

DRAFT
THIRD FIVE-YEAR PLAN
BIHAR

Vol. I
(*Parts I and II*)



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PART I

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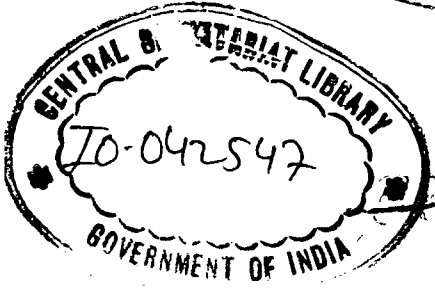
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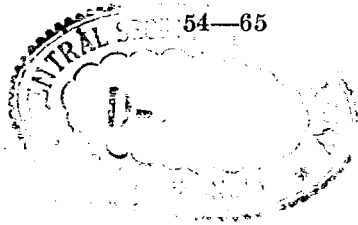
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CHAPTER I.

INTRODUCTION.

1. The principal aim of the Third Five-Year Plan is to secure a marked advanced towards self-sustaining growth of the economy. With the experience of a decade of planning, the following aims have been formulated for the country in the draft outline of the Third Five-Year Plan:—

- (1) To secure during the Third Plan a rise 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, 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 extent possible the manpower resources of the country and to ensure a substantial expansion in employment opportunities; and
- (5) to bring about a reduction of inequalities in income and wealth and a more even distribution of economic power.

The base for an accelerated rate of growth for the country cannot be achieved unless particular attention is devoted to balanced development of different parts of the country and different sectors of development. It is an accepted principle that planning should help the backward regions to come up to the average level of development attained by the economy as a whole; for this purpose the structure of the State Plans should keep in view not only the national targets envisaged in the draft outline, but also the deficiencies and imbalances peculiar to the economy of the State. Among the important determining considerations for the outlay in a State Plan should be the attempt to remove the causes of economic stagnation. The requirements of a fast growing population and the scale and worth of the economic effort during the past ten years should naturally be taken into account.

2. The role of the State Plan, therefore, should be to undertake such programmes of development which give immediate possibilities of increasing production and help in effectively utilising the potential created by every programme at the various stages of implementation, keeping in view the special needs of the backward areas. Large investments made in the development of economic overheads, which properly

figure in the national plans, do have some effect on the economic life of the population of State; in spite of this, it has been widely felt that the rate of growth of the State's economy does not increase, unless its own economic and social overheads of development are considerably strengthened, mainly by the State's own efforts. In the light of these considerations, the draft Third Five-Year Plan of Bihar has been formulated, keeping in view the general indication given of the allocations between the Centre and the States, as well as between the different sectors of development.

3. A total outlay of Rs. 11,250 crores has been proposed for the country, consisting of Rs. 10,200 crores of investment. Out of the total outlay, Rs. 7,250 crores would be in the public sector (consisting of Rs. 6,200 crores new investment and Rs. 1,050 crores current outlay) and Rs. 4,000 crores in the private sector. Out of the total outlay of Rs. 7,250 crores in the public sector, the States are expected to have a total outlay of Rs. 3,650 crores, as broken down in the table below:—

TABLE 1.
Distribution of outlay between the Centre and the States.

	(Rupees in Crores.)		
	Total.	Centre.	States.
1. Agriculture, minor irrigation and community development.	1,025	175	850
2. Major and medium irrigation	650	5	645
3. Power	925	125	800
4. Village and small industries	250	100	150
5. Industries and minerals	1,500	1,470	30
6. Transport and communications	1,450	1,225	225
7. Social services	1,250	300	950
8. Inventories	200	200	..
Total	7,250	3,600	3,650

Among the sets of priorities envisaged, emphasis has been given to achieving self-sufficiency in foodgrains, meeting at the same time, the requirements of industry and exports. Necessarily, there is intimate connection between this aim and the development of the maximum possible irrigation arrangements, both major and minor. A good part of the programme will also involve utilisation of the large rural man-power available in the country. Priority has also been accorded to the related sectors of industry, power and transport, taking care to see that the development of these sectors is properly co-ordinated. To a limited extent, this may have the effect of removing the large extra population at present engaged in uneconomic agriculture. Success in the task of shifting the population away from agriculture will, however, lie in equipping them with the necessary skills for an alternative occupation. In this context, the third set of priorities relate to the

growth of social services, particularly education. In a State like Bihar, the emphasis on education has to be all the greater in view of the fact that more than a third of the population belongs to the Scheduled Castes, Scheduled Tribes and other recognised Backward Classes.

4. These priorities and the allocations for the different sectors of development have been kept in view in drawing up the State's Third Plan. The greatest emphasis has been given to agricultural production, with a large outlay proposed for the development of irrigation facilities. Since results in agricultural production come from the decisions made by the vast rural population engaged in agriculture, the necessity for suitably augmenting the ancillary extension machinery and non-official agencies, has also been kept in mind. Community Development, Co-operation and the Gram Panchayat sectors have received the necessary emphasis. The base for industrial production will no doubt be established by the Central Plans; on behalf of the State, emphasis next only to agricultural production has been devoted to the establishment of large and small-scale industries. The latter is of primary importance to an agricultural economy where 86 per cent of the population are dependent on agriculture. A recent enquiry into rural unemployment in State revealed that about 47 lakhs of the population engaged in agriculture are redundant, i.e., they are not required for the present effort of agricultural production. Alternative employment for such a large section of the population can come only from the establishment of suitable small-scale industries.

The development of power and communications has also been given high priority. The success of not only the State Plan but the Central Plan also in this region will ultimately depend on the ability of the State to provide the power and transport facilities in time for development and functioning of these industries. In addition to the development of economic overheads, the attention given to raising the levels of social development in the past ten years has been noteworthy. The immensity of the problem has, however, meant that the effort has only been a beginning. In spite of over-reaching our targets, it is estimated that only 52 per cent of the children of age-group 6 to 11 would be enrolled by the end of the Second Five-Year Plan. The constitutional obligation of providing universally free and compulsory education has, therefore, been given the greatest attention in these sectors. The special efforts that are needed for the amelioration for the backward communities have also to be stepped up in the Third Plan Period. Economic, educational and other benefits are proposed to be made available to them on a larger scale. The industrialisation of the southern regions of Bihar has also revealed the need for an accelerated programme of housing and planned township and civic amenities for the growing industrial and urban population.

5. In addition to priorities indicated above, another consideration for Bihar would be the need to develop the different regions to come up to a uniform level of development. The density of population in North Bihar is 859 persons per square mile; the relevant figures for South Bihar and Chota Nagpur would be 699 and 328, respectively. If the agricultural population per square mile of net cultivated area is

taken as the criterion, the figure of corrected density for North Bihar is 1,177; in South Bihar and Chota Nagpur the figures are 908 and 852, respectively. The natural resources available in the different regions would determine, to some extent, the technique of development of the area. Apart from Chota Nagpur, which practically accounts for all the minerals found in Bihar, the other two areas are primarily agricultural. While, on the one hand, suitable provision for exploitation of the minerals and provision for gainful employment in the extractive and industrial sectors are necessary for the population of Chota Nagpur, emphasis on intensive agriculture and development of a diversified agricultural economy are extremely essential for North and South Bihar regions. If the pressure of population on agriculture in these two regions is to be reduced even marginally, extensive development of cottage and small-scale industries is essential. Similarly, the problems of the different regions in regard to educated unemployment would also differ. The effort undertaken in the past ten years in primary education has already resulted in sharp increase in the number of school-leaving children of the age-group 14 to 17. The number of Matriculates, for instance, has risen from 14,405 in 1950-51 to nearly 55,000 in 1960-61. The proportion of these educated persons seeking employment would naturally vary from region to region and an attempt will have to be made to provide them with suitable opportunities.

In the chapters that follow, an attempt has been made to indicate the scale and worth of the planned effort in the First and Second Plan Periods, and in that context to assess the proper planned effort that would be necessary in the next five years to make an impact on the problems that exist in the different sectors of the State's economy.

CHAPTER II.

THE TWO PLANS IN BIHAR.

1. According to the 1951 Census, Bihar had an area of 70,330 square miles with a population of 40.22 millions. After re-organisation of States in November, 1956, the area has been reduced to 67,130 square miles with a population of 38.78 millions. The State accounts for roughly 1/20th of the total area and 1/10th of the total population of the country. The estimates of population growth prepared by the Central Statistical Organisation are as in the table below:—

TABLE 2.
Growth of population in Bihar and India.

				(a) Population in—			
				1951.	1956.	1961.	1966.
Bihar (millions)	..	..	..	40.22	41.38	44.99	49.62
India (millions)	..	..	..	361.80	391.40	430.80	479.60
				(b) Quinquennial rate of growth of population in—			
				1951—56. 1956—61. 1961—66.			
Bihar (per cent)	..	..	..	..	1.0	1.4	1.8
India (per cent)	..	..	..	..	1.7	| 2.0	2.2

These estimates are tentative, and the actual growth-rate in Bihar, it is apprehended, may not fall very much below the all-India average. The average density of population per square mile is 578 against 286 for the country as a whole. Only three States, namely Kerala, West Bengal and Madras, have a higher density. The corrected index of the "man to land" ratio available by dividing the agricultural population by the total cultivated area comes to 1,010 persons per square mile in Bihar as against 550 for the country as a whole. Only Kerala State has a slightly higher rate of corrected density of man to land. According to Census of India, 1951, 86 per cent of the population of Bihar are dependent on agriculture as against 70 per cent for the country as a whole. This is also confirmed by the rural-urban ratio, which indicates that 93 per cent of the population are concentrated in rural areas as against 83 per cent for the country as a whole.

2. The total working force out of a population of 40.22 millions was 14.34 millions, roughly about 36 per cent of the population, as against 40 per cent for the country as a whole, indicating the heavy load of the dependent population on the working force. Certain studies have been made into the effects of this large-scale unemployment and under-employment by the Bihar Unemployment Committee, 1954, who

kept their date of reference valid for 1951, the year of the preceding Census. A comprehensive rural survey was conducted by the Committee for one year in 238 villages consisting of a population of 2,25,348 persons. The Committee has estimated that as much as 47.33 lakhs of persons engaged in agriculture in the State are redundant, i. e., they are not wanted on farms. Even among those gainfully occupied in agriculture, the intensity of employment varied from 46.31 to 91.53 per cent of the available mandays. The conclusion is that even the population gainfully occupied in agriculture is under-employed from 53.69 to 8.47 per cent of the available mandays.

3. An assessment of the natural resources in Bihar reveals that the economy, if it is fully developed, can sustain without strain the growing rise in population. According to the 1951 Live-stock Census, Bihar has about 8.5 per cent of the total live-stock population of India. The forest resources are relatively low, Bihar having about 15,040 square miles of forest in 1950-51 against 2.74 lakh square miles for the country as a whole. Increasing utilisation of area recorded as 'jungle' in the Survey and Settlement Records for purposes of agriculture had further reduced the total forest area to about 11,000 square miles by 1956. Conservation of forest resources by planned afforestation in large areas has already been taken up, with suitable measures for protection of the existing forests. Bihar has the largest concentration of a variety of mineral resources, her mineral production in 1951 being 43.3 per cent of all the minerals raised in India by weight and 30.6 per cent by value. Copper, kyanite and mica are found in large quantities and a substantial portion of the nation's output in coal and ore and asbestos is found in Bihar. With an average rainfall of about 45" per year the water resources of the State are also very large. The larger North Bihar rivers are all snow-fed and, therefore, have large supplies of perennial water. No clear estimate of the water resources of North Bihar has so far been made; the quantity available in the rivers and also close to the ground level all over the area in tube-wells is far in excess of whatever requirement can be thought of. In South Bihar and Chota Nagpur it has been estimated that the available water resources can account for 26.99 million acre feet (about 3 per cent of the available water resources assessed for the country at 1,356 million acre feet), out of which water resources can be utilised to the extent of 22.81 million acre feet, providing assured irrigation to about 10 million acres. An exhaustive assessment of the resources for supply of electric power has not yet been made particularly for the North Bihar rivers. Preliminary surveys indicate, however, that a substantial quantity of hydro-electric power generation is possible. The present estimates envisage that the Kosi and Gandak barrages and canals in North Bihar are capable of generating power to the extent of 20 M. W. and 55 M. W., respectively. This does not, however, take into account the possible generation due to further development of the Kosi and Gandak river valleys. The South Bihar river systems also remain to be exploited for hydel generation, with the sole exception of the Damodar which has been partially exploited. The South Koel and Shankh rivers have potentialities for generation of nearly 700 M.W. power between them. The Sone and Suvernakha 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 adding

up to 10 or 15 M. W. are also feasible. The picture of possible hydro-electric power generation is, therefore, quite optimistic. If this is viewed in conjunction with the vast supplies of coal deposits in Bihar, production of electrical energy through hydro-electric and thermal sources would appear to be adequate for the demands of the State for a long time.

4. The growing population of Bihar can be maintained at a reasonable level of living standards only by increasing the agricultural production per acre of land, there being no scope for further increase in the cultivated area, and increasing the pace of urbanisation and industrialization by fuller exploitation of the resources mentioned above. In spite of several handicaps, attempts were made in the First and Second Five-Year Plans to have a co-ordinated programme of development of all fronts. The First Plan was largely carry-over from the post-war re-construction schemes, and no concerted attempt to assign definite priorities could be made; emphasis was, however, laid on agricultural production. The Second Five-Year Plan continued further the emphasis on agricultural production, taking care to see that production of more foodgrains did not hamper the effort needed for production of industrial raw materials. The aim was to keep the agricultural economy more productive, diversifying the base at the same time, to the extent possible. The development of village and small-scale industries was taken up on a large scale as a measure to shift the large dependent agricultural population to other occupations. Side by side, the development of social services, particularly primary education and the welfare of the Scheduled Castes, Scheduled Tribes and other Backward Classes, had also to receive sufficient attention. During the First and Second Plan Periods, significant success was reached in the programmes for flood control, epidemic control (small-pox, malaria and cholera), technical education and craftsmen's training and in the small-scale industries field. The following table summarises the financial outlay year by year during the First and the Second Plan Periods in respect of the important major heads of development.

TABLE 3.

Financial outlay under different heads of development during the First and Second Plans.

(Rupees in lakhs.)

Head of development.	Actual Expenditure.					Total.
	1951-52.	1952-53.	1953-54.	1954-55.	1955-56.	
1	2	3	4	5	6	7
1. Agriculture and Community Development.	379.3	195.9	190.2	312.2	526.6	1,604.2
2. Irrigation ..	182.9	148.1	115.6	290.9	556.8	1,294.3
3. Power ..	76.1	149.9	144.7	165.1	410.4	946.2
4. Industry ..	6.9	13.7	14.1	36.3	32.8	103.8
5. Transport and communication.	202.1	202.4	104.4	185.2	384.0	1,078.1
6. Social Services ..	336.0	255.9	332.2	467.2	727.7	2,119.0
7. Miscellaneous ..	182.0	..	..	..	..	182.0
Grand total ..	1,365.3	965.9	901.2	1,456.9	2,638.3	7,327.6

TABLE 3—*conold.*

Head of development.	Actual Expenditure.					Total 1956-61.
	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.	
1	8	9	10	11	12	13
1. Agriculture and Community Development.	645.9	881.2	1,036.9	1,264.5	1,422.6	5,251.1
2. Irrigation ..	303.0	424.2	482.0	481.6	813.5	2,504.3
3. Power ..	582.4	597.7	580.3	530.7	592.0	2,933.1
4. Industry ..	103.4	156.9	167.6	231.8	206.0	865.7
5. Transport and Communication.	352.6	266.9	283.2	320.3	307.0	1,530.1
6. Social Services ..	525.2	555.1	667.6	1,064.0	1,304.0	4,115.8
7. Miscellaneous ...	9.0	13.6	15.0	13.4	19.0	70.1
Grand total ..	2,521.7	2,895.6	3,232.6	3,956.3	4,664.1*	17,270.2

*The outlay is indicated as determined at the last annual Plan discussions. In addition, it is proposed to spend an additional sum of Rs. 3 crores from the State's own resources during 1960-61; the total outlay during 1960-61 is expected to be about Rs. 49.64 crores.

5. The First Five-Year Plan envisaged a total outlay of Rs. 57.3 crores, which was subsequently increased to Rs. 67.79 crores. The financial performance during the First Plan Period was Rs. 5.49 crores in excess of the targets envisaged, reaching the figure of Rs. 73.28 crores. During the First Plan Period, the programme for establishment of extension agencies, like the C. D. and N. E. S. movement, was executed outside the State Plan; 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 D. V. C. programme, a clear decision to include the State's share of expenditure within the State Plan outlay was taken only towards the end of the Second Plan Period; an important addition to the State Second Plan outlay was in respect of the major railway electrification scheme on the Eastern railway, for which a provision of Rs. 1.25 crores has been made in the Plan outlay for 1960-61.

Since the major sectors of development did not, however, change in the two Plan Periods, a comparison can be made between the two financial outlays, keeping in view the changes mentioned above. As against an outlay of Rs. 73.28 crores in the First Plan Period, the Second Plan outlay was fixed at 190.22 after making the necessary efficiency cut of 5 per cent suggested for all the States and after taking into account the transfer of territories consequent on the re-organization 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. 175.22 crores, which was the total of the yearly allotments for the five years fixed annually in consultation with the Planning Commission. As against the outlay proposed, the expenditure in the first four years has come up to Rs. 126.20 crores. The Plan provision for 1960-61 has been kept at Rs. 46.6 crores, including the State's share to the D. V. C. of Rs. 2.25 crores and the railway electrification project (i. e., Rs. 1.25 crores). It is expected that the State would not only be able to fulfil the outlay fixed for the last year, but exceed the outlay by about Rs. 3 crores, for which the State Government have also arranged provision of funds to the extent of Rs. 3 crores of rupees to be made available from the State's own resources; the financial outlay of the Second Plan Period would, therefore, be fully spent by the end of 1960-61.

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 at the instance 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 4.
Classification of Plan Expenditure.

(Rupees in crores.)

			Revenue Expenditure.	Capital Expenditure.	Total.
1. First Plan	..	..	(a) 52.5	20.8	73.3
			(b) 38.0	35.3	73.3
2. Second Plan	..	..	98.0	77.0	175.0
Total	..	..	(a) 150.5	97.8	248.3
			(b) 136.0	112.3	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, in the ratio of 52 to 48. In the Second Plan, revenue expenditure accounts for 56 per cent of the total outlay and capital expenditure 44 per cent. The increase in the proportion of revenue expenditure has to be attributed partly to the very low levels of development of the State, but mainly to the very large new administrative staff created, many for the first time, 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-operative Departments were organised during this period not only as extension agencies, but for the mass scale organisation of non-official agencies in the villages, such as G. Ps. A vast staff structure had to be put up in a very short time which 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 manpower is available, the proportion of revenue expenditure during the Third and the Fourth Plans should necessarily decrease in relation to the respective capital outlays proposed. As an example, it may be mentioned that in the Third Plan Period the over-all break-up of the proposed outlay of Rs. 410 crores would be Rs. 182.95 crores as revenue expenditure leaving Rs. 227.82 crores for capital items.

8. As will be seen from Table 3 above, the first priority was given in the First Plan to the social services sector, followed by agriculture, irrigation and transport and communication. Within the social services sector the main efforts were to raise the very low level of literacy and primary education and for measures intended for the welfare of the backward communities which constitute nearly 39 per cent of the total population of the State. In the Second Plan, this order of priorities was slightly altered and agriculture was given the first place followed by social services, power, irrigation and transport and communications. Not merely agriculture was given the first place, but it was realised that successful agricultural effort would depend to a large extent, on the growth of an extension movement and popular participation, supported at the base by an integrated irrigation programme.

9. The physical targets achieved during the First and the Second Plan Periods may be summarised below :—

Agriculture and Community Development.

The target of additional food production during the First Plan was 7.22 lakh tons; during the Second Plan the target was raised to 19.65 lakh tons, originally. The difficult supply position of chemical fertilisers, delay in the establishment of Seed Multiplication Farms and the absence of a suitable agency for effective exchange of improved seeds led to the reduction of the target for the Second Plan to 15 lakh tons. Against the total target of 22.22 lakh tons of additional food production by the end of 1960-61, it is estimated that the performance by 1960-61 would be 18.44 lakh tons, inclusive of the full achievement of the First Plan target of 7.22 lakh tons. The anticipated increase due to minor irrigation will materialise only in a year of normal rainfall, both in total quantity and in distribution. Flood Control Works prevent damage to standing

crops but increase the danger from draught, unless irrigation from assured sources is also given in the protected area. Fertilisers are fully effective only with good rain, or assured irrigation. If due allowance is made for all these, the great uncertainty and sharp variation from year to year in the agricultural production in Bihar at the end of the First Plan are easily explained. It is relevant to note that though various steps have been taken to organise the collection of agricultural statistics on an accurate basis, in the earlier years up to the Second Plan, agricultural statistics were collected by revenue agencies depending on eye estimates only. Naturally, the degree of error in the estimates up to 1955-56 may be large. The base year 1949-50, selected for the entire country, was an unusually good year for Bihar, with ideal weather conditions. The figures of production for that year were also not collected through any scientific method. In the result, there has been definitely an over estimation of the base year of our agricultural production. In the State, where only 3.4 per cent of the cultivated area is under assured irrigation, the seasonal variations can be very large. It will, therefore, be clear that the selection of the year 1949-50 distorted to an extent the entire picture of agricultural production for the next decade. The proper base would have been the average of production for five years 1945-50, but, unfortunately, reliable production statistics are not available.

10. In order to estimate the distortions due to seasonal fluctuations, the average food production during the quinquennium ending 1955-56 was taken as the base for the Second Plan which works up to just short of 52 lakh tons, over which additional food production potential of 15 lakh tons has been envisaged in the Second Plan. The manner in which seasonal fluctuations distort the picture can be seen from the fact that in the worst year, viz., 1957-58, when there was widespread failure of rains, actual production fell down to 38 lakh tons and, on the other hand, in 1958-59, which was a bumper year, the production shot up to 68 lakh tons (final forecast) which is actually above the target envisaged for the end of the Second Plan Period. The implication is clear: arrangements for assured irrigation in Bihar have to be given top priority. Improved seeds and fertilisers can increase production only in a good year of rains or in areas of assured irrigation; in a lean year, they are not able to ensure a known minimum level of production. The targets for the Third Plan, framed against this background, will have to lay emphasis mainly on assured irrigation arrangements; the base figure for the Third Plan should be the average of production during the entire Second Plan Period; the agency for collection of statistics should be strengthened by increasing the number of crop-cutting experiments for each of major crops of Bihar.

11. Within the limitations mentioned above, the increase in agricultural production so far has been the result of the good performance in the establishment of minor irrigation facilities. During the First Plan 16.90 lakh acres were provided with minor irrigation facilities and in the Second Plan 26.26 lakh acres. Major irrigation was made available to 4.62 lakh acres in the First Plan and 6.08 lakh acres in the Second Plan. The following table gives the details of the different types of fertilisers and manures made available during the First and Second Plan Periods :—

TABLE 5.

Fertilisers and Manures 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

12. In the First Plan, there were only two schemes for the distribution of improved seeds, namely paddy seed multiplication and distribution of disease-free potato seeds. The former was abandoned in the second year of the Plan and the total quantity of potato seeds distributed to the cultivators was 6,649 maunds. In the Second Plan the seed multiplication programme was organised through the establishment of a network of farms of a uniform pattern as a complement to each N. E. S. Block. 574 seed multiplication farms were to be established in the Second Plan and after slight revision of the target it is expected that 533 farms would have been set up by 1960-61. The target for distribution of improved seeds in the last year of the Second Plan assuming the complete establishment of all the farms, has been kept at 2.50 lakh tons. It has been realised that in this task considerable extension effort is necessary, and progress has been slow due to delay in the establishment of seed multiplication farms and the unfavourable weather conditions in two years of the Second Plan. A fully satisfactory procedure for exchange of the improved seed at each stage is also still in the process of being developed. A weak link in the chain is the inadequacy of the co-operative movement which has not been able to play its part fully, either in the storage and exchange of the seed, or in providing credit to needy cultivators for the purchase of improved seed. As a result of all these factors by 1960-61 only 3 million acres out of a total cultivated area of 20 million acres would be receiving the benefit of improved seeds.

13. The area reclaimed during the First Plan both by tractors and by manual labour was 1.68 lakh acres and the figure for the Second Plan is estimated to be 0.83 lakh acres. The total cultivable waste in the State is estimated to be about 30 lakh acres, of which about 2.51 lakh acres would have been reclaimed by the end of the Second Plan.

The soil conservation programme was executed by both Agriculture and Forest Departments, who are expected to have brought an area of 61,000 and 91,000 acres, respectively under this programme.

Conservation programmes have been more successful as far as the forests are concerned but the benefits from conservation measures in agricultural land are also slowly being realised.

Animal Husbandry.

14. In 1951 Bihar had a cattle population estimated to be 18.6 million (nearly 9 per cent of the total bovine population of the country) making an average of one head of cattle for every two human being. Milch animals numbered 56 lakhs, with the average annual production at 7.5 maunds per cow and 20 maunds per buffalo. In the First Plan, an outlay of Rs. 1.05 crores was proposed for the improvement of live-stock. The existing facilities for veterinary education were enlarged by increasing admission to degree course, and by introducing a double shift degree course. Eighty-eight veterinary graduates, 93 stock supervisors and 437 stockmen were trained during the First Plan Period. Over 1,000 improved bulls were distributed and 13 key village blocks were opened in the First Plan, 52 artificial insemination centres and 152 sub-centres were started. Seven poultry development centres and seven hatcheries were opened in suitable places and the average annual output of eggs *per capita* rose to 2.3. By 1956 another cattle census was conducted which revealed the decline of the State's cattle population to 17.8 million, partly due to the transfer of territories. The Second Plan provided for Rs. 5.65 crores for this sector including Rs. 47 lakhs for dairying and milk supply schemes. Gazetted staff were posted in district and subdivisional levels and the increased number of N. E. S. and C. D. Blocks were to some extent manned by qualified veterinary personnel. Even so, the total expenditure during the Second Plan will come to Rs. 3.92 crores against the Plan outlay of Rs. 5.65 crores, because of lack of trained personnel (332 sanctioned posts to be manned by qualified personnel are likely to remain vacant by 1960-61) and delay in the construction of sanctioned buildings for veterinary dispensaries, poultry centres, etc. The dairy and milk supply schemes could not make much progress as the work was taken up only towards the end of the fourth year of the Second Plan Period. The greatest need is, therefore, to provide the proper training at the earliest possible time of qualified veterinary personnel. Work for the establishment of a second Veterinary College at Ranchi is being initiated and steps have been taken to upgrade facilities for veterinary education to include a post-graduate veterinary course.

Forests.

15. The First Five-Year Plan contemplated an outlay of Rs. 1.25 crores on forests, which was spent primarily on the management of private forests that were taken over by Government. A total of about 11,000 square miles, which came under Government management, had to be provided with extensive communication facilities and for this purpose 1,100 miles of roads were constructed. The number of forest guards increased from 421 to 2,300, foresters from 102 to 388. Training centres for guards were established at four places and by conducting six-monthly courses, it was possible to train 200 forest guards annually. The Foresters' Training School is now able to train up 20 foresters per annum and during the First Plan because of the need to train

staff as early as possible, ten seats were secured annually in the schools of two neighbouring States.

In the Second Plan, afforestation of waste-lands, and fencing of derelict forest lands and re-generation areas was taken up over a large area. Over 1,395 miles of roads, 64 forest Rest Houses and over 800 quarters for the subordinate forest staff were constructed, which were essential for greater efficiency in administering the remote inaccessible forest areas. A seasoning-*cum*-saw mill has recently been installed at Ramgarh. A National Park covering an area of 71 square miles has been set up near Hazaribagh and 71 miles of roads with necessary Rest Houses and View Towers have been constructed.

Community Development.

16. The agricultural production programme could not have succeeded without the establishment of the extension machinery and non-official agencies to ensure people's participation in full. In the First Plan 98 Community Development or National Extension Service Blocks, covering 11,750 villages with an area of 11,564 square miles and a population of 6.4 millions were established. During the Second Plan Period another 258 Community Development Blocks, covering 30,960 villages with an area of 30,464 square miles and a population of 17.02 millions are expected to be added. The pattern of staffing of the community development projects has been reviewed several times, and facilities for the training of the Block Development Officers, Village Level Workers and non-official members of the Block Development Committee have been established. Orientation courses for the key block personnel are available at Ranchi.

