to bring out a departmental monthly magazine to publicise the progress of the plan schemes. To bring efficiency and economy in the preparation of blocks, it is also proposed to establish a Block-making Press at a cost of Rs. 2.20 lakhs.

(7) *Songs and Drama.*—This scheme envisages establishment of three dramatic troupes for model performances, one for urban area and the other two for the rural areas of the State at a cost of Rs. 2.00 lakhs. The idea is to merge the existing staff under the Songs and Drama Division into the proposed troupes.

(8) *Exhibition.*—The scheme includes establishment of two mobile Exhibition units and the construction of a permanent Exhibition building at a total cost of Rs. 5.40 lakhs during the plan period.

(9) *Press Advertisements.*—It is proposed to spend Rs. 2.00 lakhs. on Plan Publicity through Press by issuing advertisements during the Third Plan period.

(10) *Information Cell.*—In pursuance of the recommendation of the Study Team on Information and Community Centres, it is proposed to establish Information Cells for each important or group of departments of the State Government on the lines of the Press Information Bureau at the Centre. The scheme involves an expenditure of Rs. 1.50 lakhs.

3. LOCAL BODIES.

Improvement Trusts and Town Planning Schemes.—The Patna Improvement Trust has already completed the development of 100 acres of lands east of Kadamkuan and plots are being allotted to persons for building houses thereon. Now, it has taken up to develop the area bounded by the Ali Imam Path, Mazharul Haque Path, New Dak Bungalow Road and the Budh Marg at a cost of Rs. 35.00 lakhs. A sum of Rs. 18.17 lakhs has already been sanctioned as loan and grant to the Patna Improvement Trust for the purpose and Rs. 14.50 lakhs is to be sanctioned during the Third Plan period.

Establishment of Improvement Trusts and Town Planning Authorities.—During the Second Five-Year Plan period Improvement Trusts have been or are being established for all the towns at the divisional headquarters and Gaya as also Town Planning Authorities at Rajgir, Nalanda, etc., with the assigned duties to them to prepare Master Plans and schemes for the improvement, development and expansion of towns so as to secure to their present and future inhabitants sanitary conditions, amenities and convenience. It is proposed to continue these Trusts and Town Planning authorities during the Third Five-Year Plan at a cost of Rs. 20.00 lakhs.

Training in Town Planning.—For the satisfactory execution of town improvement schemes through local bodies as well as the preparation of Master Plans, etc., it is desirable that the technical personnel engaged therein should have opportunities for training in Town Planning. The technical personnel would obviously fall under two heads:—

- (i) Superior technical personnel like Municipal Engineers, Assistant Engineers, etc., and Architects, etc., and
- (ii) Overseers, Town Planning Assistants, etc.

The training scheme should be so designed as to meet the training requirements of both these categories as many of the local bodies would not be in a position to employ superior technical personnel.

Hence, it is proposed to get some officers trained in the subject in foreign countries and other Indian Institutes at a cost of Rs. 50,000. A sum of Rs. 0.50 lakh has been provided for the purpose in the Third Five-Year Plan.

Civic amenities in urban areas.—In the Second Plan, there was a scheme for provision of civic amenities in urban areas. The plan provision was Rs. 30.00 lakhs, out of which a sum of Rs. 21.00 lakhs has been spent. Under this scheme public latrines, urinals, baths, *dhobi ghat*, bathing *ghats* and parks have been constructed or laid out. The scheme has been very popular and has enhanced the prestige of the municipal bodies to a certain degree. There is persistent demand for funds under this scheme.

In the Second Plan the scope of the scheme was limited to the four divisional towns of the State and Gaya. In the Third Plan, its scope has been enlarged so as to include all towns irrespective of its size and population. A sum of Rs. 15.00 lakhs has been provided which will be sanctioned on the condition that matching contribution is made by the municipal bodies also. The following items of works can be taken up under this scheme :—

- (1) Public latrines.
- (2) Public urinals.
- (3) Public baths.
- (4) Public bathing *ghats*.
- (5) *Dhobi ghats*.
- (6) Crematorium.
- (7) Municipal halls.
- (8) Parks.