17. An important step in making the blocks basic units of welfare administration was taken when the functions of the old Block Advisory Committees were enlarged and they were redesignated as Block Development Committees. For formulation, execution and supervision of the entire C.D. programme is now left to the Block Development Committees, subject to overall supervision of Government. Powers to transfer funds from one head to another have been delegated to the B.D.C's. subject only to the fact that no transfer of funds can be made from a production head to the amenities head. The membership has been diversified to include the Mukhias of the Gram Panchayats in the block and representatives of the Co-operatives, women and other special interests. The training programme for V.L.Ws. has received considerable attention, the main impact of the programme has been in agricultural production and irrigation and to the same extent in the establishment of educational facilities. Towards the end of the Second Plan, the duration of the blocks has been re-arranged, in accordance with the recommendations of the Balwant Rai Mehta Committee, which the State Government have generally accepted. The existing blocks have been converted to fit in with the new pattern of Stage I (with an expenditure of Rs. 12 lakhs) and Stage II (with an expenditure of Rs. 5 lakhs) each for a five-year period. The State would be completely covered with 575 N.E.S. Blocks by 1963. The demarcation of areas of jurisdiction of all the 575 blocks has been fully completed and the ground prepared for the future establishment of N.E.S. Blocks. During the Second Plan, a network of agricultural extension blocks was also

established, to be in operation a year ahead of the target date for opening of the N.E.S. Blocks, with a nucleus staff consisting of the agricultural personnel of a normal block and devoted to implementing the agricultural programme. 441 seed multiplication farms have been established and are functioning.

18. The First and Second Plans saw the establishment on an extensive scale of Gram Panchayats under the Bihar Panchayat Raj Act, 1947. At the end of the First Plan, 7,392 Gram Panchayats, covering 46,989 villages with a population of 24,76 million, were established. During the Second Plan further 3,369 Gram Panchayats were added covering 19,899 villages with a population of 11.29 millions. Certain compulsory duties for the maintenance of works of irrigation, public drainage and water-supply have been imposed on the Panchayats. For quicker utilisation of irrigation potential created, it is proposed to entrust the construction of field channels to the Gram Panchayats, for which purpose it is proposed to establish a revolving fund of Rs. 1 crore. The Gram Panchayats are permitted to levy a labour tax for purposes of construction of community works. An increasing number of Gram Panchayats have also been entrusted with the task of collection of land revenue. Under the Act certain primary judicial powers have been entrusted to the Surpanches, and in the case of certain specified offences, the cases will not be triable by any court other than a Gram Panchayat, in the first instance.

The necessary training in leadership for the non-official functionaries is being given by seminars, discussions and training courses organised for Mukhiyas and Surpanches, among others. Gram Sevaks have been posted to the Panchayats and paid by the State Government to assist the Panchayats in the maintenance of proper accounts, including agricultural statistics. 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 among the agencies considered for implementation of the schemes. The Gram Panchayats have been associated in the raising of a village voluntary force for self defence and assistance to law and order authorities. The village volunteer force is placed in the charge of a Dalpati, the salary for whom is to be paid by Government according to a proposal under consideration.

19. In the field of Co-operation, a total of 12,268 Multi-purpose Co-operative Societies were established in the First Plan and in the Second Plan, it is expected that 255 large-sized Co-operative Societies with a membership of 38,467 would be 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 be 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, and 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 centre 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 would be 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 and liberal provisions have been made for encouraging such Co-operative farming societies.

Irrigation

20. 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 of the order of Rs. 32.58 crores, which was later reduced to Rs. 25.04 crores. During the First Plan none of the important 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 Botane 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.

21. 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 re-modelling 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 in the Second and 78,920 acres in the Third Plan Period. 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. No irrigation potential has so far been created in the Kosi project, as the work on the barrage is still in progress. The Sone-re-modelling scheme was taken up in 1957-58 at a total cost of Rs. 2.37 crores; the benefits that would accrue from re-modelling of the canal system of the old Sone barrage would increase by the construction of a new barrage 5 miles up-stream across the River Sone, with two high level canals connecting with 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 and apart from Rs. 0.35 lakhs spent till 1959-60, a sum of Rs. 1 crore has been earmarked for expenditure in 1960-61.

22. The potential created during the Second Plan Period by Major Irrigation schemes was of the order of 6.08 lakh acres, the actual utilization being 6.10 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 10.37 lakh acres, the two Plans have added a total of 11.92 lakh acres. As against 19.19 million acres of cultivated area for the reorganised State of Bihar, the provision of assured irrigation extends at present to only roughly 22 lakh acres, namely 11 per cent of the total cultivated area. A reference is necessary at this stage to the figure of 55 lakh acres shown as the irrigated area in the State in earlier statistics. This figure relates to the year 1951 and includes 10.37 lakh acres under assured irrigation. The remaining 45 lakh acres have been classed as irrigated area, because the area has been shown to be under the command of various Minor Irrigation works maintained by the ex-Intermediaries according to Survey and Settlement Records. These Minor Irrigation arrangements were essentially temporary and intended to make available the run-off of local rain-water, in the good years. They contributed at best to strengthen the precarious cultivation. 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 Chota Nagpur. 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 irrigation, in South Bihar including Chota Nagpur, 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.

23. During the last ten years, a great impetus has been gained for the installation of tube-wells for irrigation, which are administered by the State Irrigation Department as State-owned Minor Irrigation Scheme, as the tube-wells generally provide assured irrigation to their command area unlike other minor irrigation works built around diversion arrangements. Nine hundred and forty-six tube-wells were 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 the financial assistance from the Central Government under G. M. F. and partly under T. C. M. Aid programmes. 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.

Flood control

24. 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 by popular support, in which non-official agencies, like Bharat Sevak Samaj and local Gram Panchayats, have taken a great 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 have 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 posts and given to the non-official agencies in preference to the other recognised contractors.

Power.

25. The table below summarises the pattern of power generation in Bihar during the First and the Second Plan Periods :—

TABLE 6.
Generation of Power in Bihar.

		1951.	1956.	1961.
(Mega Watts.)				
1. Diesel	.. Board	1.1	11.8	15.1
	.. Damodar Valley Corporation ..	1.5	..	..
	.. Others	4.8	4.8	5.2
2. Steam	.. Board	2.1	0.1	..
	.. Damodar Valley Corporation ..	..	150.0	258.5
	.. Others	37.4	37.4	298.5
3. Hydel	.. Board .. .. .	..	..	..
	.. Damodar Valley Corporation ..	..	4.0	44.0
	.. Others .. .. .	..	..	..
Total ..		46.9	208.1	621.3

In the Second Plan an expenditure of the order of Rs. 29.33 crores is expected to be incurred. As will be revealed by the table, the total installed capacity would have increased from 46.9 Mega Watts in 1951 to 208.1 Mega Watts and by the end of 1961, it is expected, to 621 Mega Watts. The per capita consumption would also rise from 2.95 units in 1951 to 4.2 units in 1956, to 19 units by the end of 1961. There were 20 schemes in the Second Plan of which 18 relate to extension of distribution system. Among the important projects undertaken during the Second Plan, the setting up of the steam station at Barauni with a present capacity of 30 Mega Watts at an estimated cost of Rs. 3 crores is to be mentioned. This would provide necessary power for the Barauni Oil Refinery. In the third year of the Second Five-Year Plan, the railway electrification scheme was taken up and the State Electricity Board was entrusted with the task of constructing 300 miles of 132 K.V. lines with the installation of three sub-stations. Out of the estimated cost of Rs. 4 crores on this project by 1960-61, it is expected, Rs. 3 crores would be spent. Work has also been taken up for the construction of a thermal power plant at Patratu with a capacity of 100 Mega Watts to feed the Heavy Machinery Plant coming up at Hatia.

The table below gives an idea of the trend and pattern of consumption of Power in Bihar, during the last ten years, with the relevant all-India figures :—

TABLE 7.
Per capita consumption of Electricity in Bihar.

Serial no.	Year.	Particulars.	Population in million.	Light and fans. KWH.	Small-scale Industries. KWH.	Irrigation. KWH.	Industries.		Total of—	
							Excluding steel, cement, fertiliser, oil, etc. KWH.	Including all Industries. KWH.	5+6+7+8. KWH.	5+6+7+9. KWH.
1	2	3	4	5	6	7	8	9	10	11
1	1951	Bihar	40.20	0.40	0.15	0.11	2.29	..	2.95	..
		India	361.80	1.83	0.92	0.56	9.94	..	13.25	..
2	1956	Bihar	40.20	0.62	0.36	0.15	5.56	25.56	6.69	26.69
		India	361.80	2.64	1.43	0.70	14.88	21.23	19.65	26.00
3	1961	Bihar	44.60	1.10	2.03	1.10	7.90	34.27	12.13	38.50
4	1966	Bihar	48.10	3.17	4.95	3.61	13.70	68.07	25.35	79.80

26. In addition to the State efforts, the Damodar Valley Corporation have been able to instal power capacity at Tilaya of 4 Mega Watts, Maithon of 60 Mega Watts, Panchet of 40 Mega Watts, Bokaro of 225 Mega Watts. The State's contribution to the D.V.C. in this connection was

of the order of Rs. 12.72 crores during the Second Plan Period. Taking into account the share of power available from the firm capacity generated by the D.V.C., it is expected that by 1960-61, against a total demand for power of 451 Mega Watts in the State including the demand of self-generating units, it would be possible to supply 387.87 Mega Watts out of which the State Electricity Board will distribute 11.37 Mega Watts. A glance at the pattern of demand for power would reveal that there is increasing divergence between demand and supply of power which is only likely to accentuate the existing power shortage during the Third Plan Period.

Apart from the supply of power to the industrial units set up through the State and Central Plans, the other important achievements in the first two Plans would be the construction of 3,500 distribution sub-stations, giving connection to 3,500 surface wells and 1,100 tube-wells and electrification of about 100 towns and 2,047 villages.

Industry.

27. The industries 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 can be provided only by the Central Industrial Plans. 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 p.a. The total expenditure on the Plan till 1959-60 is Rs. one crore. In addition an attempt was made to start a High Tension Insulator Factory, which, because of import difficulties, could not so far be started. A scheme for spun-silk factory at Bhagalpur is also under contemplation.

28. 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 would grow fast because of advantage of the location of the big industries in Bihar. For this purpose, four industrial estates have so far been set up at Patna, Ranchi, Darbhanga and Bihar-sharif. Pilot projects were started in three centres for particular encouragement to the industrial potential of the areas concerned. Production-cum-training centres were set up in 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. Industrial survey has been made in Monghyr district, Ranchi district 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. 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 have also been taken in hand.

29. In addition to the above important steps have been taken in the scheme for expanding technical education facilities and craftsmen's training programmes. At the end of the First Five-Year Plan Period facilities existed for technical education at degree level for 192 and at the diploma level for 390 students per year. By the end of the Second Five-Year Plan degree level technical education would be available to 1,048 students and diploma level to 1,595 students including the facilities available at the Birla Institute of Technology, Ranchi and the Bihar College of Engineering, Patna. The National Council of Applied Economic Research at the instance of the State Government conducted a Techno-Economic Survey in which they have recommended further studies in a number of prospective industries on the possibility of industrial expansion. Instead of 492 seats available at the beginning of the Second Plan for training of craftsmen the total number available at the end of the Second Plan Period will be 4,964 an increase of more than 100 per cent. The annual product of engineering graduates in Bihar is expected to reach the figure of 200 by 1961 and that of overseers to about 400.

Roads.

30. The roads programme is of vital importance to Bihar partly because the southern portion is highly industrialised and arteries of transport would be of growing importance and partly because in North Bihar the development of roads is a long-felt need. In 1950-51 Bihar had only about 1,952 miles of improved roads against the requirement according to Nagpur formula of 4,606 miles in the State. 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 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. According to 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 that of 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 163 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 on transport and communications is very urgent in view of the important back-logs in the other sectors to be made up for want of adequate funds it was not possible to make any further provision to this sector which has resulted in a level of development that is far below the all-India average.

31. In the road transport sector the nationalised Government transport, which operates over an increasingly large portion of South Bihar and Chota Nagpur, has been handed over to an autonomous corporation from May, 1959. The total number of buses operated by the Corporation is 630, covering a total mileage of 170 lakh miles, with 472 scheduled by the end of 1960-61.

Social Services.

32. In 1951, Bihar was ranking twelfth among 14 Part A States in respect of education facilities offered and was thirteenth in its ability to support education. The total expenditure of State in education has increased from 7.6 per cent in 1946-47 to 9.7 per cent in 1955-56 and would still rise further to 10.9 per cent by the end of the Second Five-Year Plan. The total expenditure on education during the First Plan Period was of the order of Rs. 6.46 crores, besides Rs. 2.08 crores spent on Centrally sponsored schemes. During the Second Plan Period it is expected that Rs. 16.81 crores would be spent on education, besides Rs. 15 lakhs on technical education and Rs. 3.25 crores being the Centre's share on Centrally sponsored schemes executed in the State.

The problem in the State's education sector is primary education. It is estimated that the number of children in age-group 6 to 11 in the State would be 57.5 lakhs in 1961 against the all-India figure of 550 lakhs. The number of primary schools have increased from 23,699 in 1950-51 to an estimated figure of 38,000 by 1960-61; correspondingly, the figures of enrolment would increase from 14.6 lakhs in 1950-51 to an estimated figure of 30 lakhs in 1960-61, out of which 8 lakhs would be girls. The rate of increase of the number of children enrolled in primary schools during the Second Plan Period is shown in the table below :—

TABLE 8.

Progress of Enrolment of Children during the Second Plan in the age-group 6—11 years.

	1955-56.	1956-57.	1957-58.	1958-59.	1960-61.
Boys	15,36,100	15,74,407	16,09,305	19,96,072	22,00,000
Girls	3,24,660	3,55,348	3,82,067	5,76,384	8,00,000
Total	18,60,760	19,29,755	19,91,312	25,72,456	30,00,000

The table shows that as many as 6 lakh children were added to the school-going population in the year 1958-59. This substantial achievement was possible because a special enrolment drive was organised in January, 1959 and the academic session was shifted from July—June, to January—December to suit the local conditions of the State. Even after this impressive performance, which has meant exceeding the targets of enrolment fixed for the Second Five-Year Plan, Bihar has still nearly 48 per cent of the children of the age-group 6 to 11 not yet enrolled in primary schools, as against the all-India figure of 40 per cent. The annual output of trained teachers including women teachers was nearly 5,000 at the end of the First Five-Year Plan and is likely to rise to about 10,000 by the end of the Second Five-Year Plan, which will make available roughly about 8,500 teachers per annum after 1960-61, because allowances have to be made for 15 per cent wastage of teachers after training.

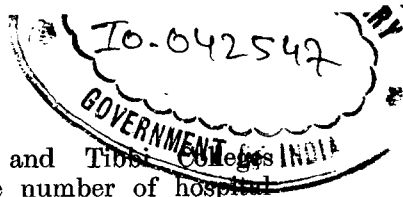
Secondary Education.

33. The rate of enrolment of the children of age-group 11 to 14 and again from 14 to 17 has also stepped up sharply, but even then against the all-India average of 12 per cent enrolment of children from age-group 14 to 17, Bihar would only be enrolling 8.7 per cent of the relevant age-group by 1960-61. Women's education has been lagging behind in this State. As against nearly 34,000 primary schools for boys by the end of 1960-61, only 4,000 schools would be available for girls. Another index of backwardness in women's education would be revealed by the fact that by 1960-61 while 77.27 per cent of boys of age-group 6 to 11 would be enrolled, the corresponding percentage for girls of the same age-group would be only 28. The number of Matriculates in the State would have increased from 14,405 by 1950-51 to 33,172 by 1955-56 to about 55,000 by the end of 1960-61. The increase in the number of Matriculates is likely to continue because of the intensive efforts that have been taken in the last decade for primary education. In this connection, the work done in organising technical education and vocational craftsman training centres, impressive as they are, do not appear to be adequate considering the size of the problem. There were 1,428 recognised high schools in 1959-60 and 328 more were being proposed. It is expected that the number of multi-purpose and higher secondary schools by that time would be 200 all of which would have provision for science teaching. There were 35 girls' high schools including 15 Government schools in 1950-51. In the First Plan 15 girls' high schools were expanded further and two more were established. During the Second Plan attention was devoted to non-government girls' high schools for each of the subdivisional headquarters. The total number of teachers in secondary schools increased from 8,108 in 1950-51 to 13,500 in 1960-61. These figures included 511 and 1,200 women teachers, respectively. From about 15.34 per cent teachers trained in 1950-51, the percentage is expected to rise to 51.9 per cent by 1960-61. The number of training colleges has increased from 1 to 5 by the end of the Second Five-Year Plan, the seats having increased from 130 to 725. It is expected that this would provide an annual output of 600 trained teachers for secondary schools by the end of the Second Plan Period.

34. Regarding university education, after the creation of the Bihar University in 1952 the need was felt for reorganising the two existing universities into four regional universities with areas of jurisdiction co-terminus with the administrative divisions of the State. This scheme has been implemented recently. The number of students in all the universities in Arts, Science and Commerce would have increased from 44,218 in 1955-56 to about 89,000 in 1960-61. The number of science students alone would increase from 9,100 to 21,000 by 1960-61, the proportionate rise being from 20.5 per cent to 23.6 per cent. 62 colleges, which had more than 400 students on rolls during 1959-60, have been permitted to introduce the three-year degree course with the assistance available from the Government of India, the State Government and the University Grants Commission. A Sanskrit University has also been formed at Darbhanga which would be a teaching-cum-affiliated University controlling Sanskrit (including Prakrit and Pali) education at the collegiate stage. There are seven Government-managed and one Government-aided research institutes. Among them, the Nava Nalanda Mahavihara at Nalanda conducts research in Pali language and Buddhist religion; the Vaishali Institute is devoted to research in Prakrit and the Jain philosophy. The Nalanda Institute has taken up extensive translation of the Tripitakas in Devnagri script and is becoming an international research centre.

Health.

35. The outstanding achievement in the Health sector during the two Plan Periods consists in the impressive success in the control of epidemics. Apart from this, the main task was the organisation of a broad-based health administration for the increasing number of hospitals that came under Government control. The provincialisation of District Board hospitals has been done on a phased programme. In spite of the outlay on health, the facilities for medical services available in the State are dismally low in comparison with the standards obtaining throughout the country. By the end of the First Five-Year Plan, the total bed-strength in the 728 hospitals of the State was 4,256 and all the subdivisional hospitals have been taken over by the State. By the end of the Second Plan the bed capacity of 815 hospitals would have increased to 5,702. The demand for trained medical personnel is very large, particularly because of the establishment of the large network of N. E. S. Blocks. For this purpose, in addition to Patna Medical College two more, including one at Ranchi to be opened, would augment the training capacity. The present output in the Patna and Darbhanga Medical Colleges total 160 per year and for the Ranchi Medical College 50 students every year are trained at Darbhanga and Patna. In 1960-61 it has been proposed to step up the admission in each of the three Medical Colleges to 150 each. Two schools for training of auxiliary nurses and midwives existed in the First Plan Period and two more schools started functioning during the Second Plan Period. The number of registered medical practitioners in 1951 was 4,813, working up to a proportion of one doctor for every 8,352 persons. By 1955 there were 5,855 medical practitioners and by the end of the Second Plan Period there would be 6,753, working up to a proportion of one doctor for every 5,924 persons. Attention has been paid to the proper development of the indigenous systems of medicine and in this connection



expansion and improvement of the Ayurvedic and Tibbī Colleges were undertaken in the Second Plan Period. The number of hospital beds per million population was 146 in 1955-56, as against the all-India average of 320; the position by 1960-61 is expected to improve to 210 as against the all-India average of 360.

Welfare.

36. According to Census of India, 1951, the following is the population of Scheduled Tribes, Scheduled Castes and other Backward Classes enumerated by the State Government :—

TABLE 9.

Population of Scheduled Tribes, Scheduled Castes and other Backward Classes in Bihar (1951 Census).

	Population.	Percentage of total population.
1. Scheduled Tribes	3,833,899	9.53
2. Scheduled Castes	4,855,686	12.07
3. Other Backward Classes	6,126,745	15.23
Total	14,816,330	36.83

It would be seen that nearly 38 per cent of the population belong to these three communities, whose problems are not alike. Apart from educational and economic backwardness, certain social disabilities are peculiar to Scheduled Castes, while segregation and seclusion are peculiar to the Scheduled Tribes who themselves do not form a single homogeneous group. The other Backward Classes also need special assistance to come up to the general average standard of living of the population. Specified economic and educational efforts were undertaken for the uplift of these communities. In the Second Plan Period, provision of Rs. 5.43 crores was made in the State Plan for the welfare sector and the expenditure has risen from Rs. 47 lakhs in 1956-57 to an estimated expenditure of Rs. 125 lakhs in 1960-61. While the economic components are necessarily devoted to partial amelioration of the conditions, an index of the effect of the welfare programme may be seen in the following table which gives the figures of high school students belonging to the Scheduled Tribes, Scheduled Castes and other Backward Classes.

TABLE 10.

Number of High School Students of Scheduled Tribes, Scheduled Castes and other Backward Classes in Bihar.

	1955-56.	1957-58.	1960-61 (estimated).
1. Scheduled Tribes	12,037	15,409	21,881
2. Scheduled Castes	10,730	14,150	20,942
3. Other Backward Classes	84,458	1,22,570	2,04,692
Total	1,07,225	1,52,129	1,47,515

In spite of the best efforts of the State, only about 3,500 Scheduled Tribe students, 6,400 Scheduled Caste students and 5,798 other Backward Class students could be given stipends during the Second Plan Period from the State Government.

In addition to the State Plan outlay on the Welfare sector, an amount of Rs. 168.41 lakhs was spent in the first four years of the Second Plan against the provision of Rs. 326.25 lakhs for Centrally sponsored schemes for the welfare of these communities.

CHAPTER III.

TARGETS FOR THE THIRD PLAN.

1. To estimate the size of the planned effort required, the study of certain long-term trends in the economy is necessary. Mention has already been made of the large agricultural population of the State, the high rural population and the degree of redundancy in the agricultural population of the State. Out of 110.50 lakhs of self-sufficient workers engaged in agriculture, the Bihar Unemployment Committee, 1954 found that 47.33 lakhs were redundant; even among those gainfully occupied in agriculture, unemployment in the rural sector ranged from 53.69 per cent to 8.47 per cent of the available mandays. In other words, the population engaged in agriculture was at best employed only for half the period. The Agricultural Labour Enquiry Committee, 1951, has also analysed in the pattern of land holdings in Bihar and the results may be summarised in the table below :—

TABLE 11.
Size of holding: in Bihar.

Size.	Number.	Area.
(In percentages.)		
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. The large number of obviously uneconomic holdings need to be consolidated, though this task is by no means easy. The local traditional customs, laws of inheritance and other factors would be obstacles in the way of a programme of consolidation of holdings, though, it is clear that in the long run the economy cannot be improved unless the size of the average holding rises very much above the present level. Such a programme of consolidation of holdings or voluntary co-operative farming has to be planned over the next two or three Five-Year Plan Periods; when that is done, it would effectively integrate the several steps that have been taken

by the State after Independence for ensuring security of tenure and rationalisation of the various tenure structures in the State, coming on since the time of the permanent settlement.

2. Another long-term trend of the economy would be revealed by the growth of population of Bihar during the last 60 years. The population in 1891 was 283 lakhs, and rose to 292 lakhs in 1921; the population in 1951 was 402 lakhs. It is apparent that while the rise in population for the 30 years up to 1921 was only .9 lakhs, the rise between 1921 and 1951 was of the order of 110 lakhs. The average rate of growth before 1921 was 0.1 per cent per annum, which increased to 1.26 per cent per annum after 1921. The increase can be attributed partly to the positive measures for epidemic control that had been increasingly taken in the State and partly to the effective measures of well-organised relief from flood and famine that have been accepted as part of State policy. There is no likelihood of any decrease in their trend during the next 20 or 30 years and the drain on the resources of the State will, therefore, persist for a long time. Productivity could not keep pace with the rising population. Precise information with regard to industrial production in the State is not readily available. The collection of agricultural statistical data was also not completely reliable till about the end of the First Plan Period; the coverage was through approximate eye estimation of yields made by a diverse number of sources, not all professionally equipped for the task. The need for compilation of accurate statistical data was realised early in the Second Plan and a comprehensive organisation was set up. The changes in agricultural productivity may, however, be assessed on the basis of some of the available data for the period 1921—51, in respect of acreage and double cropping. The net area cultivated had increased from 21.17 million acres in 1921 to 22.19 million acres in 1951, a rise of about 4.8 per cent in the 30 years, as against an increase in population from 292 lakhs to 402 lakhs, i.e., a rise of 37.7 per cent. Extensive cultivation failed miserably to keep pace with the increasing population in an area where cultivation had already spread too far. Intensive efforts made to increase agricultural production could not have met the full requirement of increased production. Irrigation, use of manure and chemical fertilisers, multiple cropping, use of improved seeds and better agricultural practices were all undertaken during the period and subsequently also. Except for the Plan Period regarding which reference has already been made in the earlier chapters, no figures are available for the inputs into agriculture. But from the data available regarding progress in double cropped area, it is clear that agricultural production made a heroic though feeble attempt to catch up with the population growth. The total double cropped area is estimated to have been 56.61 lakh acres in 1921, which increased to 63.68 lakh acres in 1951, a rise of about 12.5 per cent over 30 years. The net area irrigated also increased from 41.05 lakh acres in 1921 to 51.74 lakh acres in 1951. As already recorded, out of the net irrigated area, irrigation facilities were available from Government canals and tube-wells only to 10.37 lakh acres even by 1951. The remainder, though available as irrigation sources during a good year of rainfall, were minor schemes meant to irrigate small areas from the local run-off of rain water, and, therefore, not reliable. Even assuming these figures, a comparison of the changes

in the net area cultivated, net area irrigated and the double-cropped area in Bihar during 1921 to 1951 on a *per capita* basis may be seen from the table below:—

TABLE 12.
Charges in per capita area in Bihar.
(In cents of an acre.)

		1921.	1951.
Net area cultivated	.. ..	73	55
Net area irrigated	.. ..	14	13
Double-cropped area	.. ..	19	16

3. The table shows that a decline in the *per capita* area under cultivation, irrigation or double cropped during the period 1921—51 is clearly established. While agricultural production was thus in a life and death struggle to catch up with the population, the percentage of agricultural classes in the population also increased from 73 per cent in 1901 to 81 per cent in 1921 and 86 per cent in 1951. No doubt, there was some absorption of population in industries allied to agriculture, like sugar; but the overall rate of increase of population was far ahead, of the absorptive capacity of either agriculture or industry and other occupations. The net result has, therefore, been a throw back of population into agriculture, which was already depressed and carried for too may dependents. The economic classification adopted from the Census of India, 1931 onwards presents comparable figures on 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 36.0. Though the tendency was common all over the State, the decline was particularly noticeable in North and South Bihar and not so much in the plateau area. The increasing load of dependents and inactive population has thus made the economy not only stagnant but, to a certain extent, regressive. In this context it is also revealing to note that Bihar has always had an adverse balance of migration, i.e., more people have been going out of Bihar throughout the period 1921—51. The adverse balance of migration in 1931 was about 1.02 millions, which increased in 1951 to 1.09 millions, or 1.56 millions, if the displaced persons from Pakistan who came and went are also included. The only possible explanation for this persistent adverse balance of migration up to 1951 can be the difficult economic conditions in Bihar. It must be admitted that the ravages of nature in the form of floods and famine have also been responsible to some extent for these adverse long-term trends. Practically the whole of North Bihar had been subject to floods and shifts in the courses of big rivers, like the Kosi. Absence of flood protection works led to precarious cultivation and shifting of homesteads, consequent on the shifting of the rivers. Variations in rainfall and its distribution have led to the peculiar phenomenon that in Bihar, in the same year drought occurs in one area and floods in another.

4. No doubt, the long-term trends in the economy have been corrected to some extent in the last ten years, in the sense that further

deterioration has been arrested. An attempt is now being made to have perspective planning started from the Third Five-Year Plan which can diagnose the main elements in the long-term imbalances in the economy including regional disparities of growth with a view to attempting the formulation of the precise nature and magnitude of the remedial measures that have to be taken from time to time. In the context of the planned efforts made by the State during the last ten years, and in the light of the persistent economic imbalance and disparities in regional growth in the economy, the Third Five-Year Plan has been formulated keeping in view, on the one hand, the fulfilment of the national economic targets laid down for the country, and, on the other mainly to increase the productive effort (industrial and agricultural) of the State to match its growing population. Since this productive effort rests to a large extent on an adequately equipped base of economic and social overheads, attention to their development has also been emphasised. The constitutional obligation both in respect of universal free and compulsory primary education, and uplift of the Scheduled Castes, Scheduled Tribes and other Backward Classes of the society, also need attention.

5. Out of the likely population of Bihar by 1966 estimated to be 49.62 millions, the adult population will be 42.5 millions. On the basis of 15 ounces of cereals and three ounces of pulses per diem, the requirement of foodgrains in 1956, 1961 and 1966 is estimated at 65.07, 71.68 and 78.83 lakh tons, respectively. Adding 10 per cent for live-stock feeds, the total requirement of foodgrains in 1956, 1961 and 1966 would work out to 71.58, 78.85 and 86.71 lakh tons.

Besides foodgrains, additional production of commercial crops, for use as raw material for industries or for export, should also keep pace with the requirements of the economy. The estimated requirement of commercial crops is about 6.80 lakh tons. In order to ensure production of these food and non-food crops, involving a sharp step up of the existing levels of production, effective measures will have to be taken. The following table gives the break up by broad heads both for foodgrains and non-food crops:—

TABLE 13.
Measures to Increase Agricultural Production.

		(IN LAKH TONS.)		
		Food crops.	Non-food crops.	Total.
1. Minor Irrigation ..	..	2.30	1.85	4.15
2. Major Irrigation ..	..	4.01	—	4.01
3. Manures and fertilisers	—	6.30	2.69	8.99
4. Land Development	—	0.40	0.11	0.51
5. Improved Seeds ..	..	3.00	1.00	4.00
6. Cultural practices ..	..	5.00	1.15	6.15
Total ..	..	21.01	6.80	27.81

It is expected that as a result of the measures, incorporated in the plan, the following levels of production may be reached by the end of Third Five-Year Plan :—

TABLE 14.

Level of Production at the end of Second and Third Plans.

(IN LAKH TONS.)

		Estimated production at the end of the Second Plan.	Additional production during the Third Plan.	Estimated production at the end of the Third Plan.
1. Foodgrains	..	62.62	21.01	83.63
2. Sugarcane	..	54.20	13.00	67.20
3. Oilseeds	..	0.60	0.30	0.90
4. Tobacco	..	0.23	0.04	0.27
5. Fruits	..	8.08	3.00	11.08
6. Vegetables	..	31.76	10.00	41.76
7. Fish	..	0.37	0.25	0.62

6. One of the important constituents of the agricultural production programme during the Third Plan Period would be the intensified agricultural districts production programme, otherwise known as the "package programme", which is going to be initiated in the irrigated areas of the Shahabad district, with a total outlay of Rs. 1.52 crores. Within the command of the Sone canal system, an area of 20 N. E. S. Blocks is being taken up and will be fully under the programme by 1963-64. Apart from necessary technical help, a network of co-operative societies will be built up for timely supply of fertilisers, seeds, 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 for agriculture and the grains produced. Selected large farms will be taken up where the results would be judged on the basis of accurately maintained data. The necessary staff has been sanctioned and it is proposed to take up in the first instance six blocks in the 1960 *khariif* season. The number of Village Level Workers would be increased to 20 per block, as against ten, and there will be three more agricultural specialists for every block in addition to the normal staff. The Agriculture Department has been set up on a firm basis during the Second Plan with adequate staff with district and subdivisional level officers. Four hundred and forty-one seed multiplication farms have already been set up and it is expected that the programme of saturation with improved seeds would be completed by the end of the Third Five-Year Plan. A scheme is already in operation for starting Agricultural Extension Blocks, concentrating on agricultural extension work, a year ahead of the scheduled date of commencement of the N. E. S. Blocks. This period is expected to be utilised for the necessary survey and other preliminary

arrangements for the agricultural programme of the block. The large extension, research and training programmes that had been initiated in the first two Plan Periods are expected to give full benefit during the Third Plan Period, when the results of research would be available for use by farms after sufficient field tests.

7. Continuing the good progress made in minor irrigation during the Second Five-Year Plan, when a total of 16.26 lakh acres was brought under minor irrigation, it is proposed to bring under minor irrigation nearly 32.76 lakh acres at a total cost of Rs. 16.20 crores. In order that the minor irrigation efforts in the State should be co-ordinated a unified agency for implementing the minor irrigation programme has already been set up. Priority is being given to the minor irrigation programme in the Community Development Blocks. Wherever necessary, increased allotments are made available to the Blocks for the minor irrigation programme. Under the amended Bihar Panchayat Raj Act, Gram Panchayats have been given the responsibility for maintenance of the irrigation managements within their jurisdiction; this is expected to remove one of the causes for failure of minor irrigation arrangements, namely neglect to maintain these minor irrigation systems. Panchayats would hereafter have the compulsory duty of maintaining these minor irrigation sources and renovating, where necessary, the village and field channels. In order that the Panchayats may have no financial difficulties in this task, it is proposed to set up a revolving fund of Rs. 1 crore from which assistance to needy Panchayats may be available for the irrigation programme.

Animal Husbandry.

8. During the Third Five-Year Plan it is proposed to raise milk production in the State to a level that would satisfy the requirement of milk at 10 ounces *per capita*, as against the *per capita* milk availability of 5.2 ounces by the end of the Second Plan. It is also proposed to ensure the supply of milk to all towns with a population of 50,000 and above. It is proposed to expand the creamery set up at Barauni, and to start dairy extension service in seven selected places, where arrangements for water-supply, feeding and fodder and improved breeding methods would be available. It is proposed to constitute a Milk Board to supervise the working of these schemes, marketing, distribution, control and quality of milk products and related matters.

Land Development.

9. Out of about 32 lakh acres described as culturable waste land, nearly 8 lakh acres are improvised pasture lands, 6 lakh acres weed infested and the remaining suffer from varying degrees of soil erosion, mostly located in the plateau regions of Bihar. By the end of Second Plan about 2.5 lakh acres of the more promising waste land are expected to have been reclaimed both by tractors and manual labour. The target of waste land reclamation in Bihar during the Third Five-Year Plan has been put at 0.83 lakh acres. The suitability of the waste land now left for reclamation for agricultural purposes is extremely doubtful. Under the soil conservation programme in the Second Plan the training of the necessary extension supervisors and extension officers

was given great attention and a research station was set up in Purnea district for surveying the problem of optimum land-use. With the increased qualified staff available the soil conservation target during the Third Plan has been kept at 2.64 lakh acres. In addition a further area of 50 lakh acres would be surveyed and mapped on the basis of soil studies. The necessary legislation for promoting consolidation of holdings has already been passed. The absence of such legislation was providing a great obstacle during the First and the Second Plan Periods to the implementation of this programme. In the Third Plan a tentative target of 32 lakh acres has been fixed for this programme.

Forest.

10. In the Forest sector it is proposed to have economic plantations raised over a total area of 61,000 acres including 35,000 acres afforestation. From the experience gained in teak and bamboo cultivation during the Second Plan Period 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 based mainly on bagasse as raw material available from the sugar mills. Intensive management through working plans of another 4,000 square miles of forests is proposed. In addition to the National Park at Hazaribagh it is proposed to establish another National Park at Palamau with an area of 75 square miles ; in addition 25 more game sanctuaries are proposed to be established. An arboretum is to be established near Ranchi to study the growth condition of local and exotic species. New forest roads are to be extended over 2,000 miles. Soil conservation measures to be taken up in the Third Plan include afforestation of 57,000 acres in the Damodar catchment, 48,000 acres outside the catchment and another 7,500 acres in the catchment of the various irrigation projects in the State.

Community Development.

11. The entire State would be fully covered by the end of 1963 by the establishment of 575 blocks. 219 out of this number of blocks are to be set up hereafter covering 25,250 villages with an area of 25,026 square miles and a population of 14.44 millions. 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 Committee which now includes 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 drinking water well for every village lying within the blocks to be opened in the Third Plan. This programme taken in conjunction with the Health Department's programme and the expenditure on drinking water wells as part of the local development

works programme would provide satisfactory supply of drinking water in practically every village of Bihar by the end of the Third Five-Year Plan.

Co-operation.

12. 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 29 subdivisional branches to be set up in the Third Plan. Necessary managerial assistance is proposed to be given free of cost with the departmental staff for supervision. The proposed total credit including short, medium and long-term loans to agriculturists has been kept at Rs. 23.7 crores in the Third Plan as against Rs. 1.42 crores by 1960-61. 15,000 multi-purpose societies are to be organised by the end of the Third Plan bringing the total to 30,000 societies which would mean two societies for each Gram Panchayat area serving on an average 1,300 persons each. In the field of co-operative marketing apart from a contribution of Rs. 10 lakhs to the share capital of the State Warehousing Corporation 30 additional warehousing societies are also to be set up. Sixty-nine primary co-operative marketing societies would be set up whose activities would be co-ordinated through 17 district marketing unions. One hundred and five consumers' co-operative stores are proposed to be organised. Sixty-nine godowns are to be constructed by primary co-operative marketing societies besides 500 rural godowns. 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 aims at setting up 320 joint co-operative farming societies on a pilot basis besides 500 other co-operative farming societies. Necessary managerial assistance in the shape of 43 additional Farm Inspectors is to be given so that by 1965-66 every subdivision of Bihar will have a Farm Inspector. Training of nearly 1,500 official and 2,800 non-official office bearers of the various co-operative societies is to be taken in hand.

Gram Panchayat.

13. By the end of the Second Five-Year Plan there would be over 11,000 Panchayats constituted under the Bihar Panchayat Raj Act, 1947. 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. The duties of the rural police are proposed to be transferred to the Chief Officer of the village volunteer force on an experimental basis, the Chief Officer being paid at the rate of Rs. 25 per month. 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 construct 1,250 Panchayat Bhawans at an estimated cost of Rs. 25 lakhs during the Third Five-Year Plan.

Irrigation.

14. Assured irrigation in the State is provided through Government canals and tube-wells and minor irrigation works whose potential has been stabilised through special measures. As already mentioned, during the First Plan total additional irrigation potential of 5.13 lakh acres was created, over and above the area of 10.37 lakh acres which was already under assured irrigation before 1951. In the Second Plan the target has been to increase the irrigation potential by an additional 7.55 lakh acres. Since piecemeal planning of available resources hampers growth 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 up to 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. 77.62 crores on major and medium irrigation schemes (excluding Rs. 9.05 crores to be spent on flood control) bringing an additional area of 31.18 lakh acres under assured irrigation by the end of the Third Plan Period. This would be in addition to 1.4 lakh acres which would be brought under irrigation through State-owned minor irrigation schemes during the Third Plan Period. 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 15.

Irrigation Potential created and utilised during the First, Second and Third Plan periods.

(IN LAKH ACRES.)

	Pre-Plan period.	First Plan period.	Second Plan period.	Third Plan period.	Total.
	1	2	3	4	5
(a) Potential created—					
(i) Major and medium schemes	10.37	4.62	6.07	31.18	52.24
(ii) State-owned minor irrigation schemes.	..	0.51	1.48	1.40	3.39
Total ..	10.37	5.13	7.55	32.58	55.63
(b) Potential utilised—					
(i) Major and medium schemes	10.37	2.65	6.07	20.80(a)	39.89
(ii) State-owned minor irrigation schemes.	..	0.51	1.40	1.40	3.31
Total ..	10.37	3.16	7.47	22.20	43.20

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

The irrigation plan consists of nine spill-over schemes and 20 new schemes, the spill-over schemes costing Rs. 52.12 crores. The bulk of the expenditure on spill-over schemes would be on the Kosi, Gandak and Sone Barrage schemes. The work on the Kosi is scheduled to be completed by June, 1963, and already an amount of Rs. 8.68 crores has been spent on the irrigation portion of the Kosi Project out of a total expenditure of Rs. 20.56 crores, which includes expenditure on flood control also. In the Third Plan Period the spill-over expenditure would be of the order of Rs. 12 crores on irrigation and Rs. 6 crores on flood control, in Kosi Project.

15. The irrigation benefits from the Kosi are estimated at 1.4 million acres after completion of the barrage as well as the canal system. After completion of the eastern canal, which would be 1,300 miles in length, additional yield of food crops and non-food crops of the order of 107.30 lakh maunds 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. Its estimated cost is Rs. 16.42 crores.

16. The Gandak Project would also be taken up in the Third Plan, consisting of a barrage with a road bridge on the River Gandak and canal systems on both banks of the river. Preliminary work on the project was taken up in the last two years of the Second Five-Year Plan. The project is intended to provide irrigation facilities to a gross command area of 31.62 lakh acres in Bihar out of which 26.60 lakh acres are culturable and substantial other areas in Uttar Pradesh and Nepal. The project will not be completed within the Third Plan Period and, therefore, a provision of Rs. 25 crores only has been made out of the total estimated cost of Rs. 40 crores for the project. The project will have provision for an installed generating capacity of 15 Mega Watts of power also.

17. 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 distributary canal system. Work on the last is already on hand and about 90 per cent of the remodelling would 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 at the end of the Third Plan would be 4.3 lakh acres, including stabilisation of the existing irrigation command of the Sone canal system.

18. The bulk of the spill-over expenditure of Rs. 52.12 crores would, therefore, be accounted for by the three major irrigation projects that

would be implemented in the Third Plan Period. In addition, 17 medium irrigation schemes are to be taken up at a total estimated cost of Rs. 21.60 crores. For these medium schemes, no provision of foreign exchange would be necessary as materials released by major schemes would be diverted to these projects. On the other hand, mainly for the three major projects, foreign exchange to the tune of Rs. 3.39 crores would be required.

Steps have already been taken for improving the pace of utilisation of irrigation potential created for major and medium schemes and the target of 100 per cent utilisation within five years has been laid down for all irrigation projects.

Flood Control.

19. 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 Kosi. In both the Plans, an area of 20.75 lakh acres is likely to have been protected from floods. Flood control and drainage, etc., are to be taken up to cover the remaining flood-affected areas in the Third Five-Year Plan at a total cost of Rs. 9.05 crores, likely to afford flood protection to an additional area of about 1 lakh acres. Out of this, an amount of Rs. 6.00 crores is to be spent on Kosi, and further amounts of Rs. 0.20 crore on drainage and Rs. 0.50 crore on rehabilitation programmes.

Power.

20. The programme for power development is estimated to cost Rs. 76.99 crores, excluding an amount of Rs. 14.82 crores on account of the two units of 50 M.W. each to be set up at Patrattu for supply of power to the Heavy Engineering Corporation at Hatia. It is expected that the State's share of expenditure for the power projects of the Damodar Valley Corporation would be of the order of Rs. 7 crores in the Third Five-Year Plan which has been provided for in the total ceiling of Rs. 84.00 crores. In the Third Plan the following power stations would be put up with the installed capacity noted against each:—

(1) Barauni Steam Station (additional)	..	..	115M.W.
(2) Patrattu Steam Power Station	..	..	100M.W.
(3) Additional extension at Patrattu Steam Power Station			150M.W.
(4) Kosi Hydrel Station	..	..	20M.W.
(5) Gandak Hydrel Station	..	..	15M.W.
		Total	.. <u>400M.W.</u>

Even with the commissioning of these stations, there would be a shortage of 120 M. W. by the end of the Third Plan Period.

The pattern of load development in the Fourth Plan is being studied including the potential from hydro-electric schemes across the South J Koel, Suvernarekha, etc. A provision of Rs. 9 crores for these schemes is being made, which may not be adequate even for preliminary work. It is proposed to spend Rs. 3.50 crores on rural electrification in Bihar, and the number of towns and villages electrified is likely to rise from 2,147 in 1961 to 4,747 in 1966. The total installed capacity is likely to rise from 621.27 M. W. in 1961 to 1,221.00 M.W. in 1966. The diversified demand for power in 1966 would be divided between 102 M.W. in North Bihar and 821 M.W. in South Bihar. The per capita consumption of power is likely to rise from 38.50 units in 1961 to 79.80 units in 1966. The total foreign exchange requirement for an expenditure of the order of Rs. 79.8 crores would be Rs. 32.19 crores. The expenditure is also phased in such a way that the bulk of the work would be done in the last three years of the Plan. The importance of the power programme would be revealed by the fact that not only the State's development, but such important public sector industries like the Heavy Machinery and Foundry Forge Plants at Hatia, the Bokaro Steel Plant and the Barauni Oil Refinery depend on the development of power according to the schedule laid down. Difficulties in foreign exchange should not, in any manner, hamper the smooth flow of imported materials for the timely construction of power project.

Industries.

21. In the large-scale industries sector, it is proposed to expand the State Superphosphate Factory at Sindri and to go ahead with the establishment of spun-silk mill and the co-operative sugar factory. Though this would be only a modest beginning, it is considered more 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, near enough the Heavy Industries located as part of the public sector. The Bihar Industrial Development Corporation, established in the Second Plan Period, would be in charge of any future large-scale industries established by the State Government and act as a holding Company. The Bihar State Financial Corporation is also going to have an increase in its share capital. For development of mineral resources, it is proposed to set up a Mineral Development Corporation.

22. In the small-scale industries sector, it is proposed to provide three large industrial estates for towns with the population of 50,000 and above, four small industrial estates for towns with the population of 20 to 50 thousand, 15 smaller industrial estates for townships with the population of 5 to 20 thousand and 75 workshop societies for rural towns of less than 5,000 population. The industrial extension service is proposed to be augmented by opening more branch institutes for small-scale industries and additional extension centres. It is proposed

to set up an Institute of Engineering Designs on the model of the Institute of Industrial Designs, which has worked well. A directory of goods produced in the small-scale industries sector is to be made and their sale organised through emporia. Among the cottage industries in Bihar, handloom has been successfully organised in the Second Five-Year Plan Period. Three organised textile factories together with the handlooms have a production capacity of not more than six crore yards, which represents ten per cent of the requirements of the State. 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. For this purpose, it is proposed to lay emphasis on the introduction of 7,500 industrial power-looms, whereby another 15 per cent of the internal requirement of cloth can be met within the State. The Tassar Silk industry in Bihar provides livelihood for a number of persons belonging to the Scheduled Tribes in Chota Nagpur and Santhal Parganas. It is proposed to set up seed supply stations, expand the research station at Chaibasa and establish suitable production-cum-training centres. In this connection, a spun-silk mill is also to be established. With a view to develop the handicrafts in brass, bell-metal work and fibre products like wood, etc., expansion 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 modest physical target of 10,500 additional seats for craftsmen's training has been proposed for the Third Five-Year Plan. In the field of technical education, it is proposed to increase the seats in diploma courses to 4,065 per annum and in degree courses to 1,678 per annum by the end of the Third Plan. A new Engineering College at Bhagalpur is proposed, which would be the sixth Engineering College in addition to the five existing. Similarly, it is proposed to open ten more Engineering Schools besides the eight already functioning.

Roads.

23. The total mileage of P.W.D. roads in Bihar by 1961 would be 8,069 miles, including metalled roads of the District Board, as against the Nagpur Plan target of 10,211 miles. As against this 62 per cent achievement of the target, the State faces a very large task of road development in the next 20 years, in the light of the Road Development Plan recommended by the Chief Engineers' Conference for 1961—81. This plan envisages doubling the existing road mileage in 20 years. Calculated on this formula, Bihar 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 has been worked out to be Rs. 366 crores. It is, however, proposed to incur an expenditure of only Rs. 21.15 crores during the Third Plan which would enable extension of only 2,765 miles of new roads. The carry-over from the Second Five-Year Plan is likely to cost Rs. 8.20 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 weak and narrow bridges to be strengthened. 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.

To maintain nearly 9,000 miles of roads by 1966, a sum of Rs. 2.70 crores would be required for maintenance. The total work-load would involve almost double the present set of engineering staff. The annual production of engineering graduates is likely to rise by 200 and overseers by 400 in 1961. No dearth of engineering personnel is, therefore, anticipated during the Third Plan. Among the materials required would be 4,286 tons of steel and 9,440 tons of cement.

Road Transport.

24. The nationalisation of roads in the Third Five-Year Plan would require an additional fleet of 478 vehicles involving Rs. 2.45 crores. The total cost of the expansion programme would be Rs. 3.42 crores, out of which Rs. 38 lakhs would come from the surpluses of the Corporation itself and Rs. 66 lakhs from the Ministry of Railways. A sum of Rs. 2 crores would be required as State'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, 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.

Education.

25. The total outlay of Rs. 27.50 crores proposed for education is to be spent in the following manner :—

	Rs.
(i) Elementary Education	20.50 crores.
(ii) Secondary Education	8.00 crores.
(iii) University and Research	6.50 crores.
(iv) Social Education	0.66 crore.
(v) Youth Welfare	1.13 crores.
(vi) Miscellaneous	0.43 crores.
(vii) Scientific and Cultural Education	0.28 crore.
Total	37.50 crores.

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 93.8 per cent of the boys and 56.2 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 proposed for this Plan Period. As regards teachers, it is expected that there would be 1.35 lakhs of teachers by the end of the Third Plan, out of whom one lakh would be trained from the 101 training schools with an annual enrolment capacity of 20,000 each.

26. In 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 by strengthening the existing non-Government girls' schools into State-subsidised high schools. The total number of teachers in secondary schools would rise up 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.

27. Towards the end of the Second Plan, the universities in Bihar will re-organise into four regional universities with jurisdiction co-terminus to the administrative division. 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 organizations in the State would be strengthened. A total outlay of Rs. 6.50 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 lakhs of adults are expected to be made literate. The number of rural libraries are expected to increase to 6,000.

Health.

28. The health programme 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 is proposed. There is a proposal to increase the number of beds in the hospitals at divisional headquarters to 300 each and increase the district hospital bed strength to 150. It is proposed to make available to these hospitals the benefit of increased specialised services, by attaching a T. B. Clinic at every district and sub-divisional headquarters. By these measures, it is expected that the number of beds would increase from 8,339 in 1961 to 12,269 in 1966.

The number of available health personnel 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 the training, 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 12,269 and would work out to the ratio of one doctor for every 4,044 population. 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 dispensaries in each subdivision.

Out of the total outlay of Rs. 14.28 crores proposed for health measures, Rs. 5.90 crores would be from the Central sector.

29. *Welfare of Scheduled Castes, Scheduled Tribes and other Backward Classes.*—The main effort in this sector will have to be on education. Stipends are proposed to be granted on a very liberal scale to 15,000 students belonging to the Scheduled Tribes, 1,00,000 belonging to the Scheduled Castes and 20,000 belonging to the other Backward Classes. In addition, stipends for technical education would be granted to a total of 5,675 students belonging to the three communities. In addition, 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 account for nearly 51,000 Scheduled Tribe students, 22,500 Scheduled Caste students and 20,000 Backward Class students. On the economic side, it is proposed to strengthen the organisation of grain *golas* which has worked successfully in the Scheduled Tribe areas. As part of the Third Plan programme 106 grain *golas* in the Scheduled Tribe areas, 42 in the Scheduled Caste areas and 46 in the other Backward Class areas, would be constructed. Twenty-one Ayurvedic dispensaries are also to be started for the tribal population.

30. Summing up, the proposed outlay on the different sectors during the Third Five-Year Plan Period works up to a total of Rs. 410.77 crores as distributed by major heads of development, in the table below :—

TABLE 16.

Allocation of proposed outlay.

	Total outlay.	Per- centage.
	(RS. IN LAKHS.)	
1. Agr. and C. D.	95.41	23.2
2. Irrigation	86.57	21.1
3. Power	84.00	20.4
4. Industry	20.25	4.9
5. Transport and Communication ..	23.40	5.7
6. Social Services	99.95	24.4
7. Miscellaneous	1.10	0.3
Total ..	410.78*	100.0

*The total outlay proposed includes provision for State's share of expenditure for the D. V. C. in the power sector above; the share for the other sectors is still to be finalised.

31. The maximum emphasis has been placed on irrigation. Three major river valley projects would be in operation during the Third Plan Period, one of which would be completed during the middle of the Third Plan. Only on the basis of irrigation can a stable agricultural production base be built up. Self-sufficiency in agriculture, therefore, demands that expenditure on irrigation should not be reduced. It may be mentioned in this connection that nearly Rs. 52 crores out of the total spillover expenditure of Rs. 103 crores is for the irrigation sector itself, emphasising the fact that unless the programme is carried forward in the Third Five-Year Plan, lasting benefits cannot be had from out of the expenditure incurred in the last two Plans on irrigation. The co-ordinated efforts in the irrigation, agriculture and community development sectors would ensure food production by 1966 to reach the level of 84 lakh tons per year, which will be in fulfilment of the national target of food self-sufficiency by the end of the Third Five-Year Plan.

Next to irrigation, priority has been given to the development of power, for which certain commitments have already been entered into not merely in the case of the State industrial development, but for the Central industrial Plans also. Any reduction in the expenditure for the development of power would imperil the co-ordinated development of the entire Industries sector.

While the productive effort and the development of overheads of economic development are essential, the natural imbalances in backward economy demand considerable attention to the education and welfare sectors. With this view, the draft plan attempts at fulfilment of 92 per cent of the primary education target by 1966 and further ameliorative measures in the welfare of nearly a third of the State's population, who are recognised as backward.

CHAPTER IV.

THE SIZE OF THE OUTLAY.

1. Unlike the First and Second Plans, the State Third Five-Year Plan has to be framed in the context of the broad sectorwise allocations that have already been laid down by the Planning Commission for the purpose of achieving the broad national economic targets. While the justification for planning in the State on the basis of local felt needs cannot altogether be ignored, the limitations and the relative sets of priorities indicated in the national plan have been kept in view in framing the draft Third Plan proposals. Further details of the schemes taken up under each sector would be found in the detailed narrative reports that follow. The consolidated Statements I, II and III give the full details of the total size of outlay proposed by the State during the Third Plan schemes, further divided into carried over schemes and new schemes.

2. Within the broad allocations for the sectors and the priorities indicated, it is possible to formulate certain broad considerations that should determine the outlay of a State during the Third Five-Year Plan Period—

- (a) The sets of factors like land, population and natural resources of the State that give rise to certain reasonable levels of development expected to flow from the planned effort ;
- (b) The completion of projects under execution, with efforts directed mainly to the utilization of not only existing assets and services, but future assets and services as and when they get created ;
- (c) In the context of the very low level of development in the State, any stable results in the productive sectors can be expected only by considerable attention being given to the development of economic overheads like power, roads, etc., so that there may be a co-ordinated development of industries ;
- (d) A similar attempt should be made in the case of the social service overheads, particularly in education, health and welfare of the Backward Classes, keeping in view the constitutional directives and obligations ;
- (e) The need to make a sizeable impact through planned effort on such outstanding long-term problems like employment, disparities in regional growth ; and
- (f) Lastly, the proposals should be framed keeping in view the administrative capacity available in the State to implement a Plan of the magnitude contemplated.

3. The State Third Five-Year Plan has been drawn up with the above set of guiding considerations in mind and is expected to make some considerable march ahead in each one of these directions. In an ultimate sense, however, the sets of priorities that should govern the aspirations of a State can be realistic only in the context of the

requisite financial effort that would be forthcoming from the State. A detailed estimate of the financial resources of the State that would be available during the Third Plan Period is given in Appendix I. Before mentioning the salient features, a review of the nature and problems involved in the past financial effort deserves to be made. In the First Plan the total State resources amounted to Rs. 48 crores, out of a total outlay of Rs. 73.2 crores. This was stepped up in the Second Plan to almost double the figure by the State ultimately contributing Rs. 89.5 crores (in place of Rs. 55 crores agreed to earlier) against the total estimated outlay of Rs. 175.2 crores. The total loans raised by the State were Rs. 2.8 crores in the First Plan, and Rs. 11.5 crores in the Second Plan. Apart from the mobilization of loans from the market, impressive work has been done in gathering up the rural savings through the small savings movement ; a net sum of Rs. 24.3 crores would be available to the State out of the gross collections in the Second Plan Period.

4. The range of taxation that is left with the States under the constitution is limited ; increased returns from taxation would only be available by increasing the rates, and not by increasing the range of taxation. The returns from land have shown a clear tendency to rise and are expected to reach Rs. 10 crores per annum by the end of the Second Plan. Because of the absence of complete data regarding the land revenue demand, which were not available from the ex-intermediaries on abolition of Zamindari, it would be some time before survey and settlement operations throughout the State give a clear picture of the contribution from the rural sector to the financing of the Plan has to be stepped up, partly by direct increase in the rate of land revenue taxation and partly by imposing the necessary surcharges or betterment levy for the increased facilities made available to the rural population by way of assured irrigation. The sales tax collected in the State is likely to reach the figure of Rs. 9.37 crores in 1959-60. It is proposed to enhance, to a small extent, the yield from this sector also, during the Third Five-Year Plan. On the other hand, because of the large volume of welfare legislation in the rural sector, essentially biased towards ameliorating the conditions of the tenants and the contemplated legislation on ceilings, yields from agricultural income-tax have shown a tendency to decline. The State Government are considering modifications in the law relating to tax on agricultural income, to arrest this trend in time. As a result of all these measures, it is expected that the State would be able to make a contribution of Rs. 20.00 crores at the existing level of taxation from its revenue budget during the Third Plan Period.

5. Considering the vast needs of the State during the Third Plan Period, the strain on the capital budget of the State would be heavy. This is to a certain extent inevitable and bold imaginative steps are required if a Plan of the magnitude contemplated is to be executed. With this end in view, it has been proposed that the State Government should aim at market borrowings to the tune of Rs. 40 crores during the Third Plan Period. We are convinced that the basic advances made by the State in the last ten years can be sufficient guarantee to attract loans of the required amount. An additional impressive effort is also proposed in the small savings sector where, as against the performance

of Rs. 24 crores during the Second Plan, it is proposed to keep the target at Rs. 40 crores. The repayment obligations of the State during the Third Plan Period are limited to Rs. 1.30 crores on account of a loan which would mature during the year 1963.

6. If the expectations in regard to the revenue and capital receipts are realised, the State would have to take particular care to see that the non-developmental and committed expenditure does not increase in an undue proportion. No precise estimate of the size of the committed expenditure during the Third Plan Period is yet available. Attention to administrative and residential buildings in the non-Plan sectors is long overdue. However, if a Plan of the size envisaged is to be implemented, it is clear that economies on a considerable scale will have to be effected both in the non-developmental sectors and in the committed expenditure in the developmental sectors.

To sum up, the following table would reveal the break-up of the resources proposed for the Third Five-Year Plan from the State :—

TABLE 17.

Resources for the Third Plan.		(RS. IN LAKHS.)
		Total 1961—66.
A. Surplus on Revenue Account at existing levels taxation.		1979
B. Deficit on Capital Account		3129
C. Net Contribution at current levels of receipts and payments.		1150
D. Loans from Public		4000
E. Small Savings		4250
F. Unfunded debt		800
G. Total Resources at existing levels of taxation ..		7900

7. The draft outline of the Third Five-Year Plan envisages that the States would have a Plan totalling Rs. 3,650 crores, out of which they would be required to find out their own resources to the tune of Rs. 1,150 crores, Central assistance being limited to Rs. 2,500 crores. Unlike the First and Second Plan, it is imperative that the total Central assistance should be actually available on the scale assumed during the Third Plan Period, if unexpected and distorting adjustments are to be avoided in the State Plan as it progresses. Any shortfall in the quantum of Central assistance for any reason naturally affects more the large projects undertaken by the State involving in many cases foreign exchange contribution. As a result, shortfall in Central assistance has a particularly damaging effect on the capital and long range projects of the State Plan. According to the indications given by the draft outline, with the State's own resources estimated at Rs. 120 crores, Central assistance that can be expected on a proportionate basis should be of the order of Rs. 260 crores. In this view of the matter, an outlay of not less than Rs. 380 crores can be justified on strictly financial considerations alone.

8. While the financial considerations have their own relevance, the manner of distribution of the total outlay allotted to all the States has to

bear some intimate relation with the population in a State. The needs of the population determine the agricultural targets ; the national economic targets, the most important of which is agriculture are in a sense a direct reflection of the trends of population, distribution and growth. The development of both economic and social overheads is also related intimately to the population, land and the natural resources available in a particular area. This argument needs special emphasis in the Third Plan, because after a decade of planning legitimate expectations exist in the people who assess the progress in different sectors of Development reached in their own State in comparison to other States. Unless population is given sufficient attention in the determination of the State's outlay, the most important single objective of balanced regional growth of the economy will be stultified. The State Government are of the considered view that the Third Five-Year Plan occupies the natural stage in the planned effort of the country where, if at all, redressal of regional imbalances as between different States of the country, can be attempted. If the demands due to the distribution of population are ignored again at this stage, it would be impossible for the more backward States to catch up the level of development attained for the country as a whole.

9. On the basis of population, Bihar has a claim for 10.4 per cent of the total outlay on all the States, namely Rs. 3,650 crores. This will work to a figure of Rs. 380 crores. While population itself is a significant criterion, allowance has to be made for the other imbalances or traits of backwardness present in the economy, and for the fact that the State has received much less than its share in the first two Plans. The small excess of the proposed Plan of Rs. 410 crores, over that calculated strictly on population basis should, therefore, be allowed to stand.

10. It has been estimated that the spill-over projects would account for Rs. 103 crores out of the total outlay of Rs. 410 crores. Half the spill-over amount would relate to the works to be taken up in connection with the Kosi, Gandak and Sone River Valley Projects. The other large items of spill-over expenditure relate to the further coverage under the community development movement according to the phased programme, a large backlog of projects to be completed in the transport and communications sector and the unfinished programme of the health sector. It would be seen from the detailed narrative and statistical appendices that each one of these items of spill-over expenditure is essential for the full and early utilisation of the amounts already spent over these incomplete schemes. The spill-over expenditure has, therefore, been given the topmost priority within the planned outlay proposed.

11. Utilisation of assets created in the quickest possible time has been increasingly realised in the case of irrigation projects during the Second Five-Year Plan Period itself. The State has already laid down the programme of utilisation of irrigation projects in such a manner that 100 per cent utilisation is possible within five years. The efforts that are required in this connection are proposed to be made available through non-official agencies also, for which arrangements have already been made in the State, for example through amendment of the law relating to Gram Panchayats. Similarly, in regard to full utilisation of the

tremendous rural manpower available in the State, the State has the experience of organising public participation on a gigantic scale on the Kosi Project works and in taking up large scarcity relief programmes over a number of years for affording gainful employment to the under-employed population. With this experience, as well as the experience of the pilot project that is proposed to be taken up in the current year to find out the scope and nature of a supplementary works programme that can be organised in areas of considerable unemployment, it is expected that the State would be in a position to execute the programmes included in the Plan in such a manner as to utilise to the maximum extent the rural man power available.

12. The ability of the State to execute a Plan of the size contemplated cannot be doubted, in the light of the past record of over fulfilment of the First Plan and fulfilments of the targets expected in the Second Plan Period. The maximum expenditure in any single year in the First Plan was Rs. 25 crores, and in the Second Plan the corresponding figure is likely to be nearly 50 crores. An outlay of 410 crores would no doubt involve a considerable effort in stepping up the rate of annual expenditure, but the step up in expenditure in the last two Plans has been of the same order. On the other hand, the large administrative organisation set up in the first two Plan Periods can be fully engaged in developmental tasks, as the distractions evident between 1951—61 due to large-scale change in the laws relating to land, the organisation of the relief programme and State's re-organisation, etc., are not likely to present themselves again; if scarcity recurs, it will not be, by and large, due to floods. For, the most impressive work in the State has been done in controlling floods by construction of embankments on a considerable scale for the rivers in North Bihar. The ability of the administration to evoke popular enthusiasm for community benefits was also revealed by the programme. Village level staff of particularly all the important departments are in position, training and recruitment has been fully organised, impressive additions to the technical cadres have also been made. The question of re-organising the districts so as to make them viable administrative units is still under consideration of Government. But, already the re-organisation of the district administration has been put into effect, with emphasis on development. Continuous steps are being taken to study work-loads and methods of working in the departments of Government. The suggestions made in the draft outline would also be considered at the appropriate time to strengthen further the administrative organisation built up. There should, therefore, be no doubt on the score of the ability of the administration to handle a Plan of the size contemplated.

13. The levels of development reached at the end of the Second Plan cannot be significantly improved unless the economic and social overheads are considerably strengthened at least during the Third Plan Period. For this reason, the main provisions made in building up economic and social overheads may be said to be by no means large. They fulfil the needs of the State in its particular state of growth. If consideration is to be paid to the backwardness of the State in the matter of allocation of outlay during the Third Plan Period, it is essential that the criteria of backwardness should be defined afresh at every stage of

growth of the economy. Not merely the lack of industries or power facilities should be a valid consideration in this context, but the overall picture of the increasing demand for various overhead facilities should be relevant.

14. In spite of the increase in agricultural production and setting up of small-scale industries and the development of power and transport, the State would still be faced at the end of the Third Five-Year Plan with wide disparities in regional growth. The effect of the programme on the persistent long-term problems enumerated earlier would only be marginal, the three different natural regions of the State will not benefit in the same measure from the planned programme, though every attempt has been made to match the progress in one region with that of the others. The large impetus given already in the first two Plans to the primary education programme will by itself increase the strain on the employment situation and would demand diversification of vocational training opportunities and employment opportunities. No precise assessment can be made of the magnitude of these problems at this stage, but studies are proposed to be initiated during the Third Plan Period for assessing the dimensions and nature of these problems. Any attempt to keep control over these problems can only be made in the time available during the next five years.

15. For all these considerations, it will be clear that Bihar with its large population, limited availability of agricultural land, backwardness in levels of development including a very low set of economic and social overheads, will need a large outlay during the Third Plan Period in order that quick development of the economy can be stimulated to catch up with the rest of India. The base of progress has to be related to the most urgent needs. Not merely financial resources available from the State, which by themselves are only a function of the potential wealth created in the State through planned development, but a number of other guiding considerations mentioned above should be taken into account while fixing the State's Third Five-Year Plan outlay. Even though the priorities in Bihar will have to be based on the backwardness and imbalance of the economy which will be increased by a growing large population an attempt has been made to fit them into the national targets envisaged in the Plan.

APPENDIX I.

FINANCIAL RESOURCES FOR THE THIRD PLAN.

Receipts into and disbursements from the Consolidated Fund of the State in 1955-56, which was the last year of the Second Plan Period and in 1960-61 which will mark the end of the Second Plan Period offer a broad index to the change in the financial capacity of the State of Bihar. The relevant data are as follows :—

Heads.	(IN LAKHS OF RUPEES.)	
	1955-56. (Accounts).	1960-61 (Budget).
Receipts into Consolidated Fund ..	65,67	1,29,58
Disbursement from the Consolidated Fund	84,15	1,29,94

True, these figures are largely affected by the execution of the State Plan and Centrally sponsored schemes which, in effect, are joint enterprises of the State Government and the Government of India. Loans and grants for these purposes are included in the receipts in both these years and in the disbursements are included also the outlays on the Plan and Centrally sponsored schemes. In working out the capacity of the State Government to finance any new programmes of development whether in the State or in the Central Plan receipts and disbursements with respect to the State and Central Plans may be excluded. Extraordinary receipts and expenditure such as, on Famine, etc., should also be excluded. Loans and advances issued by the State Government and recoveries thereof as well as borrowings by the State Government from various sources and repayment of such debts have a large effect on the ways and means capacity of the State Government but they should be also excluded in judging the improvement in the financial resources of the State and attention should be focussed on the revenue receipts clearly within the States' sphere. The table below furnishes a comparative picture of the revenue receipts of this type in the two years referred to above.

(IN LAKHS OF RUPEES.)		
Heads.	1955-56.	1960-61.
Revenue Receipts	33,46	60,00
(1) Share in Central Taxes	7,95	15,02
(a) Excise Duties in lieu of Sales Tax ..	..	1,96
(b) Other Taxes and Duties	7,95	13,06
2. Grants under the Finance Commission Award	1,44	4,25
3. Other grants (Central Road Fund only) ..	21	53
4. State Taxes and Duties	18,61	28,69
5. State Non-tax revenue	5,25	11,51

2. It would appear that revenue receipts have virtually doubled within a period of five years. While levy of Central Excise Duties in lieu of Sales Tax is only a substitution of a certain head of State revenue, the other items of Central taxes and duties and grants under the Finance Commission Award show an yield of Rs. 17,31 lakhs in 1960-61 against Rs. 9.39 lakhs in 1955-56. Grants under the Finance Commission Award have been more liberal than in the past. Share of income-tax allowed to the States is now larger than under the previous award and a larger number of Excise duties have been also made shareable. For the first time during the Second Plan Period a tax has been levied on railway fares, the proceeds of which are assigned wholly to the States. These factors have led to substantial increase in the receipts under the Central taxes and under the Finance Commission's Award. Yield from State taxes and duties have also gone up by more than 50 per cent and non-tax revenues have practically doubled. This improvement in revenue is traceable to several factors. The award of the Second Finance Commission brought a larger devolution of revenue in favour of the States and the Central taxes and duties that are being shared are also showing better yield. Under State taxes and duties the yield has improved because the rates have been raised in certain cases and certain new taxes have been introduced. The Sales Tax Law has been revised and the rates have gone up particularly in case of luxuries. A tax on Inter-State sales has also been enforced. Two new taxes have been introduced, namely an education cess at the rate of six and a quarter per cent on land revenue payable in rural areas and on the annual letting value of holdings in urban areas. Legislation for betterment levy has been completed. Rates of Excise duties have been generally upgraded. The administration of taxes has been also sought to be improved. In particular, land revenue administration which started from scratch during the First Plan Period has been slowly perfected and gradually the land revenue demand has gone up and the collection has been showing a rising trend. Among non-tax revenues the yield under Irrigation, Electricity, Road Transport and other departmental receipts have registered significant increase.

3. The State is thus financially capable of taking up a larger expenditure programme than hitherto. The level of receipts reached in 1960-61 will go up from year to year even at the current rates of taxes and duties. The devolution of revenues under the Finance Commission's Award is also expected to be maintained. Against these revenue receipts there will be at the end of the Second Plan Period necessary commitments of a recurring type. As a result of the First and Second Five-Year Plans the level of social and security services built up is now considerably higher than in 1955-56 and their maintenance will impose a larger burden. There will be also capital outlays in the coming years, even if no new development is taken up, to which no capital receipts correspond. Instances are the payment of compensation to landlords, servicing of public debts and the construction of necessary administrative buildings of non-developmental nature such as, in connection with the administration of justice, land revenue and general administration.

4. The financial strength of the State is manifest in two other spheres. In the first place the small savings movement has gathered a momentum in recent years and towards the end of Second Plan

Period complementary field staff has been provided under the State Government to assist the staff employed by the Centre. As a general formula two-thirds of the net collection of small savings are passed on to the State as loan. In 1955-56 the State received Rs. 1,88 lakhs as loans under small savings while in 1960-61 the receipt is likely to be Rs. 7,00 lakhs. This movement will be carried forward with vigour and sectors particularly in the rural areas which hitherto have not received enough attention will be brought within the compass of this movement. Secondly, the State has been able to launch several public loans successfully. Not much of public borrowing was done in the period of the First Plan. The total raised during the Second Plan Period, however, is Rs. 11,46 lakhs. In 1960-61 a year of monetary stringency the figure of public borrowing is Rs. 3,22 lakhs. The Bihar bonds are becoming familiar in the money market and the State issues are getting favourable response. Further efforts within and outside the State to popularise the borrowing programmes of the State Government is expected to show better results in the years to come.

5. Another source from which the State would be able to draw during the Third Five-Year Plan is the large volume of arrears outstanding in respect of loans and advances, irrigation dues and land revenue. Since the Third Five-Year Plan is to be much larger than the Second Plan, a programme of phased recovery of these arrears is necessary. There is also the annual net accretion in the public account composed of funds of various types like the Provident Fund Depreciation Reserves and other accumulations. This accretion can also be utilised from time to time for investment in development projects.

6. The receipts from the various sources mentioned above will be utilised, first to defray the recurring expenditure to maintain the level of services built up at the end of the Second Five-Year Plan Period; secondly, to meet the inescapable minimum capital outlay on items not concerned with development properly so called; and thirdly, to service the debts incurred by the State Government. Only the balance could be invested in the Third Five-Year Plan of the State. On consideration of all the factors and with a view to make as large a contribution to the resources of the Third Five-Year Plan as possible, the receipts and disbursements outside the Third Five-Year Plan and the likely contributions to the Third Five-Year Plan have been worked out as follows:—

(IN LAKHS OF RUPEES.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
Revenue Receipts ..	65,22	68,41	71,69	75,91	79,91	3,61,14
Revenue Expenditure ..	62,31	64,95	68,00	71,11	74,98	3,41,35
Surplus on Revenue Account.	2,91	3,46	3,69	4,80	4,93	19,79
Capital Receipts ..	6,70	6,61	6,95	7,59	8,55	36,40
Capital Disbursements	14,14	12,60	13,10	13,10	14,75	67,69
Deficit in Capital Account	7,44	5,99	6,15	5,51	6,20	31,29
Net contribution on current levels of receipts and payments.	—4,53	—2,53	—2,46	—71	—1,27	—11,50
Loans from public ..	5,75	6,75	7,75	9,00	10,75	40,00
Small savings ..	7,50	8,00	8,50	9,00	9,50	42,50
Unfunded Debt ..	1,30	1,40	1,55	1,75	2,00	8,00
Total—Resources without additional taxation.	10,02	13,62	15,34	19,04	20,98	79,00

7. A contribution of Rs. 79,00 lakhs against the large Third Plan envisaged is manifestly inadequate. The Union Government who are the major partner in the joint enterprise of development will make their own contribution to the Plan. For obvious reasons, however, deficit financing is going to be kept in check in execution of the Third Five-Year Plan of the country which is to be overwhelmingly financed by real resources raised within the country or abroad. Of such resources it has been considered necessary to provide Rs. 1,650 crores by additional taxation. It has been calculated that if an additional taxation of this order is enforced during the Third Five-Year Plan the tax revenues of India will come to 11 per cent of the national income as against 8.5 per cent at present. In view of the acceleration of development activities proposed during the Third Five-Year Plan Period the increase in the burden of taxation of this magnitude cannot be considered excessive. The national target of additional taxation will be achieved by the effort of the Union Government and the State Governments together. For Bihar the Planning Commission indicated a target of Rs. 54 crores. This target is a little too high for this State. Undoubtedly a great deal of development efforts have been made to raise the economic condition of the people in the last ten years. The economy of the State, however, continues to be overwhelmingly agricultural dependent upon the character of the seasons. Floods and droughts have been a recurrent phenomenon in Bihar and agriculture is still not free from hazards and uncertainties. On the other hand much fiscal effort has been already put up by the State during the First and Second Five-Year Plan Periods resulting in a considerable increase in revenues. Within the limits of the Constitution the fields of taxation open to the State Government have been largely explored. Yet there can be no shirking of responsibility and the maximum sacrifice required for fulfilment of the Third Five-Year Plan has to be made. If the sacrifice is to yield substantial result the burden must be spread over the entire mass of the people. On a consideration of the requirements of resources for the Plan and the feasibility of additional fiscal efforts the maximum contribution by way of additional taxation during the Third Five-Year Plan Period may be Rs 41,00 lakhs. This is to be implemented in suitable phases. The grand total of resources to be contributed by the State Government for the Third Five-Year Plan would thus be Rs 1,20,00 lakhs, the Union Government contributing the rest.

Appendix II

STATEMENT I

SUMMARY STATEMENT OF PLAN OUTLAY PROPOSED

(RUPEES IN LAKHS.)

Head of Development.	Anticipated outlay 1956-61.	Anticipated outlay, 1960-61.	Outlay, 1961-66.			Phasing of outlay.					Balance after 1965-66.	Foreign exchange.
			Total.	Capital.	Foreign exchange.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.		
1	2	3	4	5	6	7	8	9	10	11	12	13
AGRICULTURE AND COMMUNITY DEVELOPMENT.												
1. Agricultural Production.	12,90.27	3,24.87	21,50.00	6,98.02	5.18	5,57.03	4,96.04	3,82.07	3,70.79	3,44.07	..	..
2. Land Development—												
(i) Waste Land Reclamation.	1,56.06	28.00	1,87.00	..	..	31.50	34.55	37.60	40.65	42.70	..	..
(ii) Land Settlement and colonisation.	..	..	..	..	..	..	..	..	..	..	..	..
(iii) Consolidation of holdings.	7.66	2.33	30.00	..	..	4.50	5.25	6.00	6.75	7.50	..	..
TOTAL—LAND DEVELOPMENT.	1,63.72	30.33	2,17.00	..	..	36.00	39.80	43.60	47.40	50.20	..	..
3 Marketing ..	5.64	2.85	30.00	..	0.40	3.98	4.79	6.15	6.90	8.18	..	..
4. Minor Irrigation ..	4,55.13	90.00	12,00.00	2,57.40	..	2,99.93	2,00.38	2,23.63	2,32.00	2,44.06	..	..

5. Animal Husbandry	3,52.73	1,20.00	5,50.00	1,77.26	12.65	89.39	1,12.16	1,20.28	1,12.38	1,15.79	82.32	..
6. Dairy and Milk Supply.	31.27	15.00	2,00.00	1,25.25	24.66	17.09	32.42	42.51	51.84	56.14	..	..
7. Forests ..	1,21.78	29.57	4,00.59	2,02.53	1.60	67.98	83.61	80.59	83.72	84.69	..	..
8. Soil Conservation ..	1,97.69	54.26	3,12.99	38.09	..	69.04	62.44	63.74	61.38	56.39	..	..
9. Fisheries ..	32.19	7.00	1,00.45	..	5.75	16.93	19.55	21.77	20.39	21.81	..	..
10. Community Development.	21,56.50	6,12.00	35,00.00	11,08.06	..	6,41.45	6,10.23	6,67.94	7,67.40	8,12.98	21,72.86	..
11. Co-operation ..	2,83.62	70.02	8,00.09	3,12.21	..	1,37.09	1,94.20	1,84.40	1,45.92	1,38.48	..	..
12. Gram Panchayat ..	1,11.00	50.00	78.90	6.00	..	11.04	16.85	15.79	17.01	18.21	..	..
TOTAL—AGRICULTURE AND COMMUNITY DEVELOPMENT.	52,01.54	14,05.90	95,40.02	29,24.82	50.24	19,46.95	18,72.47	18,52.47	19,17.13	19,51.00	22,55.18	..
IRRIGATION, FLOOD CONTROL AND POWER.												
13. Irrigation ..	25,95.73	8,03.45	77,62.10	74,63.10	3,39.00	12,41.41	17,38.03	16,19.25	15,29.41	16,34.00	35,13.98	15.00
14. Flood Control ..	20,38.15	4,71.61	9,05.00	9,05.00	20.00	4,01.00	2,99.00	1,45.00	30.00	30.00	1,20.00	..
15. Power ..	19,29.65	6,21.02	76,99.99	45,30.86	31,69.13	9,63.68	17,02.02	26,60.04	15,89.50	7,84.75	48,27.20	..
16. D. V. C. Power ..	..	..	7,00.00	..	..	..	..	..	..	..	..	..
TOTAL—IRRIGATION, POWER AND FLOOD CONTROL.	65,63.53	18,96.08	1,70,67.09	1,28,98.96	35,28.13	26,06.09	37,39.05	44,24.29	31,48.91	24,48.75	84,61.18	15.00
17. Industries and Mining.—												
(i) Large and Medium Industries and Mining.	1,98.95	54.71	5,00.00	2,08.13	1,80.70	93.83	1,34.10	1,00.02	98.40	73.65	12.00	..
(ii) Village and Small Industries.	6,36.79	1,51.29	15,24.78	6,76.97	20.22	3,50.26	3,55.21	3,32.13	2,61.30	2,25.88	3.00	..
TOTAL—INDUSTRIES AND MINING.	8,35.74	2,06.00	20,24.78	8,85.10	2,00.92	4,44.09	4,89.31	4,32.15	3,59.70	2,99.53	15.00	

STATEMENT I—concl'd.

SUMMARY STATEMENT OF PLAN OUTLAY PROPOSED

(RUPEES IN LAKHS.)

Head of Development.	Anticipated outlay, 1956-61.	Anticipated outlay, 1960-61.	Outlay, 1961-66.			Phasing of outlay.					Balance after 1965-66.	Foreign exchange.
			Total.	Capital.	Foreign exchange.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.		
1	2	3	4	5	6	7	8	9	10	11	12	13
TRANSPORT AND COMMUNICATION.												
18. Roads ..	14,37.68	2,98.55	21,15.00	21,15.00	52.00	3,15.47	3,68.94	4,21.55	4,76.14	5,32.90	15,89.92	..
19. Road Transport ..	29.70	17.00	2,00.00	62.96	..	65.35	42.66	72.66	16.74	2.59	..	..
20. Tourism ..	1.24	0.40	25.00	20.50	..	6.00	6.65	3.70	5.25	3.40	..	..
TOTAL—TRANSPORT AND COMMUNICATION.	14,68.62	3,15.95	23,40.00	21,98.46	52.00	3,86.82	4,18.25	4,97.91	4,98.13	5,38.89	15,89.92	..
SOCIAL SERVICES.												
21. Education—												
(i) Education ..	16,96.95	5,94.00	37,50.00	4,89.52	40.45	4,68.28	6,14.16	7,50.94	8,93.27	10,24.25	10.00	..
(ii) Technical Education	3,30.41	1,20.85	9,63.00	4,98.00	68.50	2,19.80	1,62.75	1,73.40	1,91.65	2,15.40	..	..
TOTAL—EDUCATION	20,27.36	7,14.85	47,13.00	9,87.52	1,08.95	6,88.08	7,76.91	9,23.44	10,84.92	12,39.65	10.00	..
22. Health—												
(i) Health ..	11,24.85	4,57.54	20,00.94	6,81.30	30.00	2,99.98	3,81.33	4,03.41	4,41.23	4,74.93	1,90.00	3.00

(ii) Health (L.S.-G.) (Water-Supply and Sanitation).	4,85.60	1,24.04	7,50.00	6,87.00	69.30	1,12.50	1,31.24	1,50.00	1,68.76	1,87.50	1,30.88	..
TOTAL—HEALTH	16,10.45	5,81.58	27,50.94	13,68.30	99.30	4,12.48	5,12.60	5,53.41	6,09.99	6,62.46	3,20.88	3.00
23. Housing—												
(i) Housing ..	4,56.43	1,00.40	6,46.50	6,46.50	..	1,00.50	1,25.50	1,29.50	1,40.50	1,50.50	..	..
(ii) L.S.-G. Housing (Urban Land Development).	49.43	13.18	1,50.00	97.00	..	26.25	28.94	31.60	31.09	32.12	3,36.00	..
TOTAL—HOUSING	5,05.86	1,13.58	7,96.50	7,43.50	..	1,26.75	1,54.44	1,61.10	1,71.59	1,82.62	3,36.00	..
24. Labour Welfare ..	1,38.87	59.00	3,08.00	91.33	30.00	51.17	59.18	85.27	57.60	54.78	..	..
25. Welfare of Scheduled Castes, etc.	4,33.69	1,25.00	8,38.40	1,66.66	..	1,48.70	1,65.86	1,80.67	1,85.52	1,57.65	..	..
26. Local Development Works.	1,75.79	48.12	5,00.00	5,00.00	..	75.00	87.50	1,00.00	1,12.50	1,25.00	..	..
27. Social Welfare ..	23.24	10.00	88.38	8.63	..	13.24	15.54	18.08	19.55	21.97	..	..
TOTAL—SOCIAL SERVICES.	49,15.26	16,52.13	99,95.22	38,65.94	2,38.25	15,15.42	17,72.03	20,21.97	22,41.67	24,44.13	6,66.88	..
MISCELLANEOUS.												
28. Publicity ..	43.37	10.92	65.77	4.60	..	14.77	11.32	13.33	12.85	13.50	..	..
29. Statistics ..	51.86	9.58	44.12	1.97	..	12.66	8.27	8.46	7.28	7.45	..	..
TOTAL—MISCEL- LANEOUS.	95.23	20.50	1,09.89	6.57	..	27.43	19.59	21.79	20.13	20.95	..	..
GRAND TOTAL	1,90,79.92	54,96.56	4,10,77.00	2,27,79.85	40,69.54	69,26.80	83,10.70	92,50.58	81,85.67	77,03.25	1,29,88.16	18.00

(a) Break-up not available.

9. Fisheries	--	--	..	..	..	..	..	..	..	..	..	..	..
10. Community Development.	29,30.36	25,70.36	22,10.36	6,51.31	...	6,00.75	4,84.53	4,10.50	4,06.45	3,08.13	3,60.00	..	..
11. Co-operation	..	--	..	..	..	..	..	..	..	..	..	..	..
12. Gram Panchayat	..	--	..	..	..	..	..	..	..	..	..	..	..
TOTAL—AGRICULTURE AND COMMUNITY DEVELOPMENT.	40,51.57	30,70.28	26,63.92	10,09.40	3.28	4,64.32	5,77.57	4,78.80	4,71.10	3,72.13	4,06.36	..	..
IRRIGATION, POWER AND FLOOD CONTROL.													
13. Irrigation	.. 62,68.00	73,62.08	52,12.10	50,22.10	2,10.00	10,40.41	12,74.78	10,30.00	9,16.91	9,50.00	21,49.98	15.00	..
14. Flood Control	.. 24,18.36	7,00.00	7,00.00	7,00.00	20.00	3,53.00	2,41.00	1,06.00	..	..	..	..	..
15. Power ..	.. 4,19.35	72.35	72.35	28.35	46.00	65.00	7.35	..	..	..	..	..	..
16. D. V. C. Power	.. ..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL—IRRIGATION, POWER AND FLOOD CONTROL.	1,21,05.71	81,34.43	59,84.45	57,50.45	2,76.00	14,58.41	15,23.13	11,36.00	9,16.91	9,50.00	21,49.98	15.00	..
17. INDUSTRIES :—													
(i) Large and Medium Industries and Mining.	65.00	10.00	10.00	10.00	..	10.00	..	..	..	..	..	..	..
(ii) Village and Small Industries..	90.00	3.33	3.33	3.33	..	2.58	0.75	..	..	..	..	..	..
TOTAL—INDUSTRIES.	1,55.00	13.33	13.33	13.33	..	12.58	0.75	..	..	..	..	..	..

STATEMENT II.—concl'd.

LIST OF SCHEMES CARRIED OVER FROM THE SECOND PLAN.

[RUPEES IN LAKHS]

Scheme.	Total estimated cost.	Spill-over from Second Plan.	Proposed outlay.			Phasing of proposed outlay.					Balance after 1965-66.	
			Total.	Capital.	Foreign exchange.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.	Foreign exchange.
1	2	3	4	5	6	7	8	9	10	11	12	13
18. Roads ..	21,17.05	8,20.00	8,20.00	8,20.00	..	1,41.00	1,51.00	1,68.00	1,78.00	1,82.00	..	..
19. Road Transport ..	*2,16.08	62.96	62.96	62.96	..	37.76	19.17	4.50	1.53	..	..	..
20. Tourism ..	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL—TRANSPORT AND COMMUNICATION.	23,33.73	8,82.96	8,82.96	8,82.96	..	1,78.76	1,70.17	1,72.50	1,79.53	1,82.00	..	..
SOCIAL SERVICES.												
21. Education—												
(i) Education ..	1,16.04	42.45	32.45	27.52	..	11.27	9.73	4.45	3.91	3.09	10.00	..
(ii) Technical Education.	2,87.71	77.00	77.00	77.00	..	77.00	..	..	..	..	..	..
Total—Education ..	4,03.75	1,19.45	1,09.45	1,04.52	..	88.27	9.73	4.45	3.91	3.09	10.00	..
22. Health—												
(i) Health ..	4,17.15	2,80.00	2,40.00	1,30.00	10.00	68.00	62.00	44.00	25.00	41.00	40.00	3.00
(ii) Health (L. S. G.) (Water-Supply and Sanitation).	6,49.12	2,51.00	2,51.00	2,51.00	27.00	37.65	43.92	50.20	56.48	62.75	..	..
Total—Health ..	10,66.27	5,31.00	4,91.00	3,81.00	37.00	1,05.65	1,05.92	94.20	81.48	1,03.75	40.00	3.00

23. Housing—

(i) Housing	4,63.20	66.25	66.25	66.25	..	66.25	..	..	..	..	..	..
(ii) L. S. -G. Housing (Urban Land Development).	85.66	42.83	42.83	16.83	..	10.20	10.20	10.20	7.03	5.20	..	..
Total—Housing	5,48.86	109.08	1,09.08	83.08	..	76.45	10.20	10.20	7.03	5.20	..	..
24. Labour Welfare	64.00	8.00	8.00	8.00	..	8.00	..	..	..	..	..	..
25. Welfare of Scheduled Castes, etc.	..	..	..	..	..	..	..	..	..	..	..	..
26. Local Development Works.	..	..	..	..	..	..	..	..	..	..	..	..
27. Social Welfare	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL—SOCIAL SERVICE.	20,82.88	7,67.53	7,17.53	5,76.60	37.00	2,78.37	1,25.85	1,08.85	92.42	1,12.04	50. 0	3.00
MISCELLANEOUS.												
28. Publicity	..	..	..	..	..	..	..	..	..	..	..	..
29. Statistics	..	..	..	..	..	..	..	..	..	..	..	..
TOTAL—MISCEL- LANEOUS.	..	..	..	..	..	..	..	..	..	..	..	..
GRAND TOTAL	2,07,28.89	1,28,68.53	1,02,62.19	82,32.74	3,16.28	26,92.44	23,97.47	18,96.15	16,59.96	16,16.17	26,06.34	18.00

*This includes the State's share of the Railway Board and ploughing break of surpluses.

STATEMENT III.

LIST OF NEW SCHEMES PROPOSED FOR INCLUSION IN THE THIRD PLAN.

[RS. IN LAKHS.]

Scheme.	Total estimated cost.	Proposed outlay 1961—66.			Phasing of proposed outlay.					Balance after Third Plan.	
		Total.	Capital.	Foreign exchange.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total	Foreign exchange.
1	2	3	4	5	6	7	8	9	10	11	12
AGRICULTURE AND COMMUNITY DEVELOPMENT.											
1. Agriculture production ..	18,80.83	18,80.83	4,59.51	5.18	4,21.30	4,42.63	3,55.83	3,43.95	3,17.12	..	..
2. Land Development—											
(i) Waste Land Reclamation ..	1,87.00	1,87.00	..	..	31.50	34.55	37.60	40.65	42.70	..	..
(ii) Consolidation of holdings ..	30.00	30.00	..	..	4.50	5.25	6.00	6.75	7.50	..	..
Total—Land Development ..	2,17.00	2,17.00	..	..	36.00	39.80	43.60	47.40	50.20	..	..
3. Marketing ..	30.00	30.00	..	0.40	3.98	4.79	6.15	6.90	8.18	..	..
4. Minor Irrigation ..	12,00.00	12,00.00	12,00.00	..	2,99.93	2,00.38	2,23.63	2,32.00	2,44.06	..	..
5. Animal Husbandry ..	4,26.57	3,90.61	77.03	11.17	68.05	79.28	86.22	77.57	79.49	35.96	..
6. Dairy and Milk Supply ..	1,75.00	1,75.00	1,05.90	22.06	10.59	25.67	34.51	48.84	55.39	..	..
7. Forests ..	4,00.59	4,00.59	2,02.53	1.60	67.98	83.61	80.59	83.72	84.69	..	..
8. Soil Conservation ..	3,12.99	3,12.99	38.09	..	69.04	62.44	63.74	61.38	56.39	..	..
9. Fisheries ..	1,00.45	1,00.45	..	5.75	16.93	19.55	21.77	20.39	21.81	..	..

10. Community Development ..	31,02.50	12,89.64	4,56.75	..	40.70	1,25.70	2,57.44	3,60.95	5,04.85	18,12.86	..
11. Co-operation ..	8,00.09	8,00.09	3,12.21	..	1,37.09	1,94.20	1,84.40	1,45.92	1,38.48	..	..
12. Gram Panchayat ..	78.90	78.90	6.00	..	11.04	16.85	15.79	17.01	18.21	..	..
TOTAL—AGRICULTURE AND COMMUNITY DEVELOPMENT.	87,24.92	68,76.10	28,58.02	46.16	11,82.63	12,94.90	13,73.67	14,46.03	15,78.87	18,48.82	..
IRRIGATION, FLOOD CONTROL AND POWER.											
13. Irrigation ..	39,14.00	25,50.00	24,41.00	1,29.00	2,01.00	4,63.25	5,89.25	6,12.50	6,84.00	13,64.00	..
14. Flood control ..	3,25.00	2,05.00	2,05.00	..	48.00	58.00	39.00	30.00	30.00	1,20.00	..
15. Power ..	1,24,54.84	76,27.64	45,04.51	31,23.13	8,98.68	16,94.67	26,60.04	15,89.50	7,84.75	48,27.20	..
16. D. V. C. Power ..	7,00.00(a)	7,00.00(a)	..	..	..	..	..	..	..	..	..
TOTAL—IRRIGATION, POWER AND FLOOD CONTROL.	1,73,93.84	1,10,82.64	71,50.51	32,52.13	11,47.68	22,15.92	32,88.29	22,32.00	14,98.75	63,11.20	..
17. INDUSTRIES AND MINING—											
(i) Large and Medium Industries and Mining.	10,34.25(b)	4,90.00	1,98.13	1,80.70	83.83	1,34.10	1,00.02	98.40	73.65	12.00(b)	..
(ii) Village and Small Industries	15,24.45	15,21.45	6,73.64	20.22	3,47.68	3,54.46	3,32.13	2,61.30	2,25.88	3.00	..
TOTAL—INDUSTRIES AND MINING.	25,58.70	20,11.45	8,71.77	2,00.92	4,31.51	4,88.56	4,32.15	3,59.70	2,99.53	15.00	..
TRANSPORT AND COMMUNICATION.											
18. Roads ..	28,84.92	12,95.00	12,95.00	52.00	1,74.47	2,17.94	2,53.55	2,98.14	3,50.90	15,89.92	..
19. Road Transport ..	2,21.47(c)	1,37.04	..	..	27.59	23.49	68.16	15.21	2.59	..	..
20. Tourism ..	25.00	25.00	20.50	..	6.00	6.65	3.70	5.25	3.40	..	..
TOTAL—TRANSPORT AND COMMUNICATION.	31,31.39	14,57.04	13,15.50	52.00	2,08.06	2,48.08	3,25.41	3,18.60	3,56.89	15,89.92	..

STATEMENT III—contd.

LIST OF NEW SCHEMES PROPOSED FOR INCLUSION IN THE THIRD PLAN.

[RS. IN LAKHS.]

Scheme.	Total estimated cost.	Proposed outlay, 1961—66.			Phasing of proposed outlay.					Balance after Third Plan.	
		Total.	Capital.	Foreign exchange.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total	Foreign exchange.
1	2	3	4	5	6	7	8	9	10	11	12
SOCIAL SERVICES.											
21. Education—											
(i) Education	37,17.55	37,17.55	4,62.00	40.45	4,57.01	6,04.43	7,45.59	8,89.56	10,21.16	..	..
(ii) Technical Education ..	8,86.00	8,86.00	4,21.00	68.50	1,42.80	1,62.75	1,73.40	1,91.65	2,15.40	..	..
Total—Education ..	46,03.55	46,30.55	8,83.00	1,08.95	5,99.81	7,67.18	9,18.99	10,81.01	12,36.56	..	..
22. Health—											
(i) Health	19,10.94	17,60.94	5,51.30	20.00	2,31.98	3,19.36	3,59.41	4,16.23	4,33.56	1,50.00	..
(ii) Health (L. S.-G.) (Water-Supply and Sanitation).	6,29.88	4,99.00	4,36.00	42.30	74.85	87.32	99.80	1,12.28	1,24.75	1,50.88	..
Total—Health ..	25,40.82	22,59.94	9,87.30	62.30	3,06.83	4,06.68	4,59.21	5,28.51	5,58.71	2,80.88	..
23. Housing—											
(i) Housing	5,80.25	5,80.25	5,80.25	..	34.25	1,25.50	1,29.50	1,40.50	1,50.50	..	..
(ii) L. S.-G. Housing (Urban Land Development).	4,43.17	1,07.17	80.17	..	16.05	18.74	21.40	24.06	26.42	2,56.00	..
Total—Housing ..	10,23.42	6,87.42	6,60.42	..	50.30	1,44.24	1,50.90	1,64.56	1,77.42	3,36.00	..

24. Labour Welfare	3,00.00	3,00.00	83.36	30.00	42.17	59.18	85.27	57.00	54.78	..	..
25. Welfare of Scheduled Castes	8,38.40	8,38.40	1,66.66	..	1,48.70	1,65.86	1,80.67	1,85.52	1,57.65	..	..
26. Local Development works	5,00.00	5,00.00	5,00.00	..	75.00	87.50	1,00.00	1,12.50	1,25.00	..	..
27. Social Welfare	88.38	88.38	8.63	..	13.24	15.54	18.08	19.55	21.57	..	..
TOTAL—SOCIAL SERVICE	98,94.57	92,77.69	32,89.57	2,61.25	12,57.05	16,46.18	19,13.12	21,49.55	21,12.69	€,16.88	..
MISCELLANEOUS.											
28. Publicity	65.77	65.77	4.60	..	14.77	11.32	13.23	12.85	13.50	..	..
29. Statistics	44.12	44.12	1.97	..	12.66	8.27	8.46	7.28	7.45	..	..
TOTAL—MISCELLANEOUS ..	1,09.89	1,09.89	6.57	..	27.43	19.59	21.79	20.13	20.95	..	..
GRAND TOTAL	4,18,13.31(d)	3,08,14.81	1,55,07.41	37,52.46	42,34.36	59,13.23	73,54.43	67,25.71	60,87.08	1,03,81.52	..

(a) Breakup not available.

(b) Out of Rs. 10,34.25 lakhs, provision for Rs. 4,90.00 lakhs has been made in the Third Plan, Rs. 5,32.25 lakh is required to be raised from the public and Rs. 12.00 lakhs will go to the next Plan.

(c) This includes State's Share, Share of the Railway Board and Ploughing Break of surpluses.

(d) This includes a sum of Rs. 5,32.25 lakhs of the Industry Department which is required to be raised from the public and a sum of Rs. 84.43 lakhs of Road Transport Department which is the share of Railway Board and Ploughing Break of Surpluses.

PART II

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AGRICULTURAL PRODUCTION.

1. *First Plan.*—The various GMF 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.

1. Minor Irrigation	...	...	...	3.32 lakh tons.
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 yard-stick of additional production for each of these GMF schemes of the First Plan it was estimated that the target was fulfilled. The actual production of foodgrains in 1955-56 was 55.64 lakh tons. The average production of foodgrains over the Five-Year Period of the First Plan was, however, of the order of 51.40 lakh tons.

2. *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 has been 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 has thus been taken to be 51.40 lakh tons. The various GMF schemes provided for in the Second Plan were originally estimated to secure an additional production potential of 12 lakh tons of foodgrains. On reappraisal this was raised to 15 lakh tons. But since the additional financial and physical resources were provided rather late, the production potential of foodgrains in the Second Plan is not expected to go beyond the original target of 12 lakh tons. In fact, the anticipated achievement at the end of the Second Plan is, however, likely to be of the order of 11.22 lakh tons only, particularly because of short supply of chemical fertilizers, delay in 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 to the base of 51.40 lakh tons for the Second Plan Period, the expected production potential at the end of the Second Plan Period should be of the order of 62.62 lakh tons. In this connection it may be stated here that the actual production of foodgrains in the year 1958-59 was estimated at 68.74 lakh tons. It is true that the year 1958-59 had 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 the actual production is likely to exceed the estimated potential. The year 1959-60 was not a normal year because the rainfall that year was neither adequate nor well distributed either for *kharif* or for *rabi* crops. Even so, the production of foodgrains during 1959-60, based on final forecast, was of the order of 59.66 lakh tons against the potential of 59.30 lakh tons that year. Assuming the actual production of the current year to be equal to the potential claimed, i.e., 62.62 lakh tons, the average annual production of foodgrains for the Five-Year Period of the Second Plan comes to 56.38 lakh tons. Leaving out 1957-58, which happened to be an abnormally bad year during the last decade, inasmuch as the total production of foodgrains that year was 38.90 lakh tons, the annual average for the Second Plan comes to 60.75 lakh tons. If the year 1960-61 is also left out, the average for the Second Plan comes to 60.12 lakh tons.

Speaking generally, good progress has been achieved in the execution of all these schemes in the given circumstances. Against the Plan provision of Rs. 1020.32 lakhs for these schemes the actual expenditure is likely to be of the order of Rs. 1290.27 lakhs. Thus, the actual expenditure in the Second Plan is likely to exceed the Plan provision. 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.

3. *Self-sufficiency in foodgrains in the Third Plan.*—As decided upon by the National Development Council, one of the main tasks to be undertaken during the Third Plan is to achieve self-sufficiency in foodgrains and increase other items of agricultural production to meet the requirements of industry and exports. 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 up shortages which may occur in lean years. According to the recent study made by the Central Statistical Organisation, the annual growth of population in India is estimated at 1.7 per cent during 1951—56, 2.0 per cent during 1956—61 and 2.2 per cent during 1961—66. Assuming the anticipated increase in population at an average rate of 2.0 per cent per annum and the net *per capita* consumption of 15 oz. of cereals and 3 oz. of pulses per diem, the

estimated requirement of cereals and pulses for the projected population in 1965-66 (assuming 100 as equivalent to 86 in adult units) comes to 86.71 lakh tons including 10 per cent for live-stock feed, etc. The comparative figures for 1955-56, 1960-61 and 1965-66 are given in Table 2 below :—

Table 2.

	1955-56.	1960-61.	1965-66.
1. Adult equivalent of total population calculated @ 86 per cent (lakhs)	355	391	430
2. Estimated requirement (lakh tons)—			
Cereals 	54.23	59.73	65.69
Pulses 	10.84	11.95	13.14
Total	65.07	71.68	78.83
Add 10 per cent for live-stock ...	6.51	7.17	7.88
Grand total	71.58	78.85	86.71

Along with foodgrains, production of commercial crops, which provide raw materials for our expanding industries, or are important as export commodities have also to be increased to keep pace with the requirements of our developing economy.

4. *Third Plan Targets of agricultural production.*—The various GME schemes included in the draft Third Plan are estimated to create an additional production potential of 27.81 lakh tons, i.e., 21.01 lakh tons of foodgrains and 6.80 lakh tons in agricultural commodities other than foodgrains. Its break-up, by broad heads, both for food crops and non-food crops is—

(In lakh tons.)

	Food.	Non-food.	Total.
1. Minor Irrigation—			
(a) Unified Minor Irrigation Agency			
(b) Irrigation Department	2.30	1.85	4.15
2. Major Irrigation 	4.01	...	4.01
3. Manures and fertilizers 	6.30	2.69	8.99
4. Land development including soil conservation 	0.40	0.11	0.51
5. Improved seeds 	3.00	1.00	4.00
6. Cultural practices 	5.00	1.15	6.15
Total	21.01	6.80	27.81

If the production figures of all the five years of the Second Plan are taken into consideration the annual average production of foodgrains in the Second Plan will, as stated in paragraph 2 above, be of the order of 56.38 lakh tons. Adding to this the aforesaid production potential of 21.01 lakh tons of foodgrains in the Third Plan, the total estimated production potential of foodgrains at the end of the Third Plan Period will be of the order of

77.39 lakh tons, against the expected requirement of 86.71 lakh tons both for human beings and live-stock and 78.83 lakh tons for the projected human population in 1965-66. If more funds can be had for minor irrigation and fertilizers, etc., the production can be stepped up further so as to achieve self-sufficiency in foodgrains allotted for the projected human population by the end of the Third Five-Year Plan itself.

5. *Crops other than foodgrains.*—As regards crops other than foodgrains the progress already achieved is definitely more satisfactory than foodgrains. For instance, there has been a remarkable increase in the production of sugarcane. From the average production of 22.91 lakh tons during the First Plan, the production went up to 60.55 lakh tons in 1958-59 and still further to 65.26 lakh tons in 1959-60 against the potential of 54.20 lakh tons claimed at the end of the Second Plan Period. In regard to jute, while the average production in the First Plan was of the order of 6.55 lakh bales, the target for the Second Plan was 11.60 lakh bales. This has already been exceeded and the objective in the Third Plan is to restrict the area under jute and bring about the improvement mainly in the quality of jute and also in the yield per acre. With respect to oilseeds, a fall in outturn was recorded in the beginning of the Second Plan over the average production of the First Plan but this was due to the fact that a good portion of the oilseeds producing area was transferred to West Bengal as a result of reorganisation of States. However, from 1956-57 an increasing trend in production has been noted. In the Third Plan the target is to create an additional production potential of 0.30 lakh ton. In regard to tobacco, the target is to create an additional production potential of 0.04 lakh ton at the end of the Third Plan Period. In potato the average outturn has increased from 2.73 lakh tons in the First Plan to 3.44 lakh tons, the maximum being recorded at 4.73 lakh tons in 1959-60. In the Third Plan, the target is to create an additional production potential of 10 lakh tons of vegetables including potato. Similarly, in regard to fruits the target fixed is to create an additional production potential of 3 lakh tons of fruits at the end of the Third Plan Period. In regard to fish, the target is to create an additional production potential of 0.25 lakh ton at the end of the Third Plan. The table below gives the anticipated achievement at the end of the Second Plan and the target for the Third Plan in regard to these commodities other than foodgrains :—

Table 3.

(In lakh tons.)

	Estimated production at the end of Second Plan.	Additional production potential to be reached in the Third Plan.	Estimated production potential at the end of Third Plan.
1. Sugarcane	54.20	13.00	67.20
2. Oilseed	0.60	0.30	0.90
3. Tobacco	0.23	0.04	0.27
4. Fruits	8.08	3.00	11.08
5. Vegetables	31.76	10.00	41.76
6. Fish	0.37	0.25	0.62

6. *Formulation of schemes in the Third Plan.*—On the basis of the broad objectives indicated in the preceding paragraph, the organisational and other implications of the agricultural programme in the Third Plan have been worked out and necessary schemes formulated in the under-mentioned sections of the Agricultural Production Sector as shown in Table 4 below :—

Table 4.

Head of section.			(Rs. in lakhs.)	
			Proposed outlay.	
1.	Fertilisers and Manures	... ..	...	330.42
2.	Improved seeds	... ..	...	125.92
3.	Plant protection	... ..	...	100.00
4.	Improved cultural practices	... ..	...	5.00
5.	Improved agricultural implements	... ..	...	24.81
6.	Jute	... ..	...	34.73
7.	Oilseeds	... ..	...	11.71
8.	Horticulture	... ..	...	77.70
9.	Sugarcane Research and Development	... ..	...	420.17
10.	Tobacco	... ..	...	3.89
11.	Agricultural Research	... ..	...	178.37
12.	Education and Training	... ..	...	350.07
13.	Extension and Information	... ..	...	458.54
14.	Agro-Economic Res. and Statistics	... ..	...	15.97
15.	Lac Development	... ..	...	12.70
			Total	2150.00

A provision of Rs. 130.12 lakhs for intensified agricultural districts production programme ("Package programme") going to be initiated in the irrigated area in the district of Shahabad has also been included in the outlay of Rs. 2150.00 lakhs for the Agricultural Production Sector.

7. *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 as a readjustment Scheme of 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 were introduced in a phased manner. 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 the Home Science work in the C. D. Blocks four Home Science Training Centres were started during Second Plan Period. To increase the efficiency of the technical staff of the department 94 selected persons from amongst the staff were deputed each year 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 State Government.

Advantages were also taken of the opportunities given in the Colombo Plan and the T. C. M. and 16 persons were trained in this scheme 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 benefit of the farmers who were given a fixed daily allowance. The number of such farmers 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 organizations of Agriculture Department are being expanded with a view to achieve 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 certain number of Multi-purpose Schools of High Secondary standard. The Co-operative Department have also placed a demand for 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 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 is starting with 100 seats. In the Ranchi Agricultural College, post-graduates 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 so that they may take up the post which is likely to be vacant.

The Agricultural 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 starting in the Third Plan. A large number of diploma holders are required by the Education Department to man teaching posts at the middle standard. Due to limitation of fund 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 function with addition of the fifth one also during the Third Plan Period.

8. *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 buildings for the Regional Research Institute at Ranchi were completed and that at Sabour were 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 continued to function. Four Irrigation Research Sub-Stations were established—one in Sone Canal regions and three in Kosi Command Belt.

9. *Third Plan.*—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 State Specialist in particular crop is located in the region where the crop is most widely grown. Rice and Cereal Research Specialists have been located at 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. It is proposed to recruit only persons with post-graduate degrees in research on a scale of Rs. 200—450. This is necessary to draw well qualified personnel who have interest in research.

10. *Extension.*—The extension work has to be intensified during the Third Plan to achieve the objective of additional production. It has been felt that the agricultural extension work in C. D. Blocks should be intensified. This would mean the lessening of the jurisdiction of the Village Level Workers and also to have Subject-Matter Specialists at the block level, to function as Farm Advisory Units. For making a beginning in this direction the blocks established during the First Plan Period only would be taken according to a phased programme during the Third Plan Period.

During the Second Plan, a beginning has been made for horticultural development work for production of fruits and vegetables. This work has to be intensified during the Third Plan. Horticultural Inspectors trained in Horticultural Training School run by the department would be posted in the blocks established during the First Plan. Provision for extension staff has been made for developing vegetable and fruit cultivation around industrial towns and big district and subdivisional 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 work of Commodity Committees to achieve the desired targets has also been provided for.

LAND DEVELOPMENT.

WASTE LAND RECLAMATION AND RESETTLEMENT OF LANDLESS AGRICULTURAL WORKERS.

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., Chota Nagpur and Santhal Parganas regions. Unlike the lands in the Gangetic plain which generally give a satisfactory yield of crop

after reclamation and in which 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* infested lands in the North Bihar plains. In the Second Five-Year Plan, under the two major schemes, viz., scheme for reclamation of waste land by manual labour and the scheme for reclamation of waste lands by tractors, about 15,000 acres and 20,000 acres, respectively have already been reclaimed. It is expected that by the end of the Second Five-Year Plan, the State will have an achievement of reclamation of about 2.50 lakh acres which also include areas reclaimed through assistance under Land Improvement loans and grants to the tenants leaving an area of about 29 lakh acres to be developed in the coming Plans.

During the Third Five-Year Plan Period it is proposed to spend Rs. 187 lakhs which includes a token provision of Rs. 3 lakhs for scheme of Land Resettlement and Colonisation. A provision of Rs. 48 lakhs is made for reclamation of waste lands by manual labour and Rs. 136 lakhs for reclamation of waste lands by tractors. The corresponding targets are 48,000 acres and 34,500 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.

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).

2. 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.

3. 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.

4. 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. During the Third Five-Year Plan period the proposed target is to consolidate an area comprising 30 lakh additional acres at a cost of Rs. 30.00 lakhs.

AGRICULTURAL MARKETING.

To ensure fair prices to the farmers for their extra labour involved and 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, price, 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) 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 parts of the Second Plan. Some how the State Legislature passed the Act 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 where 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, *atta*, 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.

MINOR IRRIGATION.

This 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 Prospects and, therefore, as of necessity, recourse has got to be taken to the execution and maintenance of minor irrigation schemes. These schemes have come to stay in agricultural economy of this State.

During the First Five-Year Plan period, the Agriculture and the Revenue Departments executed minor irrigation schemes at a total cost of Rs. 7.35 crores benefiting an area of 16.4 lakh acres.

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, and subsequently, 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 scheme 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 go up to Rs. 807.86 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).

During the Second Plan, the minor irrigation schemes were being executed by the Revenue Department, the Agriculture Department and the (now) Community Development Department. The Irrigation Department executed the State Tube-well Schemes. 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.

Third Plan.—As already noted above, speedy execution and maintenance of minor irrigation schemes are inevitable feature of agricultural development in this State. The said 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 execution of State tube-wells which will still be the responsibility of the Irrigation Department and supply of electrical

pumping sets which would be done by the Electricity Board. A sum of Rs. 1,200 lakhs is available in the proposed Third Plan under Grow More Food Schemes. A sum of Rs. 100.00 lakhs is included in this provision for providing a revolving fund to the Gram Panchayats to whom the maintenance of the earthwork portion of the minor and medium *ahar*, *pynes* and *bundhs* is to be entrusted. The subsidy allowed during the Second Five-Year Plan is proposed to be continued during the Third Five-Year Plan. The additional production potential to be created by execution of minor irrigation schemes is 2.70 lakh tons of foodgrains and 1.85 lakh tons of non-foodgrains.

ANIMAL HUSBANDRY.

1.1. *General.*—In the agricultural economy of Bihar, live-stock 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 live-stock 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. Live-stock also provide other important commercial products like bones, wool, hides, skins, etc.

2.1. *Pre-Plan Positions.*—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 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 on an 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 (about 6½ million acres) in the State. The prospect of growing fodder crops on an extensive scale being extremely doubtful, what was needed was an overall reduction in the number of uneconomic animals and their replacement by better live-stock in order to provide better return to the owner.

3.1. *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 wide diseases. Of the total bovine population, milch animals in the State numbered as much 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 live-stock 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.

3.2. *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 admission 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 Stocks 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 Live-stock 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.

3.3. *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.

3.4. *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.

3.5. *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 proportionate increase in human population.

3.6. *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.

3.7. *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.

4.1. *Second Plan Appraisal*.—According to the 1956 cattle census, the State's cattle population declined to 17.8 millions. This was because of the cessation of certain territories to West Bengal as a result of the reorganisation of States on linguistic basis.

4.2. 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. In the first year of the Second Plan the actual expenditure in this sector was of the order of Rs. 33.22 lakhs against the budget provision of Rs. 72.05 lakhs, mainly because of lack of qualified staff and delay in the sanctioning of the approved schemes. In the second year, i.e., during 1957-58 an austerity cut was imposed on the budget provision of Rs. 77.99 lakhs made for the year and the department was advised not to spend beyond Rs. 41.91 lakhs excluding expenditure under the Public Works Department. Even so, because of the tempo of work generated the actual expenditure went up to Rs. 50.66 lakhs. In the third year, i.e., during 1958-59 the annual Plan ceiling was kept at Rs. 47.95 lakhs even

though the Plan submitted by the department was estimated to involve an expenditure of Rs. 81.44 lakhs. Subsequently, towards the end of the year an additional sum of Rs. 14.00 lakhs was released thereby bringing the total provision for the year to Rs. 61.95 lakhs. Against this, the actual expenditure during the year was of the order of Rs. 60.56 lakhs. In the fourth year, i.e., during 1959-60 a ceiling of Rs. 88.00 lakhs was imposed on the proposals of this department involving an expenditure of Rs. 146.34 lakhs. Subsequently an additional sum of Rs. 12 lakhs was released thereby bringing the total provision for the year to Rs. 100.00 lakhs. Against this, the actual expenditure was of the order of Rs. 103.29 lakhs. In the fifth year, i.e., during the current financial year schemes involving a total expenditure of Rs. 145.00 lakhs were proposed on which a ceiling of Rs. 90.00 lakhs has been imposed. The department has been pressing for an additional allotment of the remaining amount of Rs. 55.00 lakhs. Against this, an additional allotment of Rs. 10 lakhs has so far been agreed to and if further allotments to the extent asked for are made it is hoped that the provision of Rs. 145 lakhs already proposed will be fully and usefully utilised. Even so, the total expenditure during the five years of the Second Plan will come to Rs. 392.73 lakhs only against the Plan provision of Rs. 565.41 lakhs. The shortfall in expenditure is, *inter alia*, due to the following :—

- (i) Imposition of austerity cut during 1957-58 and low annual Plan ceiling 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 are likely to remain 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.

4.3. *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 150 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. It is also proposed to initiate work for the establishment of a second Veterinary College at Ranchi for

meeting the requirement of veterinary graduates in the third and the subsequent Plans and also for the introduction of a two years' condensed degree course for diploma holders.

4.4. Two important steps taken to upgrade the 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 under 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 live-stock research work, the Live-stock 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.

4.7. *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, which is likely to start functioning before 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 involving a total financial outlay of Rs. 550.00 lakhs with the following broad objectives :—

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 12.8 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 live-stock by popularising the production of fodder grasses and by introducing methods of conservation of surplus grasses and developing pastures.
- (8) To insure 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.

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

Administration.

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

6.1. *Administration.*—During the First Plan, the Veterinary and Animal Husbandry Department had no supervisory staff at district and subdivisional levels. The staff at the Directorate level was also very meagre. In the

Second Plan, therefore, supervisory staff at district and subdivisional levels and a few additional supervisory staff at the State level were provided.

6.2. 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 Subdivisional 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.

6.3. 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 to 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. 35.38 lakhs.

7.1. *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 are likely to remain vacant at the end of the Second Plan.

7.2. The requirement of veterinary graduates for implementing the schemes of the Third Plan is 746. At present, there is only one Veterinary College in the State. The total output of veterinary graduates from this college comes to 383 during the Third Plan Period. There will be thus a shortage of about 695 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.

7.3. 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 100 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 1,118. Against these 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 the one set up at Gauriakarma) with 80 admissions per school per year. These will ensure a total output of 1,100 trained stockmen during the Third Plan Period.

7.4. In order to meet the requirement of technicians with higher training in the different veterinary science, it is proposed to arrange for the post-graduate training of 108 persons in India and 24 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 Live-stock 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. 109.11 lakhs.

8.1. *Research, Survey and Statistics.*—The State Live-stock 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.

8.2 Acknowledging the importance of finding out solutions of 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.

8.3. 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.

8.4. For critical evaluation of the progress made on the various schemes and for analysis of the results of research, it is proposed to set up a statistical unit at the headquarters with sub-units at the Live-stock 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.

8.5. In order to provide for matching grants for the research schemes of the Indian Council of Agricultural Research, a lump sum provision of Rs. 5 lakhs has been included in the financial outlay proposed for the Third Plan Period.

9.1. *Cattle and Piggery Development.*—According to the Live-stock 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* Live-stock Census, 1951), and the human

population was 388 lakhs. The *per capita* availability, therefore, worked out to 4.4 oz. per day.

9.2. According to the Live-stock 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 services in the Second Plan. The estimate of annual production of milk in 1956 comes to 502 lakh maunds (Live-stock Census, 1956) when the human population was 428 lakhs. The *per capita* availability, therefore, worked out to 4.3 oz. per day.

9.3 A study of the trend of increase in cattle population on the basis of previous Live-stock 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.

9.4. 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 N. D. cows under improved breeding programme by opening five new semen banks besides the target of distributing 3,590 bulls.

9.5. 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.

9.6. 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. 149.94 lakhs.

PIGGERY DEVELOPMENT.

9.7. According to the Live-stock 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 the four development blocks. Besides, 500 boars and sows have been distributed under welfare scheme 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.

9.8. The marketing report of the Senior Marketing Officer, Bihar, 1950 shows that the pork contributed 2.6 per cent of the total meat consumed in Bihar. The 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. Besides, it is also proposed to distribute 500 pigs under the welfare scheme for the scheduled castes and the scheduled tribes in the Third Plan. The total outlay proposed for piggery development scheme is Rs. 4.90 lakhs.

10.1. *Fodder Development.*—Bihar is different in feeds and fodders. Most of our live-stock 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 live-stock is to succeed and show satisfactory results.

10.2. 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 live-stock. Provision has, therefore, been made in the Third Plan for the purpose at a total estimated cost of Rs. 21.84 lakhs.

11.1. *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.

11.2. 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 out at par with the State-owned hospitals and dispensaries, arrangements have been 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.

11.3. 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.

11.4. The total outlay proposed for disease control comes to Rs. 57.32 lakhs.

12.1. *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.

12.2. 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. 4.73 lakhs.

12.3. 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 the Second Plan, three more Gosadans have already been established and according to the approved target four more are to be set up during 1960-61.

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

13.1. *Wool Development.*—According to the Live-stock 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 would have 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.

13.2. In order to bring more sheep population under the improvement programme, provision has been made in the Third Plan for establishment of eight 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.

13.3. 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 of a second sheep breeding farm in the Third Plan.

13.4. The total outlay proposed for sheep development comes to Rs. 9.08 lakhs.

14.1. *Poultry Development Scheme.*—According to the Live-stock Census, 1956, the total poultry population in Bihar including ducks was 86,36,494. Assuming that the number of laying birds is about 3/8th 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@ 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.

14.2. 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 the 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.

14.3. 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, 21 Extension Centres were established for production of birds and eggs for distribution.

14.4. 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 will be 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.

14.5. 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. 56.81 lakhs only.

15.1. *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 market.
- (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 Welfare of tribal people.
- (h) Scheme for establishment of mixed farming.

16.1. *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. 2016.08 lakhs. On physical and financial consideration, 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. 550 lakhs. Its groupwise break-up is given in the table below :—

Animal Husbandry.				(Rupees in lakhs.)
Administration	...	...	...	35.38
Training and Education	...	...	...	109.11
Research, Survey and Statistics	...	...	...	36.40
Cattle and Piggery Development	...	...	...	154.84
Fodder Development	...	...	...	21.64
Disease control	...	...	...	57.32
Goshalas and Gosadans	...	...	...	7.23
Wool Development	...	...	...	9.08
Poultry Development	...	...	...	56.81
Miscellaneous	...	...	...	62.19
			Total	550.00

The financial outlay of Rs. 550 lakhs proposed for the Third Plan includes Rs. 12.65 lakhs in foreign exchange. In view of the foreign exchange difficulty, the requirement under this head has been kept to the minimum.

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. 109.95 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 421 to 2,300, that of Foresters from 102 to 388, 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 scale, fencing of derelict forest lands on a large scale, 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 schemes are :—

Forestry Development Schemes.

Name of Schemes.	Plan provision (Rs. in lakhs).	Actual Plan allotment (Rs. in lakhs).	Actual expenditure (Rs. in lakhs).	Physical target based on actual allotment (Acres in lakhs).	Physical target based on actual allotment (Acres in lakhs).	Anti-cipated achievement (Acres in lakhs).
1	2	3	4	5	6	7
Creation of a third Conservator's Circle.	6.29	2.69	2.69	..	..	..
Afforestation of wasteland blocks inside forest areas.	20.06	7.43	7.43	0.12	0.044	0.06
Creation of an Utilisation Division.	10.40	13.03	13.03	..	..	..
Creation of a Forest Division in Hazaribagh.	7.13	6.58	6.58	..	..	..
Fencing of regeneration areas.	9.36	7.34	7.34	0.20	0.157	0.12
Housing accommodation for forest staff.	46.58	45.13	45.13	..	..	..
Improvement of communications.	22.35	33.67	33.67	500 miles.	750 miles.	1,395 miles.
Development of match-wood plantation.	1.90	2.58	2.58	0.019	0.025	0.02
Plantation of commercially valuable timbers like teak.	1.90	2.79	2.79	0.012	0.27	0.02
Creation of a National Park in Hazaribagh.	9.50	7.50	7.50
Total	..	135.47	128.74	128.74		

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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 will 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 its main objective as 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 Goilkera 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 National Park has been extended to Betla reserves in Palamau. Construction of roads, dams, view towers is under way.

THIRD FIVE-YEAR PLAN.

1. *Extension Forestry.*—Extensive waste lands occur outside forest demarcation. These lands may be either State-owned or may belong to private individuals. Some of these lands support marginal agriculture. These wastes, in most cases, are undulating uplands locally called *tanr* and form the small catchments of paddy fields below. Want of proper attention to these lands has generally resulted in diminishing fertility of the fields. The immediate need is to carry out a land capability survey. Such of the waste lands as are incapable of supporting permanent economic agriculture will need to be planted up with timber, fuel and fodder species. The afforestation of State-owned wastes should not create any great difficulties. The afforestation of *raiya* lands has to be dealt with on an extension basis. It has been stated earlier that the total forest area in the State falls short of even the minimum prescribed in the National Forest Policy. It is felt that in spite of all efforts at afforesting State-owned waste lands, the target of forest area will not be achieved. It will, therefore, be advisable to plant timber, fuel and fodder trees on all available space including waste lands owned by private individuals, and also on cultivated lands of marginal productivity. Farm forestry is a well developed science in the more progressive countries. The farmers have to be induced to take up tree plantation on their lands. Some help will have to be extended to them in the shape of supply of seed and seedlings, technical know-how, and initially at least a part of the capital investment required.

(a) The physical targets are given as under :—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6	7
Annual target in acres	500	1,000	1,100	1,200	1,200	5,000

(b) Anticipated expenditure during the Third Plan :—

(Rs. in lakhs.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6	7
Recurring ..	0.50	0.65	0.65	0.65	0.65	3.10
Non-recurring ..	2.50	5.00	5.50	6.00	6.00	25.00

N.B.—The recurring expenditure will be borne from the Forest Department's budget and the non-recurring expenditure will come from the Community Project funds.

2. *Economic Plantations.*—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 up 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	1,200	1,800	2,000	2,500	2,500	10,000

(b) Anticipated expenditure :—

(Rs. in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
1.36	1.96	2.16	2.76	2.76	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	7	
Annual target in acres		1,800	2,700	3,000	3,750	3,750	15,000

(b) Anticipated expenditure :—

(Rs. in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
1.36	1.96	2.16	2.76	2.76	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	7	
Annual target in acres		200	200	200	200	200	1,000

(b) Anticipated expenditure :—

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.20	0.20	0.20	0.20	0.20	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	6,000	6,000	7,000	8,000	8,000	35,000

(b) Anticipated expenditure :—

(Rs. in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
11.00	11.00	12.60	14.50	14.50	63.60

3. 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	7
Annual target in sq. miles	200	800	1,000	1,000	1,000	4,000

(b) Anticipated expenditure :—

(Rs. in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.50	2.00	2.50	2.50	2.50	10.00

(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 posts, 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 ..	0.02	0.02	0.02	0.02	0.02	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
1.122	1.122	1.122	1.122	1.122	5.61

4. *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 has 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 target :—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
	1	2	3	4	5	6
Annual target in sq. miles	400	400	400	400	400	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
0.67	0.67	0.67	0.67	0.67	3.35

5. *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—4,000 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
1.60	1.60	1.60	1.60	1.60	8.00

6. *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 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 over-emphasised. 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	0.03	0.03	0.03	0.03	0.03	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
2.15	2.15	2.15	2.15	2.15	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	0.04	0.04	0.04	0.04	0.04	0.20

(b) Anticipated expenditure :—

(Rupees in lakhs.)					
1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
2.15	2.15	2.15	2.15	2.15	10.75

(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 units.	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
Rango .. ..	..	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, 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.

(a) Physical targets :—Entire State.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
3.83	3.83	3.83	3.83	3.83	19.15

7. *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	7
Annual target in lakh maunds	0.50	1.00	2.00	2.25	2.25	8.00

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.50	1.25	1.00	0.62	0.63	4.00

8. *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.

An arboretum for the study of growth conditions of local and exotic species, developed also as a park for the growing industrial population, has to be established at Ranchi.

(i) *Establishment of a National Park in Palamau.*—

(a) Total physical targets—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
1.02	1.02	1.02	1.02	1.02	5.10

(ii) *Development of Game Sanctuaries.*—

(a) Total physical targets—25 game sanctuaries.

(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	1.00	1.00	1.00	1.00	5.00

(iii) *Establishment of an arboretum near Ranchi.*—

(a) Physical targets—50 acres.

(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	0.40	0.25	0.25	0.25	1.40

9. *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.

(i) *Exploitation of minor forest produce*—

(a) Physical targets :—

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.50	0.50	0.60	0.60	0.60	2.80

10. *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.

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.

(i) *Establishment of a Pressure Treatment Plant.*—

(a) Physical targets—3.00 lakh c.ft. of timber will be treated during the Plan period.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.50	1.02	0.40	0.40	0.40	2.72

(ii) *Establishment of Departmental Depots.*—

(a) Physical targets—25 depots in Chotanagpur and South Bihar, 5 depots in North Bihar.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
3.00	4.50	2.66	2.66	2.66	15.48

11. *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.

The details of the physical target and anticipated expenditure are given in the table below :—

	1960-61.		1961-62.		1962-63.		
	Pre-Plan.	Plan.	Non-Plan.	Total.	Plan.	Non-Plan.	Total
1	2	3	4	5	6	7	8
A.C.F.	5	5	..	5	5	..	5
Forest Rangers	15	20	..	20	20	..	20
Foresters	40	..	45	45	..	45	45
Forest Guards	200	60	200	260	60	200	260

1963-64.			1964-65.			1965-66.			Total.		
Plan.	Non-Plan.	Total.	Plan.	Non-Plan.	Total.	Plan.	Non-Plan.	Total.	Plan.	Non-Plan.	Total.
9	10	11	12	13	14	15	16	17	18	19	20
2	3	5	2	3	5	1	4	5	15	10	25+5
15	..	15	15	..	15	10	..	10	80	Nil	80+15
..	45	45	..	45	45	..	45	45	..	225	225+40*
60	200	260	60	200	260	60	200	260	300	1,000	1,300+200†

Anticipated expenditure during the Third Five-Year Plan :—

(Rupees in lakhs.)

A.C.F.	..	..	0.70	..	0.70	0.70	..	0.70
Forest Rangers	..	..	1.55	..	1.55	1.55	..	1.55
Foresters	..	..	..	0.70	0.70	..	0.70	0.70
Forest Guards	..	..	0.32	1.00	1.32	0.32	1.00	1.32
Total	..	..	2.57	1.70	4.27	2.57	1.70	4.27

0.49	0.21	0.70	0.28	0.42	0.70	0.21	0.49	0.70	2.38	1.12	3.50
1.225	..	1.225	1.05	..	1.05	0.645	..	0.645	6.02	..	6.02
..	0.70	0.70	..	0.70	0.70	..	0.70	0.70	..	3.50	3.50
0.32	1.00	1.32	0.32	1.00	1.32	0.32	1.00	1.32	1.60	5.00	6.60
2.035	1.70	3.735	1.65	1.70	3.35	1.175	1.70	2.875	10.00	9.62	19.62

*128 to be recruited in Plan Period.

†Only 464 will be recruited in Plan Period.

NOTE.—1. The entire expenditure for training of Foresters is being borne under the regular Non-Plan budget. Similarly expenditure for the training of 200 Forest Guards is being met from the normal budget. Only 60 Forest Guards will be trained under this scheme of the Plan annually.

2. The position for the last two years of the Plan will have to be received in the light of the possible requirement for the Fourth Plan.

(i) *Improvement of training facilities.*—

(ii) *Specialised training and study tours.*—

(a) Physical targets—3 officers annually.

(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	0.40	0.40	0.40	0.40	2.00

12. *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.

(i) *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
0.15	0.30	0.25	0.15	0.15	1.00

(ii) *Establishment of a Botanical Research Laboratory.*—

(a) Physical targets—Establishment of a Botanical Research Laboratory.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
1.26	1.25	0.53	0.51	0.50	4.05

13. *Research, Development and Extension of low-grade timber and agricultural wastes based on village industries.*—As has been stated earlier, large quantities of small wood and lops and tops go waste in the forests of Singhbhum and in the interiors elsewhere. A fair proportion of these wastes belong to miscellaneous woods. Experience in the more advanced countries has shown that such small woods can be profitably manufactured into chip-board and hard-board, which are increasingly in the demand in the market these days.

(a) Physical targets—Establishment of a chip-board and hard-board Factory in Chotanagpur.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.45	0.85	0.85	0.55	0.55	3.25

14. *Communications.*—Quite a large proportion of these 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 communication adversely affects supervision and control and gives a chance to the dishonest forest staff of harassing the local people. Improvement of communication 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	
Constructing of new roads		250	375	450	450	500	2,025
Improvement		..	125	200	250	250	1,025

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
13.75	20.00	22.50	23.75	25.20	105.20

15. *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 bungalow in the interiors have to be provided.

(a) Physical targets :—Annual target :—

- (1) Conservator of Forests' office and residence—1.
- (2) Divisional Forest Officers' offices and residences—2.
- (3) Attached Officers' quarters—2.
- (4) Forest Rest Houses—10.
- (5) Range Inspection huts—20.
- (6) Forest Rangers' quarters and offices—10.
- (7) Foresters' quarters—30.
- (8) Ministerial Officers' quarters—20.
- (9) Forest Guards' and others quarters—100.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
12.20	13.00	13.00	13.00	13.00	64.20

16. *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 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 of schooling and medical assistance.

(a) Physical targets :—

- (i) One dispensary at a central place.
- (ii) Two mobile dispensaries.
- (iii) 100 sets of hutments.
- (iv) 10 schools.

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
1.19	1.31	0.86	0.82	0.82	5.00

17. *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.

(a) Physical targets :—

(b) Anticipated expenditure :—

(Rupees in lakhs.)

1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total.
1	2	3	4	5	6
0.42	0.42	0.42	0.42	0.42	2.10

18. *Forest 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 *Mahua* trees for facility of collecting *Mahua* flowers, careless throwing of *Biri* stubs, etc., are the main causes of forest fire. Future of the forest will continue to be gloomy so long as serious steps are not taken to combat the menace of forest fire.

Fire Protection—

(a) Physical targets :—5,000 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
2.40	4.53	1.026	1.03	1.025	10.00

SOIL CONSERVATION.

The plateau region, comprising of the Chota Nagpur division, Santhal Parganas district and some portions of Bhagalpur, Monghyr, Gaya and Shahabad districts, is such that the 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"—80" 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, where necessary even by giving subsidy.

A major part of the forests of Chota Nagpur 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. 197.67 lakhs. With the sanction of Soil Conservation schemes the dearth of technical personnel was felt. The full training facilities provided by Government of India for technical personnel were utilised and during the Second Plan Period about 183 Extension Supervisors and nine Extension Officers will 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 56,000 acres of agricultural land and 5,500 acres of waste land during the Second Plan Period. One Research Station at Araria for surveying the problem of land use of the vast tract of Araria plains lying uncultivated has been started in the Araria plains. 2.08 lakh acres were surveyed for afforestation. 58,000 acres were afforested in the eroded, gullied and hilly waste lands in the Damodar Catchment and other areas of Chota Nagpur and Santhal Parganas. Also 25,000 acres of waste lands were afforested in South and North Bihar regions and 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 Forests 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.—It is proposed to make a great headway during the Third Plan in this direction. Provision has been made for Soil Conservation Survey Plan and mapping of 7.50 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 lands, demonstration of dry farm technique on agricultural land of 10,000 acres, construction of 240 number of percolation tanks and high level bundhs. Demonstration on agricultural and waste and eroded land is to be conducted on 40,000 acres. As a result of various demonstrations, it is expected that the farmers would undertake Soil Conservation measures on about 2.00 lakh acres. The expected 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. 50.00 lakhs has been provided. The proposals include the afforestation of hilly eroded and gullied waste lands in the Chota Nagpur and Santal Parganas within the Damodar Catchment and outside. It is proposed to afforest 57,000 acres in the Damodar Catchment at an estimated cost of Rs. 103.47 lakhs of which only one-third, i.e., Rs. 34.52 lakhs has been provided in the State Plan. The remaining two-thirds are to be shared by other participating Governments, i.e., Government of West Bengal and Union Government. In areas of Chota Nagpur and Santal Parganas outside the Damodar Catchment, it is proposed to afforest 48,000 acres at a cost of Rs. 85.00 lakhs. In the catchment areas of other Irrigation Projects, 7,500 acres would be afforested at a cost of Rs. 11.35 lakhs. As regards the research, the entire Regional Research Institute of Chota Nagpur region is expected to work for agricultural development with Soil Science Officer and one Fruit Research Officer in Class I, B. A. S. and one Agrostologist, in Class II, B. A. S. (Senior Branch) were provided during the Second Plan in the Regional Research

Institute of the area. As and when, necessity for further Soil Conservation research work is felt, the section will be expanded for which funds have been provided under research in Regional Research Institutes. As a result of land development through Soil Conservation Schemes, the additional production potential of 0.51 lakh ton would be created, of which foodgrains would be 0.40 lakh ton.

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. It is proposed to provide Rs. 25 lakhs for the execution of various soil conservation measures in the Kosi Catchment.

The River Kosi has been shifting its course every year. During the Third Plan amounts to Rs. 312.99 lakhs.

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, inasmuch as 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. There is a section of society, called fishermen, who entirely depend upon this industry. Fisheries Development Schemes have been taken up with the idea of producing more fish as well as to help the amelioration of the economic condition of the communities of fishermen and fisheries research work is designed to develop the techniques of spawn transport, improvement of fish seed nurseries, breeding and rearing of fry 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 8.5 lakhs the expenditure was 7.83 lakhs.

Second Plan.—It was proposed to undertake the following schemes during the Second Plan period :—

- (1) Intensive fish seed collection and distribution.
- (2) To build 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 have decided to hand over all reservoirs, tanks, under their control to the Fisheries Section of the Agriculture Department.

(1) *A Fish sanctuaries in the Sone and Burhi Gandak.*—Sanctuaries in these two rivers are being developed under provisions of the Indian Fisheries Act of 1897, to augment supply of fish seeds which are mainly collected from rivers for stocking water areas.

(2) *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.

(3) *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.

(4) 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.

(5) Five carp breeding farms are in process of establishment.

(6) *Fishermen schools.*—About 20 Night Schools have been organized for the benefit of the fishermen.

(7) Five Pilot Projects are being worked for intensive fisheries development work in selected N. E. S. Blocks.

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

The total expenditure on fishery schemes is estimated to Rs. 32.19 lakhs during the Second Plan. A production level to 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 in each block 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 where the water remained after irrigation could also be utilised for fish production. The work on development of mussel fish used for manufacture of buttons would be undertaken. Provision is also being made for setting up Cold Storage Plants at important fishing centres to maintain quality of fish for marketing. Simultaneously, research on fisheries would be extended to cope with the increased work. This is expected to raise the annual production from 40,000 tons during the Second Plan to 60,000 tons in the Third Plan. A total expenditure of Rs. 100.45 lakhs is proposed in the Third Plan.

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 (Santhal Parganas), which were started on a pilot basis during the First Five-Year Plan stirred the imagination of the people and there was an 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 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 91,59,000 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 ear-marked 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 Digal pahari 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 bottlenecks 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 the 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 in 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 lands and improving the structures and designs of the school-buildings 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., were 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 industries 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.

CO-OPERATION.

The ten schemes of co-operative development proposed to be implemented during the Third Five-Year Plan are the expanded schemes of the Second Plan. The total financial outlay on the above schemes is estimated at Rs. 800.09 lakhs during the Plan Period of which Rs. 463.79 lakhs will be recurring and Rs. 336.30 non-recurring, the details of which are furnished below :—

(Rupees in lakhs.)

Serial no.	Name of the scheme	First year.			Plan period.		
		Recur-ring.	Non-re-curring.	Total.	Recur-ring.	Non-re-curring.	Total.
1	2	3	4	5	6	7	8
1	Administrative staff	25.25	0.29	25.54	144.32	0.40	144.42
2	Training of personnel	5.30	...	5.30	31.46	12.00	43.46
3	Research, Survey and Statistics.	1.21	...	1.21	6.52	...	6.52
4	Co-operative Societies—Multi-purpose.	26.32	15.00	41.82	166.73	75.00	24.73
5	Co-operative Societies—Credit.	6.04	0.09	6.13	23.47	0.09	23.56
6	Co-operative Societies Marketing and Supply.	5.83	16.56	22.39	28.85	75.36	99.21
7	Co-operative Societies—Farming.	3.50	19.80	23.30	25.33	88.20	113.53
8	Co-operative Societies—Sugar-cane.	0.50	2.50	3.00	2.60	77.50	80.10
9	Co-operative Societies—all others.	2.05	3.55	5.60	13.56	17.75	31.31
10	Miscellaneous ...	3.30	...	3.30	16.25	...	16.25
	Total ...	79.30	57.79	137.09	463.79	336.30	800.09

2. The Plan aims at cent per cent coverage of the rural areas geographically and much expanded credit facilities for increasing agricultural production. Provision has accordingly been made for the organisation of 15,000 Small-sized Multi-purpose Co-operative Societies. The total number of such societies would come up to about 30,000 by the end of the Third Plan Period. These societies should prove adequate for a population of four crores or so. Each society will serve on an average 1,300 individuals, and have about 250 potential members. In other words, there would approximately be two such societies in the area of operation of each Gram Panchayat.

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, one-third is actually working at a loss. To make these societies viable, provision has been made in the Plan for assisting and revitalising 1,000 small-sized societies, 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 course of four years, to enable these societies to engage competent and trained clerical staff. The total outlay under this head is estimated at Rs. 76.76 lakhs during the Plan Period. If the quantum of subsidy payable to each society is raised to Rs. 1,200 as has been recommended by the Expert Committee on Co-operative Credit (Mehta Committee), the number of societies selected for assistance will have to be reduced.

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 implementing in 1959-60 and is of special significance for the situation obtaining in Bihar.

It is proposed to set up 29 Primary Land Mortgage Banks at sub-divisional level and to augment the share capital of the State Land Mortgage Bank through State contribution of Rs. 10.00 lakhs, in addition to the contribution of equal amount made in 1956-57, in order to further improve long-term credit facilities available to the agriculturists.

The target for provision of agricultural credit of all types has been put at Rs. 23.70 crores during the five years.

3. *Marketing and Processing.*—The target for the organisation of 220 Primary Marketing Societies, setting up of two jute baling plants and the establishment of State Warehousing Corporation with 20 ware-houses will be achieved by the end of the Second Plan. As Co-operative Marketing is a new experiment in this State, the existing Marketing Organisations have yet to gain experience and develop their business. Keeping this fact in view, a small target for the organisation of 69 Primary Marketing Societies only during the Third Plan Period has been kept so that greater attention can be devoted towards consolidation and expansion of activities of the existing societies. Provision has been made to set up 17 District Marketing Unions in the State to serve the needs of the Primary Marketing Societies established in the Blocks. It is also proposed to provide cold storage plants to such of the marketing societies which are functioning in the potato-growing areas. The State Warehousing Corporation has been gaining popularity and it has, therefore, been proposed to open 30 warehouses during the Third Plan Period in addition to 20 set up under the Second Plan Period and to augment its share capital through State contribution of Rs. 10.00 lakhs. It is also proposed to set up two jute baling plants under the marketing scheme. Organisation of Fruit Preservation and Canning Societies and new Consumers' Co-operative Stores besides revitalisation of existing ones also find place in the schemes of Co-operative Development under the Third Plan.

4. There are a large number of Cane-Growers' Co-operative Societies and their Union which have been languishing for want of State assistance and support. It is proposed to provide the usual incentives in shape of

managerial assistance and help for construction of godowns to these organisations also. Besides, one Co-operative Sugar Factory is in the process of organisation and two more are proposed to be set up during the Third Five-Year Plan, for which provision has been made in the Co-operative Development Plan.

5. *Administrative staff.*—(i) Provision has been made in the Third Plan to strengthen the administrative staff of the Department. For the headquarters office of the Registrar, Co-operative Societies, Bihar, one Executive Engineer with supporting staff for giving technical advice and providing effective supervision over construction of storage godowns, their maintenance, etc., has been provided. It is also 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 guide the activities of Co-operative Marketing envisaged under the Plan. Accordingly, provision has been made for the appointment of the above officers with necessary office staff under the Third Five-Year Plan.

(ii) The absence of Co-operative Officers at the district level under the department for consolidating 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 the District Co-operative Officers through conversion of the existing posts of Assistant Registrars at Sadar Subdivisions. Provision has also been made to strengthen the audit, supervisory and inspecting staff.

6. A comprehensive memorandum on each scheme proposed to be taken up under the Third Five-Year Plan, given below, furnishes full details.

SCHEMES OF CO-OPERATIVE DEVELOPMENT UNDER THE THIRD FIVE-YEAR PLAN.

ADMINISTRATIVE STAFF.

1. *Name of the scheme.*—Administrative staff (Expanded).

2. *Objective.*—To provide technically trained personnel for organisation, supervision and audit of Co-operative Societies.

3. *Targets.*—Creation of 17 offices of the District Co-operative Officers, expansion of audit services and strengthening of administrative structure.

4. *Personnel required.*—

	First year.	Plan Period.
(a) Officers	8	17
(b) Assistant Auditors	5	25
(c) Local Auditors	40	200
(d) Assistants (headquarters office)	9	9
(e) Assistants (Subordinate offices)	91	91
(f) Stenographers	8	17
(g) Typists	2	2
(h) Routine Clerks	2	2
(i) Daftari	1	1
(j) Record-Supplier	1	1
(k) Peons	27	36

5. Cost.—

(Rupees in lakhs.)

First Year.		Plan period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
25.25	0.29	144.02	0.40

6. *Description of the scheme—(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 (Public Relations) 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 will consist of one Registrar, one Joint Registrar, three Deputy Registrars, one Chief Auditor, one Deputy Chief Auditor and one Assistant Registrar (Public Relations) 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 prove inadequate to cope with the expanding work of the Third Five-Year Plan which aims at cent per cent coverage of the rural areas geographically. This would necessitate large expansion in the supervisory field staff, as also in the audit staff. The headquarters office staff, therefore, has to be strengthened for successful implementation of the Third Plan, with the appointment of one Assistant in Upper Division, Class I, three Assistants in Upper Division, Class III, five Assistants in Lower Division scale, two Routine Clerks, two Typists, one Daftari, one Record-Supplier and two Peons. It is expected that the existing gazetted staff at the headquarters office will manage the expanding work of the Third Plan.

All the proposed posts may be filled up in the first year of the Plan period. The total cost on this part of the scheme will be Rs. 6.33 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 will be four Divisional Deputy Registrars and 57 Assistant Registrars of Co-operative Societies. There is no office 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 the work of co-ordination 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 Officer may have a Steno-typist and one orderly peon besides office staff and Assistants in the scale of Rs. 120—140, one Assistant in the scale of Rs. 80—120, two Assistants in the scale of Rs. 50—90 and two office peons. Eight offices of the District Co-operative Officers are proposed to be set up from September 1961-62 and nine offices from September 1962-63.

(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 so that 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. This pattern of staffing of the offices of Assistant Registrars has been continuing from long before the Second Plan. Their work, however, sufficiently increased during the Second Plan Period and there will be further increase during the Third Plan Period. The existing staff has been proving inadequate. 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. 49 such posts may be filled up in 1961-62 of which nine are proposed to be terminated in 1962-63 when all the offices of District Co-operative Officers begin to function. The total cost of all the schemes under "Subordinate Offices" comes to Rs. 39.75 lakhs.

(c) *Audit*.—The target for the appointment of 527 Local Auditors, 67 Assistant Auditors, 12 Selection Grade Auditors and 17 District Audit Officers will be 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 will consist of one 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 the special types of co-operative societies. There will be about 30,000 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 work of 15,000 additional Multi-purpose Co-operative Societies which are to be organised during the Third Plan Period besides other types of societies. Accordingly, 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 five per year during the Third Plan Period.

(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, the yard-stick being 100 societies per year per Local Auditor. They will be recruited at the rate of 40 during each year of 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 besides one peon. 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.

(iv) *Peons*.—The total number of peons required will be 17 to be employed in the offices of the District Audit Officers.

The total cost of the staff, etc., under this scheme comes to Rs. 98.30 lakhs.

8. The staff appointed during the Second Plan Period will continue during the Third Plan Period, and provision on their account has been included on the estimates given above.

TRAINING.

1. *Name of the scheme*.—Training of personnel (Expanded).

2. *Objectives*.—To overcome the shortage of trained personnel for manning the various posts under the department and also to provide training to members and office-bearers of Co-operative Institutions.

3. *Target*.—To train 1,500 personnel of subordinate categories and 2,80,000 members and office-bearers of village co-operatives during the Plan Period.

4. *Cost*—

First year		(Rs. in lakhs.) Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
5.30	...	31.46	12.00

5. *Description and details of the scheme*.—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-bearer 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 existing arrangements for training of the non-officials have to be expanded considerably in view of the large-scale expansion of Co-operative Movement during the Third Five-Year Plan Period. 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 hoped that arrangements made during the Second Plan will continue and it will be possible 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. The total estimated cost for the training of higher grade personnel during the Plan Period comes to Rs. 0.64 lakhs.

(b) *Training of Intermediate Personnel—Inspectors of Co-operative Societies.*—15 seats for the training of Intermediate personnel have been allotted to this State at the Reserve Bank of India's Regional Co-operative Training Centre, Ranchi. It is proposed to depute 20 Inspectors at the Centre every year during the Third Plan Period. The estimated cost on this part of the scheme during the Plan Period will be Rs. 1.57 lakhs.

(c) *Training of Co-operative Extension Supervisors.*—The Department has to provide a Co-operative Extension Supervisor to every Community Development Block to look after the co-operative work. Training to these Supervisors is being given, 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. 212 more Community Development Blocks will be opened during the period from October, 1961 to October, 1963 when the full target of 574 Blocks will have been achieved. It is, therefore, proposed to depute for this training 300 candidates (including untrained Co-operative Extension Supervisors) during the Third Plan at the rate of 100 candidates in each of the first three years. The cost on this part of the scheme has been provided under scheme no. 080.

(d) *Specialised Training—(i) Training of Managers of Marketing Co-operative Societies.*—Specialised training in marketing is imparted at the Regional Co-operative Training Centres at Meerut, Poona and Ranchi. Provision has been made for the organisation of 69 Primary Marketing Societies under the Third Plan. It is apprehended that all the 220 Primary Marketing Societies, the target achieved during the Second Plan Period, may not be provided with the services of trained Managers. It is, therefore, proposed to depute 30 Inspectors each year of the Third Plan Period for training in Co-operative Marketing. The total estimated cost over the training of Inspectors in Co-operative Marketing is Rs. 1.10 lakhs.

(ii) *Training in Land Mortgage Banking.*—Fairly adequate number of officers have already been trained in Land Mortgage Banking during the Second Plan. It is proposed to organise 29 Primary Land Mortgage Banks at the subdivisional level under the Third Plan. Hence, a provision has to be made for the training of 50 persons in order to have 21 trained officers in reserve to meet any shortage which might arise and also to meet the requirement of the first year of the Fourth Plan. The total estimated cost under this head will be Rs. 0.37 lakhs.

(e) *Training of subordinate personnel.*—For the training of subordinate personnel of the rank of Supervisors and Local Auditors, the State Government maintained three Co-operative Training Institutes at Pusa, Deoghar and Ranchi of which only the first two Institutes are included in the Second Plan Scheme. Each of these institutions is designed to train 80 candidates per year in one session. 700 Supervisors and 250 Local Auditors (stipendiaries) are to be trained during the Third Plan Period. The stipendiaries will draw a stipend of Rs. 40 per month as in Second Plan Period. The cost on this account comes up to Rs. 9.40 lakhs.

The two newly started Institutes have no institute buildings, or hostels or staff quarters, and as a result much inconvenience is felt. As these institutes are going to be of permanent nature, it is proposed to provide suitable buildings for the institutes at a cost of Rs. 5.50 lakhs each and to provide additional staff quarters for the third institute, since this one already has buildings for the institute, and for residential purposes of the staff and the students at a cost of Rs. 1 lakh. The total non-recurring cost would

thus come up to Rs. 12.00 lakhs. One set of buildings will be taken up in 1962-63 and the other in 1963-64.

(f) *Training of members and office-bearers of Co-operative Societies.*—

(i) 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. On the advice of the All-India Co-operative Union, the responsibility of such training was transferred to the Bihar State Co-operative Federation, Ltd., Patna from March, 1958 and the State Government paid a lump sum grant of Rs. 3,000 per centre per year till 1959-60 to the Federation to meet the expenses. In the Supplementary Plans for 1959-60, provision was made to set up five more training centres.

In 1960-61, as agreed to by the Government of India, provision has been made to set up 13 more training centres with a view to provide better and more extensive facility for the training of non-officials. Thus there will be two peripatetic centres for each district by the end of the Second Plan Period. Each of these centres will be managed by the Bihar Co-operative Federation who will be subsidised at the rate of Rs. 8,000 per centre per year to meet the cost of stipend of the trainees and the establishment charges. The cost has to be shared on 50 : 50 basis by the State and the Centre.

(ii) During the Third Plan Period, there will be a vast expansion in the number of co-operative societies and their membership. The success of co-operatives largely depends on the proper education and training of their members and office-bearers. It is, therefore, necessary to have an expanded programme of such training and education. Accordingly, it is proposed to set up 24 more peripatetic training centres so that each subdivision in the State will have one such training centre located in it. These centres may be opened at the rate of six per year from 1962-63. It is hoped that at each of the centre, 1,200 members and office-bearers of co-operative societies will be trained in a year and by the end of the Plan Period about 2,80,000 members and office-bearers of co-operative societies will thus have been trained. The Bihar Co-operative Federation will be paid a subsidy @ Rs. 6,000 per year per centre to meet the cost of stipends of the trainees and establishment charges which will be shared on 50 : 50 basis by the State and the Centre. The total estimated cost over this scheme during the Plan Period will be Rs. 31.46 lakhs.

8. The staff appointed under this scheme during the Second Plan will continue in the Third Plan.

RESEARCH, SURVEY AND STATISTICS.

1. *Name of the scheme.*—Research, Survey and Statistics (Expanded).

2. *Objective.*—Provision for statistical staff for collection of statistics relating to co-operative movement.

3. *Personnel required*—

	1st year.	Plan period.
(a) Statistical Supervisor	...	1
(b) Investigators	...	15

4. *Cost*—

		(Rupees in lakhs.)	
First year.		Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
1.21	...	6.52	...

5. *Description and details of scheme.*—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. These staff are intended for collection and compilation of data of financial aspect of the Co-operative Movement. There is no agency under department for collection of economic data of Co-operative Organisations which is essential for economic planning and specialised study. It is, therefore, necessary to strengthen the statistical cell of the department to collect the economic data by method of sample survey. 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 the Statistical Supervisor and 15 Investigators will be filled up in 1961-62 and those of five Investigators in 1962-63.

6. The staff appointed under the Second Plan will continue during the Third Plan period.

MULTI-PURPOSE CO-OPERATIVE SOCIETIES.

1. *Name of the scheme.*—Co-operative Societies—Multi-purpose (Expanded).

2. *Objective.*—Organisation of Multi-purpose Co-operative Societies so as to bring all the rural areas within the co-operative fold.

	Position at the end of 1960-61.	Position at the end of 1965-66.
3. <i>Target,</i> —		
(a) No. of Multi-purpose Co-operative Societies.	15,000	30,000
(b) No. of members ..	7.50 lakhs ..	15 lakhs.
(c) Short-term loan ..	1.02 crores ..	14.00 crores
(d) Medium-term loan ..	0.30 crores ..	5.70 crores.
(e) Long-term loan ..	0.10 crores ..	4.00 crores ¹
(f) No. of Societies to be revitalised.	2,000 ..	10,000
(g) No. of rural godowns ..	100 ..	500
	First year.	Plan Period.

4. *Personnel required*—

Supervisors	100	509
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5. Cost—

(Rs. in lakhs.)

	First year.		Plan Period.	
	Recurring.	Non-recurring.	Recurring.	Non-recurring.
	26.32	15.00	166.73	75.00

6. *Description and details of the scheme.*—(i) 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 at 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.

(ii) *Target.*—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 National Development Council. The idea is that, ordinarily, a primary society will serve one revenue village and that where such villages are too small, they may be grouped together so as to cover a population of at least 1,000 to 1,500. It is hoped that 30,000 co-operatives will cover all the villages and rural families in the State. Thus the target for the organisation of new small-sized societies, by the end of the Plan Period has been set down at 15,000 societies.

(iii) *Personnel required.*—Ordinarily, 1,200 Supervisors are required for the supervision of 30,000 societies, the yard stick being one Supervisor for every 25 societies. Against this, the total strength of Supervisors at the end of the Second Plan will be 632. A provision for the appointment of 500 Supervisors, at the rate of 100 Supervisors per year, is therefore, proposed to be made in the Third Plan. The total estimated cost for employment of Supervisors including those appointed under the Second Plan comes to Rs. 53.59 lakhs.

(iv) *Revitalisation of Small Credit Societies.*—Almost half the primary societies in this State are not working at a profit—one-third of the societies is actually working at a loss. Even otherwise loan operations of most societies are on small-scale, and there is considerable stagnation at the primary level. Particular attention has, therefore, to be paid towards their revitalisation. Accordingly, it is proposed to take up additional 10,000 societies during the Third Plan Period, at the rate of 2,000 societies each year, for revitalisation by giving to each a subsidy of Rs. 900 in course of four years. If the quantum of subsidy payable to each society is raised to Rs. 1,200 as has been recommended by the Expert Committee on Co-operative Credit (Mehta Committee), the number of societies to be selected for assistance will have to be reduced. The societies proposed to be taken up

for revitalisation during the Plan Period will be paid a subsidy at the rate of Rs. 300, Rs. 250, Rs. 200, and Rs. 150, respectively on four years. In addition to these, the societies selected for revitalisation during the Second Plan Period will continue to receive the subsidy till the total assistance comes to Rs. 900 in each case. The total estimated cost on this part of the scheme will come to Rs. 76.76 lakhs during the Plan Period.

(v) *Credit*.—It has to be recognised that suitable arrangements for credit have to be made urgently 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 this will very adversely affect the growth of the movement. Accordingly, it is proposed to achieve the target of Rs. 14 crores, Rs. 5.70 crores and Rs. 4 crores as short-term, medium-term and long-term credits, respectively during the Third Plan Period. The yearwise break-up of advancements will be as mentioned 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 ..	2.20	0.80	0.45	3.45
1963-64 ..	2.80	1.20	0.75	5.75
1964-65 ..	3.40	1.50	1.10	7.00
1965-66 ..	4.00	1.80	1.50	8.30
Total ..	14.00	5.70	4.00	23.70

(vi) *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 6½ per cent from their members, the margin of saving available to the societies, even with cent per cent recovery is as small as 1¼ 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 @ 1¼ 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 in regard to all loans, repayable to the Central Co-operative Banks. The rebate will not be admissible on loans which become overdue. A lump provision of Rs. 5 lakhs @ Rs. 1,00,000 per year has been made for the scheme.

(vii) *State participation in the share capital of primary societies*.—In view of the weak and anemic 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. 5 lakhs per year during all the five years of the Plan Period. The total cost involved on this account would be Rs. 25 lakhs. The actual details of how these contributions will exactly be made will be settled later when indications on this subject are available from the Government of India.

(viii) *State contribution to Bad and Doubtful Debts Funds of Primary Societies and Central Banks*.—According to the recommendations of the Expert Committee on Co-operative Credit, the State has to contribute to each society three per cent of the additional loans made by it during a year over and above the loans advanced by it in the preceding year, and one per cent of additional loans advanced by a Central Co-operative Bank has to be contributed in the same manner to its funds. On both these accounts a sum of Rs. 16 lakhs will be required during the Plan Period.

(ix) *Supervising Unions*.—It has been urged that Supervising Unions should be organised at Block levels, and to the extent their budgets are not balanced, the State should make a contribution. It is proposed to make a beginning with reviving the activities of the District Federation Boards and in due course organise Supervising Unions at Block level, for which a total sum of Rs. 7.50 lakhs is being provided.

(x) *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 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. The total estimated cost on this account will be Rs. 50 lakhs.

8. The staff appointed under this scheme during the Second Plan Period, will continue in the Third Plan Period, except that the Managers appointed for the large-sized co-operative societies will be treated as the staff of the societies and they will be paid subsidy by the State Government

on a graduated scale, specified below, on account of pay and cost of living allowance :—

1st year	...	...	...	...	Cent per cent.
2nd year	...	...	...	...	75%
3rd year	...	...	...	...	50%
4th year	...	...	...	...	25%

The estimated cost on account of payment of subsidy to large-sized societies for the maintenance of managerial staff during the Plan Period comes to Rs. 7.88 lakhs.

CO-OPERATIVE SOCIETIES : (A) CREDIT (EXPANDED).

1. *Name of the scheme.*—Co-operative Societies—Credit (Expanded).

2. *Objective.*—Organisation of Land Mortgage Bank and strengthening the administrative structure of Central Co-operative Banks.

3. *Targets.*—(a) Strengthening of Central Co-operative Banks.

(b) Organisation of 29 Land Mortgage Banks at Subdivisional level.

4. *Personnel required*—

			1st year.	Plan Period.
(a) Managing Director, Bihar State Land Mortgage Bank	...	...	1	1
(b) Assistant Registrar	...	...	3	3
(c) Branch Managers	...	...	6	29
(d) Office Assistance	...	...	9	9
(e) Peons	...	...	13	35

5. *Cost*—

	(Rupees in lakhs.)			
	First year.		Plan Period.	
	Recurring.	Non-recurring.	Recurring.	Non-recurring.
	6.04	0.09	23.47	0.09

6. *Description of the scheme*—(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 “ Re-organisation 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. The managerial staff of the Central Banks, whose services were provided at State cost during the Second Plan Period, will be maintained by the Central Banks during the Third Plan Period. The banks will be paid subsidy on a temporary basis to meet the cost of pay and cost of living allowance of this staff for three years at the rates mentioned below :—

1st year	...	...	...	100 per cent.
2nd year	...	...	...	66 2/3 per cent.
3rd year	...	...	...	33 1/3 per cent.

The total estimated cost on account of payment of subsidy on this account during the Plan period will be Rs. 2.63 lakhs.

(b) The Central Co-operative Banks will also be entitled to subsidy on account of additional supervisory staff which they may engage in view of their expanding business on the above basis. For these the total cost will be Rs. 12.37 lakhs. Thus the total cost under this head will be Rs. 15.00 lakhs.

(c) *Share capital*.—With 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 during the Second Plan Period, it is not considered necessary to augment the share capital of these institutions through State contribution during the Third Plan Period. It is hoped that these banks will be able to develop their own resources and business adequately as a result of larger business which they will handle.

(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. With the expansion in the numbers of Primary Societies during the Third Plan Period, the need for long-term loan will also increase. It is proposed to advance long-term loan of Rs. 4.00 crores during the Third Plan Period and to open 29 Subdivisional Land Mortgage Banks at the rate of six banks during the first four years and five banks in the last year of the Third Plan Period. Each such bank will have to be provided with the services of a Branch Manager.

(b) *Share capital*.—It is also considered necessary to make a further contribution of 10.00 lakhs to the share capital of the Bihar State Land Mortgage Bank during the second year of the Plan Period. A long-term loan from the Reserve Bank of India is expected to be available for the purpose and hence 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 necessary under the Third Five-Year Plan for implementing the scheme and ensuring effective supervision.

The staff provided for the Subdivisional Land Mortgage Banks will be maintained by and borne on the cadre of the State Co-operative Land Mortgage Bank, Ltd. Likewise, the staff provided at the State cost for the State Land Mortgage Bank and their district branches during the Second Plan Period will also be borne on their cadre. The State Government will subsidise the State Land Mortgage Bank to meet the cost of pay, cost of living allowance and house-rent allowance only of their staff for five years on sliding scale at the rates mentioned below:—

1st year	...	...	...	100 per cent.
2nd year	...	...	...	75 „ „
3rd year	...	...	...	50 „ „
4th year	...	...	...	25 „ „
5th year	...	...	...	12½ „ „

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. 4.22 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, appointment of a Deputy Registrar, Co-operative Societies and an Assistant Registrar for Patna Division was made for the implementation of the scheme and supervision of the working of the Land Mortgage Bank. As the Land Mortgage Banking entails close supervision and careful handling of loan applications from the very beginning and as the business of the State Land Mortgage Bank has been increasing due to establishment of district branches and it will increase further with the opening of the Primary Banks at the subdivisional level during the Third Plan Period, it is necessary to post an officer of the rank of an Assistant Registrar in each Division. It is, therefore, proposed to create three posts of Assistant Registrars from the first year of the Plan Period so that each Division may have an Assistant Registrar and the work of the Land Mortgage Bank could be supervised effectively. Each of them 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 Assistant Registrar, Co-operative Societies, Land Mortgage Bank, Patna Division is attached to Deputy Registrar, Land Mortgage Bank and hence no separate office will be necessary for him. The total estimated cost over this part of the scheme in the Plan Period comes to Rs. 3.93 lakhs.

The staff provided under the Second Plan will continue during the Third Plan Period.

7. It is, further, 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 the Central Banks in view of the large expansion of credit facilities proposed to be afforded to the Primary Credit Societies during the Third Plan Period. A subsidy of Rs. 41,000 is proposed to be paid to the Bihar State Co-operative Bank for this purpose at the rates mentioned below :—

					Rs.
1st year	...	...	...	...	20,000
2nd year	...	...	...	...	14,000
3rd year	...	...	...	...	7,000
					<hr/>
			Total	...	41,000
					<hr/>

(B) MARKETING AND SUPPLY.

1. *Name of the Scheme.*—Co-operative Societies—Marketing and Supply (Expanded).

2. *Objective.*—(a) Organisation of Marketing and Processing Societies and (b) Establishment of Warehouses.

3. *Targets:*—

(a) Primary Co-operative Marketing Unions	...	...	69
(b) District Marketing Unions	...	...	17
(c) Warehouses	...	...	30
(d) Jute Baling Plants	...	...	2
(e) Fruit Preservation, Processing and Canning Societies	...	...	4
(f) Consumers' Co-operative Stores	...	...	106

4. *Personnel required*—

	1st year.	Plan Period.
(1) Officers	2	2
(2) Overseers	2	2
(3) Draftsmen-cum-Estimators	2	2
(4) Managers, Primary Marketing Unions	15	69
(5) Marketing Inspectors	8	17
(6) Inspectors, Co-operative Societies.	2	10
(7) Office staff	11	11
(8) Steno-typists	2	2
(9) Daftary	1	1
(10) Record-Supplier	1	1
(11) Peons	6	6

5. *Cost*—

First year.		Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
5.83	16.56	23.85	75.36

6. *Details and description of the scheme.*—(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 will have been achieved by the end of the Plan Period. There will, however, be a shortfall 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 69 such societies during the Third Plan Period at the rate of fifteen societies in the first four years and nine in the last year of the Plan Period. Each of these societies will be paid a total subsidy of Rs. 6,000 during the Plan Period for maintaining managerial staff at the rate of Rs. 2,000, Rs. 1,500,

Rs. 1,000, Rs. 750 and Rs. 750, respectively for five years. Co-operative Societies, with one storage godown is to be set up at an estimated cost of Rs. 25,000 per godown and also State contribution of Rs. 20,000 to its share capital. The State assistance for the construction of godown will be in the shape of subsidy and loan 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. The total cost on account of this part of the scheme including the subsidy to be paid to the societies organised during the Second Plan Period for managerial staff comes to Rs. 45.28 lakhs.

(iii) *District Co-operative Marketing Unions.*—It is proposed to organise 17 District Co-operative Marketing Unions, one in each district, at the rate of four in the first year, and six in the second year and another seven in the third year of the Plan Period. Additional managerial staff will be required for these Unions and cost will be shared on a tapering scale for a period of five years at the rate of Rs. 1,500 in the first year, Rs. 1,250 in the second year, Rs. 1,000 in third year, Rs. 750 in the fourth year and Rs. 500 in the fifth year (total Rs. 5,000 per Union during the Plan Period). The State will also contribute to the share capital of these Unions at the rate of Rs. 50,000 each besides making an advance of Rs. 1,00,000 (Rs. 75,000 as loan and Rs. 25,000 as subsidy) to each of them for construction of godown. The total estimated cost on this scheme during the Plan Period comes to Rs. 26.23 lakhs.

(iv) *Warehouses.*—It is proposed to establish 30 warehouses during the Third Plan Period and to contribute Rs. 10 lakhs to the share capital of the State Warehousing Corporation at the rate of Rs. 2 lakhs in each year of the Plan Period.

(v) *Jute Baling Plant.*—Jute is an important cash crop in the State of Bihar and is grown in large quantity. The estimated annual production of jute in this State is 15 lakh bales but of late marketing has presented series of difficulties. It is proposed to organise Co-operative Societies for dealing with 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 two jute baling plants. The State Government will contribute Rs. one lakh, partly as share capital and partly as loan, to 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 set up during each of the first two years of the Plan Period.

(vi) *Fruits preservation, Processing and Canning Societies.*—Mangoes and liches are very important fruits of Bihar. These fruits, however, rot quickly, and as there is no proper arrangement for preserving the fruits, and their grading, the growers have to sell them at unfavourable prices. In order to remove these handicaps, it is proposed to organise four Fruit

Preservation, Processing and Canning Co-operative Societies. The State Government will contribute Rs. 25,000 to the share capital of each of these societies, and advance Rs. 50,000 on account of plants and machinery, etc., on the usual basis. One society will be organised each year from 1962-63.

(vii) *Consumers' Co-operative Stores.*—It is proposed to organise 100 Primary Consumers' Co-operative Stores and fix wholesale stores during the Third Plan Period in urban and industrial areas, 20 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 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 Ministry of Community Development and Co-operation letter no. 12-14/60-coord, dated the 16th July, 1960.

Departmental staff for Consumers' 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 10 Inspectors, at the rate of two each year, will be appointed during the Plan Period.

The total estimated cost over this Scheme during the Plan Period comes to Rs. 6.21 lakhs.

(viii) *Staff for Marketing Organisations.*—Under the Second Plan, except for one Joint Registrar, Co-operative Societies at the headquarters office and four Marketing Inspectors, no other staff at Government level for the supervision of marketing societies was provided. The staff provided has proved to be inadequate. Besides, there is no technical staff under the department to look to the construction work of storage godowns of the Co-operative Organisations, and their maintenance. 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 69 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. 137.55 lakhs. It is necessary to have technical staff for giving proper advice and supervising the construction work of these godowns.

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.—(i) One Deputy Registrar, Co-operative Societies in the scale of Rs. 350—850 from September, 1961.

(ii) One Executive Engineer in the scale of Rs. 600—1,000 with nucleus supporting staff comprising of two Overseers (Rs. 100—190) and two Draftsmen-cum-Estimators (Rs. 75—140) from September, 1961.

(iii) *Office staff*—

Assistant, Upper Division, Class I	...	...	1
Assistant, Upper Division, Class III	...	...	2
Assistant, Lower Division	...	...	5

Routine Clerk	...	...	...	...	1
Typists	...	...	...	...	2
Daftary	...	...	...	...	1
Record-Supplier					
Peons	...	...	...	...	2

All the above staff may be appointed in the first year of the Plan Period.

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 Marketing Inspectors sanctioned under the Second Plan. Eight District Co-operative Marketing Inspectors are proposed to be appointed in 1961-62 and nine Inspectors in 1962-63.

The total cost on account of departmental staff will come up to Rs. 5.84 lakhs during the Plan Period.

(C) FARMING.

1. *Name of the Scheme.*—Co-operative Societies—Farming (Expanded).
2. *Objectives.*—Organisation of Co-operative Farming.
3. *Targets.*—To organise 320 Joint Co-operative Farming Societies on pilot basis, besides other 500 societies.
4. *Personnel required*—

	First year.	Plan Period.
Farm Inspectors	20	43

5. *Cost.*—

First year.		(Rupees in lakhs.) Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
3.50	19.80	25.33	88.20

6. *Description and details.*—(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 organised.

(ii) It is proposed to organise 320 Co-operative Farming Societies on pilot basis at the rate of 80 societies per year during the first four years of the Plan Period besides organising another 500 such societies at the rate of 100 societies per year. Each of the societies will cover on an average 100 acres of arable land so that 32,000 acres of land may come under the Pilot Schemes by the end of the Plan Period. The other societies may be of smaller dimensions. The pattern of assistance adopted as recommended by the Working Group on Co-operative Farming for a Co-operative Farm will be as follows :—

	Rs.
Long and medium-term loans	4,000
Godowns	5,000
Share capital	2,000
Managerial subsidy	1,800
Total	12,800

It is quite possible that the provision on account of godowns may prove to be inadequate, and on the other hand the societies may be able to raise long and medium-term resources on their own. The above figures may also undergo changes after scrutiny at the level of the Government of India. A provision of Rs. 1 crore is proposed to be made on this account.

(iii) *Departmental staff.*—Under the Second Plan, 14 Farm Inspectors at the district level were provided for supervision of and giving necessary technical assistance to Co-operative Farms besides other staff at the headquarters Office. As the Co-operative Farms will be about 1,100 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. Twenty of them are proposed to be appointed in 1961-62, and 43 in 1962-63. The staff appointed under this scheme under the Second Plan will continue during the Third Plan Period.

The total cost on account of employment of departmental staff during the Plan Period comes to Rs. 13.53 lakhs besides Rs. 1.00 crore provided for the assistance proposed to be given to Co-operative Farms.

7. The staff provided under the scheme in the Second Plan will continue during the Third Plan Period.

(D) CANE.

1. *Name of the scheme.*—Development of Cane Co-operatives .

2. *Objective.*—To organise Cane Growers' Co-operative Societies, strengthening supervisory structure and set up two Sugar Factories on Co-operative basis.

3. *Targets.*—

Organisation of Cane Growers' Co-operative Societies	1,000
Sugar Factory	2

4. *Cost.*—

First year.		(Rupees in lakhs.) Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
0.50	2.50	2.60	77.50

5. *Description and details of the scheme—organisation of cane growers' co-operative societies.*—(i) It is proposed to organise 1,000 Cane Growers' Co-operative Societies during the Plan Period. Necessary Supervisory and administrative staff will be provided for the organisation and supervision of these societies. A lump provision of Rs. 2.60 lakhs has been provided under this head for the whole Plan Period. The details of the staff will be worked out later.

(ii) *Co-operative Sugar Factory.*—It is proposed to set up two Sugar Factories on Co-operative basis under the Third Plan. A lump provision of Rs. 60 lakhs has been provided for the purpose. Another Rs. 15 lakhs will be required on account of State's contribution to the Co-operative Sugar Factory taken up for organisation in the Second Plan.

(iii) *Godowns for Cane Development and Cane Marketing Unions.*—It is proposed to construct 50 godowns at an estimated average cost of Rs. 25,000.

each one for such of the Unions as have not yet been able to have their own godowns during the Plan Period, at the rate of 10 godowns per year. 75 per cent of the cost will be in the shape of loan and 25 per cent as subsidy. The total estimated cost on this part of the Scheme during the Plan Period will be Rs. 12.50 lakhs.

(E) OTHERS.

1. *Name of the Scheme.*—Co-operative Societies—All others (Expanded).

2. *Objective.*—To organise special types of Co-operatives.

3. *Targets.*—Organisation of—

(a) Fishermen's Co-operative Societies	...	...	50
(b) Forest Coupe Co-operative Societies	...	...	50
(c) Labour Co-operative Societies	...	...	50
(d) Irrigational Co-operative Societies.	...	...	50
(e) Leather Primary Co-operative Societies and Leather Co-operative Union.			100 + 1
(f) Milk Primary Co-operative Societies, Milk Co-operative Unions and Marketing Federations.			50 + 5 + 5

4. *Personnel required.*—

			First Year.	Plan Period.
(a) Inspectors	...	...	3	15
(b) Supervisors	...	...	5	24

5. *Cost.*—

(Rupees in lakhs.)

Recurring.	First year.		Plan Period.	
	Recurring.	Non-recurring.	Recurring.	Non-recurring.
2.05		3.55	13.57	17.75

6. *Description and details of the Scheme.*—*Fishermen's Co-operative Societies.*—(i) 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. 10 Primary Fishermen's Co-operative Societies will be federated into a Marketing Union which will arrange for the marketing of fish of the member 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 as subsidy. It is also considered necessary to provide an Ice Plant to each of the Unions at an estimated cost of Rs. 1.25 lakh 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 in the shape of 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-operatives and grant a subsidy of Rs. 1,000 for purchase of fishing equipments. The Society will also be allowed a total managerial subsidy of Rs. 1,200 in two years at the rate of Rs. 600 per year.

The total estimated cost over this scheme during the Plan Period will be Rs. 9.65 lakhs.

(ii) *Forest Coupe Co-operative Societies.*—Labourers engaged by Forest Contractors are generally scheduled tribes who are backward. In order to bring an improvement in their economic condition, a provision was made in the Second Five-Year Plan to organise 20 Forest Coupe Co-operative Societies which could take contract from the Forest Department for extracting timber and fuel from forests. The target of organising 20 such societies will be achieved during the Second Plan Period. It is proposed to organise 50 more such societies during the Third Plan Period, at the rate of 10 societies each year. Accordingly it is proposed to contribute Rs. 3,000 to the share capital of each such society. Besides, a total grant of Rs. 1,500 spread over three years for welfare activities and a total managerial subsidy of Rs. 1,200 in course of two years at the rate of Rs. 600 each year will also be allowed to a forest coupe society.

The total estimated cost over this part of the scheme comes to Rs. 2.64 lakhs during the Plan Period.

(iii) *Labour Co-operative Societies.*—The target of organising 24 Labour Co-operatives during the Second Plan will be achieved. Under the Third Plan, it is proposed to organise 50 Labour Co-operative Societies at the rate of 10 each year during the Plan Period. It is proposed that the State should contribute Rs. 3,000 to the share capital of each such society. A total assistance of Rs. 2,000, Rs. 1,500 as loan and Rs. 500 as subsidy for purchase of tools and equipment, besides a total managerial subsidy of Rs. 1,200 in course of two years will also be necessary for each society.

The total estimated cost over this scheme during the Plan Period comes to Rs. 3.04 lakhs.

(iv) *Irrigational Co-operative Societies.*—There is no Irrigation Co-operative Society in the State at present although such societies have an important role to play in increasing agricultural production. It is, therefore, proposed to make a small beginning with 50 societies during the Third Plan Period at the rate of 10 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.

(v) *Leather Co-operatives.*—It is proposed to organise 100 Primary Leather's 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 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.

A total managerial assistance of Rs. 11,400 in course of five years for the Union, and a total managerial subsidy of Rs. 300 spread over three years at the rate of Rs. 150 in the first year, Rs. 100 in the second year and Rs. 50 in the third year for a Primary Leather Society will also be necessary. 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. 1.62 lakhs during the Plan Period.

(vi) *Milk Co-operatives.*—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 one union each year. 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.

7. *Government staff.*—The total number of Primary Societies and the Unions proposed to be organised under this Scheme during the Plan Period will be 361. It is proposed to provide 1 supervisor for every 15 societies and 1 Inspector for every 25 societies. Thus 15 Inspectors and 24 Supervisors will be necessary for organisation and supervision of these societies. It is proposed to appoint 3 Inspectors each year and 5 Supervisors during each of the 1st four years and 4 Supervisors in the last year of the Plan Period.

The total estimated cost over the maintenance of the staff proposed to be appointed during the Third Plan Period and also these appointed under the Second Plan will be Rs. 10.14 lakhs.

8. *Prizes to Co-operatives and study tours of Co-operators.*—At the instance of the Government of India, this scheme was taken up in 1960-61 and a lump provision of Rs. 5,000 was made for the purpose. It is proposed to make a lump provision of Rs. 25,000 under this scheme for the whole Plan Period at the rate of Rs. 5,000 per year. The Government of India are expected to share 50 per cent of the cost on this scheme.

9. The staff appointed under this scheme during the Second Five-Year Plan will continue under the Third Plan.

MISCELLANEOUS.

1. *Name of the scheme.*—Miscellaneous (Expanded).

2. *Objective.*—To augment the contribution of special funds constituted under Second Plan for the assistance of Co-operative Organisations.

3. *Targets.*—(a) To contribute Rs. 10.00 lakhs to State Agricultural Credit (Relief and Guarantee) Fund.

(b) To contribute Rs. 3.50 lakhs to State Co-operative Development Fund.

4. *Cost*—

		(Rs. in lakhs.)	
First year.		Plan Period.	
Recurring.	Non-recurring.	Recurring.	Non-recurring.
3.30	—	16.25	—

5. *Description and details of the Scheme—State Agricultural Credit (Relief and Guarantee) Funds.*—(i) The Second Plan provides 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. With the increase in the number of societies during the Third Plan Period, it is necessary to augment the fund in order to meet the expanding demand for assistance. It is, therefore, proposed to contribute Rs. 10.00 lakhs to the fund at the rate of Rs. 2.00 lakhs per year during the Third Plan Period. It is further proposed that half of the dividends on the shares held by the State Government in various Co-operative Credit Institutions may be credited to this fund.

(ii) *State Co-operative Development Fund.*—Under the Second Plan, a provision was made for the constitution of the State Co-operative Development Fund with State contribution of Rs. 20 lakhs but no contribution could be made to this fund during the Second Plan Period. It is proposed to contribute Rs. 3.50 lakhs to this fund at the rate of Rs. 0.75 lakhs each year during the first four years and Rs. 0.50 lakhs in the last year of the Third Plan Period as the need for assistance out of this fund is expected to increase during the future Plan. It is further proposed that half of the dividends on the shares held by the State Government in Marketing and Processing Societies may also be credited to this fund.

(iii) *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 except that of the training of the members and office-bearers of societies for which State assistance is made available separately. During the Third Plan Period, the Bihar Co-operative Federation will have expanded activities. It is, therefore, proposed that an annual subsidy of Rs. 55,000 be paid to the Federation during the Third Plan Period.

The total estimated cost over this scheme under the Plan Period will be Rs. 16.25 lakhs.

VILLAGE PANCHAYATS.

The preliminary work of setting up Panchayats is to be completed in this State by the end of the Second Five-Year Plan. 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. So we shall complete only the foundation of the Panchayat organisation by the end of the Second Five-Year Plan in this State. 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. A drive to complete elections has already been launched. Even if elections to all the new Panchayats are completed by the end of the first year of the Third Five-Year Plan, there will be a constant cycle of about three thousand re-elections each year to be conducted, and unless there are necessary resources to complete the elections in the best possible manner, the village institutions will remain either incomplete or will be ill-equipped to carry on the task.

3. Another important programme is to construct a building for the Training Institute at Rikhiya which is at present housed in some old and dilapidated houses as a result of which the training programme cannot have the maximum speed and benefit. This Institute gives training to Panchayat Sewaks, Supervisors and Instructors of V. V. Forces.

4. 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.

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.

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.

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.

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

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. 78.90 lakhs.

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 pre-requisite 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.	Chota Nagpur and Santhal Parganas.	North Bihar.	Total.
(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 Chota Nagpur 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 Chota Nagpur.

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. Additional irrigation

potential of 0.51 lakh acre was created and utilised through the State-owned minor irrigation schemes of the Irrigation Department. Thus the total additional irrigation potential of 5.13 lakh acres was created through the assured irrigation schemes during the First Plan Period, out of which, 3.16 lakh acres actually utilised the available water by the end of the First Plan.

The Second Plan target is (i) to create a further potential of 6.07 lakh acres through the major and medium irrigation schemes and 1.48 lakh acres through the minor irrigation schemes of the Irrigation Department, i.e., a total of 7.55 lakh acres and (ii) to bring under irrigation 6.07 lakh acres (including 1.83 lakh acres in respect of the unutilised potential of the First Plan) from the major and medium irrigation schemes and 1.40 lakh acres through the State-owned minor schemes making a total of 7.47 lakh acres.

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 Chota Nagpur 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. 77.62 crores on the major and medium irrigation schemes which will bring an additional area of 20.80 lakh acres under assured irrigation by the end of the Third Plan Period. Over and above this, 1.4 lakh acres would be brought under irrigation through the State-owned minor Irrigation Schemes during 1961—66

To sum up 55.63 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.	10.37	4.62	6.07	31.28	52.24
Through State-owned minor irrigation schemes.	..	0.51	1.48	14.0	3.39
Total ..	10.37	5.13	7.55	32.58	55.63
II. Irrigation potential utilised/to be utilised through major and medium irrigation schemes.	10.37	2.65	6.07	20.80(a)	39.89
State-owned minor irrigation schemes.	..	0.51	1.40	1.40	3.31
	10.37	3.16	7.47	22.20	43.20

(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 20 new schemes. The phasing of outlay is as follows :—

(Rs. 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	10.40	12.75	10.30	9.17	9.50	52.12	21.50
New schemes.	2.01	4.63	5.89	6.13	6.84	25.50	13.23
Total .	12.41	17.38	16.19	15.30	16.34	77.62	34.73

This includes expenditure on maintenance and establishment also.

Out of the Third Plan outlay of Rs. 77.62 crores the requirement of foreign exchange is to the tune of Rs. 3.39 crores. The benefits likely to accrue from the major and medium irrigation schemes included in the Third Plan are as follows :—

(Rs. in crores.)

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Achievement during the Third Five-year Plan.	Total achievement on completion.
1	2	3	4	5	6	7	8
Spill-over schemes.	0.15	0.25	3.22	3.28	6.18	13.08	56.22
New schemes.	..	..	..	1.25	3.61	4.86	19.58
Total	0.15	0.25	3.22	4.53	9.79	17.94	75.80

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 ..	..

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. 9.05 crores including a foreign exchange of Rs. 20 lakhs. The phasing of expenditure in respect of Flood Control Schemes is as under :—

—	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	Total Third Plan, 1961-66.	Subsequent Plan.
Spill-over Schemes.	3.53	2.41	1.06	..	..	7.00	..
New Schemes	0.48	0.56	0.37	0.27	0.27	1.95	1.20
	4.01	2.97	1.43	0.27	0.27	8.95	1.20

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

Drainage Scheme (costing about Rs. 50,000 each).—There is no trouble of underground water table raising 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 *Chauris* 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 *chauris* 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 this sector envisages an expenditure of Rs. 10 lakhs on drainage of *chaurs* 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 :—

1961-61.	1962-63.	1963-64.	1964-65.	1965-66.	Total, 1961—66.
..	2	2	3	3	10

POWER PROJECTS IN BIHAR.

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.

The 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 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 sub-transmission 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 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 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
(8) Coal-Mines electrified	129
(9) Mica-Mines electrified	53
(10) Surface wells	420
(11) Tube-wells	833
(12) Consumers	33,160
(13) Towns	48
(14) Villages	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. 19.02 crores for the execution of 20 schemes out of which 19 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 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. 43.9 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 Mogalsarai *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 3 sub-stations costing Rs. 4.0 crores for supply to Railways out of which approximately Rs. 3 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. 15.82 crores out March, 1961 and Rs. 72.35 lakhs will spill over to the Third Plan.

The progress of expenditure in the Second Five-Year Plan is given in a statement enclosed. It is expected that Rs. 3,100.00 lakhs will be spent by March, 1961 and Rs. 72.35 lakhs will spill over to the Third Plan.

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. including supply from Orissa and U. P. for supply to Railway Electrification could only be satisfied which 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. 5.19 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 Damodar Valley Corporation, which includes the installation of a 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. One more set of 140 MW. has also been sanctioned at Chandrapura for meeting the additional demand in the State of Bihar.

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 :—

(1) Power Station—	Targets by the end of the Second Five-Year Plan.
Diesel	18 MW. (Installed)— 15 MW.
(2) Receiving stations for availing power in bulk from D. V. C. and other sources.	114.0
(3) High tension lines up to 33 KV. ...	8,500

		Targets by the end of Second Five-Year Plan.
(4) Low tension lines	... ..	3,800
(5) Distribution sub-stations	... ..	3,500
(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	... ..	125.0 MW.
(12) Total capital expenditure up to March, 1961 (anticipated) (approx.).		Rs. 3,100.00 lakhs.

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. ...	*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 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 product, Sugar Factory at Banmankhi, Cotton Mill at Samastinur, Paper Factories at Darbhanga and Samastipur and Fertilizer Plant. The demand of industries alone will be 60 MW. by 1965-66.

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 102 MW. approximately.

The sanctioned proposal for Barauni Steam Station is for 3 units of 15,000 KW. It is expected that Diesel Station would have outlived their

*The firm capacity of the D. V. C. will be of the order of 352 MW. out of which 228.0 MW. (diversified 200.0 MW.) will be available for utilisation in Bihar.

utilities in North Bihar by 1964-65. The power demand and available generating capacities from sanctioned scheme are as follows :—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
(1) Power Demand ...	24.35	44.15	62.2	87.62	102.5
(2) Available generating capacity—					
(a) Diesel ...	11.0	11.0	11.0	Nil.	Nil.
(b) Steam ...	13.5	27.0	27.0	27.0	27.0
	24.5	38.0	38.0	27.0	27.0
(3) Net Deficit ...	...	6.15	24.20	60.62	75.5*

South Bihar and Chotanagpur.—The load forecast of South Bihar and Chotanagpur area 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 demands of South Bihar and Chotanagpur as now assessed by Bihar State Electricity Board after consultation with C.W. and P.C. comes to 985 MW., i.e., a diversified demand of 821.0 MW. by the end of Third Five-Year Plan.

The total installed capacity of the D. V. C. with all the sanctioned projects excluding thermal 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 the Railway traction. Another set of 140.0 MW. has been sanctioned for needs in Bihar. The capacity of D. V. C. after including two units of 140 MW. at Chandrapura will be as follows :—

Name of the station.	Total installed capacity.	Firm capacity.	
		Wet season.	Dry season.
<i>Hydro-station—</i>			
(1) Tilaiya 2×2 MW.	.. 4.0	4.0	3.0
(2) Maithon 3×20 MW.	.. 60.0	60.0	37.0
(3) Panchet 1×40 MW.	.. 40.0	40.0	Nil.
Total	.. 104.0	104.0	40.0
<i>Steam-station—</i>			
(1) Bokaro 3×57.5 MW.	.. 258.5	115.0	172.0
1×86.0 MW.	.. ..	86.0	86.0
(2) Durgapur 2×86 MW.	.. 172.0	86.0	172.0
(3) Chandrapura 1×140 for Railways	} 280.0	280.0	140.0
1×140 for Bihar			
Total	.. 314.5	671.0	610.0
Loss 10% for auxiliary and losses	.. ..	67.0	61.0
Net firm capacity	.. ..	604.0	549.0

*Additional generating capacity has been proposed to meet this deficit in the Third Plan.

Based on the assumption that the second unit of 125/140.0 MW. is for needs in Bihar, the power availability from the D. V. C. for supply in Bihar is expected to be 368.0 MW.

The anticipated load requirement for South Bihar and Chotanagpur area in the Third Plan Period and power from D. V. C. will be as follows :—

	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
Anticipated demand	459.63	544.21	614.3	682.0	821.0
(a) Firm capacity of D. V. C. for Bihar.	200.0	200.0	368.0	368.0	368.0
(b) Hirakud	15.8	15.8	Nil	Nil	Nil.
(c) Rihand	38.0	38.0	24.0	24.0	24.0
Total	253.8	253.8	392.0	392.0	392.0
Net deficit	205.83	290.41	222.3	290.0	429.0

The proposal of Bihar State Electricity Board envisages an installation of 250 MW. in South Bihar and Chota Nagpur and even this will leave a deficit of roughly 250 MW.

PROPOSAL FOR THE THIRD FIVE-YEAR PLAN.

North Bihar.

1. *Barauni Steam Power Station.*—The Government of India sanctioned the installation of 2 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 power station is expected to be commissioned in the first year of the Third Five-Year Plan.

The Government of India have sanctioned an addition 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. 48 lakhs and the balance will be during the Third Plan.

For meeting the deficit in North Bihar after the installation of three sets of 15,000 KW. at Barauni it has been agreed by the C.W. and P.C. to augment the capacity by two units of 50,000 KW. during the Third Five-Year Plan. The total cost of the augmentation of 100 MW. at Barauni will come to Rs. 11.0 crores. The cost of additional generating capacity during the Third Plan at Barauni will, therefore, come to Rs. 12.48 crores for an installed capacity of 115 MW. The expenditure in the Second Plan is expected to be Rs. 48.5 lakhs and the balance Rs. 12.0 crores will be required in the Third Five-Year Plan. The foreign exchange requirement will be about Rs. 7.15 crores.

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 feet is available two miles downstream. It is proposed to maintain a head of 20 feet at the power station site for 8 months except in the monsoon season. The head will be kept at 13.0 feet.

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. (4 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 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 electrical equipments.

The civil works and electrical equipments for the power station are estimated to cost about Rs. 220 lakhs with a foreign exchange content of Rs. 90.0 lakhs. The plant is expected to be commissioned by 1964-65.

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 Bhaissalotan. There is possibility of four power stations on the Gandak Project, i.e., two on the western canal and two on the eastern canal. Power House no. 1 is in Nepal, Power House no. 2 in U.P. and nos. 3 and 4 on the eastern canal are in Bihar. The present proposal is to instal 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 reached 10,000 KW. at 60 per cent load factor. The total cost of the power house comes to Rs. 2.02 crores with a foreign exchange content of Rs. 80.0 lakhs. 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 inter-connected 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. *Pathratu Steam Power Station.*—Heavy Machine Manufacturing and Foundry Forge Plants at Hatia near Ranchi require power to the extent of 41.0 MW. It has been decided to establish a Steam Power Station of 100 MW. capacity near Pathratu under a trade agreement with the Government of U. S. S. R. The power station will have two sets of 50 MW.

Coal for the station will be supplied by N. C. D. C. from the Nadiatoli Seam of gidi 'C' blocks. The consumption of coal will be about 2,000 tons per day, i.e., approximately 0.6 million ton per annum. With the increase of the capacity of the station to 300 MW. in the near future, the consumption of coal will go to the extent of about 2 million tons per annum which will require reserves of coal in the neighbourhood of 70 million tons but there are quarriable reserves of Nadiatoli seam and of similar quality to the extent of only 10 million tons, so future requirements of coal can be obtained from the nearby areas by underground mining method.

Proximate analysis of the coal is as follows :—

(1) Moisture	2.00 per cent.
(2) Volatile matter	40.30 per cent.
(3) Fixed carbon	58.70 per cent.
(4) Ash	41.40 per cent.
(5) Higher calorific	4250 K. Cal/Kg.
(6) Lower calorific	4080 K. Cal/Kg.
(7) Grindability	56 Hardgrove.
(8) Ash fusion temperature	No. change up to 1,400°C

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 unfailing flow of about 80 cusecs to meet the demand of the power station and the water requirement of N.C.D.C.

The dam will be constructed at a cost of Rs. 2.26 crores 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 approximate 400.0 MW.

Power will be transmitted from the station to Hatia by 132 KV. D.C. lines. The Station will also be linked with D.V.C. grid at Ramgarh. It is also proposed that the station will be inter-connected at Rajkharwan with the 132 KV. grid in Singhbhum area. The station will be connected the proposed station of 150 MW. in North Karanpura area which will be linked at Japla to the grid in Gaya-Patna and Barun area. The cost of the power station is expected to be Rs. 15.82 crores with a foreign exchange content of Rs. 7.09 crores. The station is expected to be commissioned by 1963.

5. *Steam Power Station in North Karanpura area or Additional to Pathratu Steam Power Station.*—For meeting the additional demand outside and inside the valley it is proposed that a minimum of 150.0 MW. is sanctioned. Even with this installation there will be a shortage of 120.0 MW. outside the valley which will require further generating capacity of minimum 150.0 MW.

Pinderkorn and Ganeshpur coalfields of North Karanpura, area spread about in 17 square miles between latitudes $23^{\circ}45'$ and $23^{\circ}50'$ and longitudes $84^{\circ}50'$ and $84^{\circ}55'$ in the Palamau district. After prospective drilling in these areas a reserve of about 40 million tons of quarriable reserve suitable for steam power plant has been established. It is also expected that an equivalent reserve of coal do exist in this area as the detailed exploratory boring was not continued due to non-availability of Grade I coal and there was no market for low grade coal when drilling was continued in this area.

Laboratory study has also been made by the Central Fuel Research Institute on the washing possibility after collecting samples from the Bhutahi Nala and has proved that the average ash content for the entire

thickness of the seam (141'—2") was found to be 34.66 per cent. The washability test has also indicated that 50—58 per cent coal can be obtained with ash content lying between 16—20 per cent with 19—26 per cent of middlings containing 34—37 per cent ash. The total rejection amount is about 23 per cent containing approximately 55 per cent ash.

It will be possible to get a discharge of 200 cusecs for cooling water after constructing a suitable reservoir on the following rivulet:—

(i) A dam on Harohar Nalla with a catchment of 85.35 square miles at latitude 23°—44' and Longitude 84°—56' near village Sapahi Nalla.

(ii) A dam with a catchment of 11.24 square miles on Sapahi Nalla.

With the data on the availability of coal and water it may appear that it is feasible to instal a Steam Power Station of 500 MW. in this area. Proposal of the Third Five-Year Plan provides for an installation of 150 MW. power station in this area. The water-supply arrangement by providing a dam on any of the river will require extra provision of funds of approximate Rs. 2½ crores. A power station in the Pinderkom area will open a new avenue of power development at a reasonable cost where the coal is abundant and water-supply arrangement at reasonable cost since feasible.

Due to paucity of funds it may be advisable to instal 3 units of 150.0 MW. proposed at Pathratu where arrangement for water and other facility are being arranged for an installation of 300.0 MW. The cost of the additional installation of 150.0 MW. at Pathratu will cost Rs. 14.0 crores with a foreign exchange content of Rs. 9.0 crores.

6. *Subernarekha Hydro-Electric Project.*—The Subernarekha River has its head waters in the Chotanagpur Plateau in the district of Ranchi in Bihar State. The total catchment area of the river in Bihar State is about 6,000 square miles. The proposal is to control only 5 per cent of the catchment for power generation.

It is proposed to have a storage reservoir of 2.34 lakhs acre feet capacity near village Getalsud about seven miles upstream of the present Hundru fall at latitude 23°-27½' N. and longitude 85°-34' east with a maximum height of 116' above the lowest river bed. An open power channel no. 1 about 16,200 feet long is proposed to run from the dam to the water shed divide line between the Subernarekha and the Damodar basin. At the end of the power channel, with the forebay no. 1 and penstock pipe, a gross head of about 605 feet is available. The firm power draft will be 350 cusecs and the firm power output about 14.35 MW. The capacity of the water conductor system is proposed for a peak discharge of 1,200 cusecs. The output based on 8 hours of operation of power house no. 1 comes to 48.7 MW. for which two units of 25 MW. each are being provided.

The water released from power house no. 1 will be let into the Bhera Nalla and will be picked up by a pick-up weir 750 feet downstream of power house no. 1 and then led in an open power channel nos. 2 and 3 at the end of which forebay nos. 2 and 3 is available.

A tunnel will be driven through the range of hills, which divides the Subernarekha and Damodar basin and the water will be led in a power

house no. 2 which will be situated on the left bank of Subernarekha about $1\frac{1}{2}$ miles downstream of the Hundru fall. The total length of the tunnel and penstock from forebay no. 2 and power house no. 2 will be 6,060 feet.

The gross head developed at power station no. 2 will be about 320 feet and the firm power generated will be about 7 MW. for a peak load operation for eight hours a day with a draft of 1,200 cusecs. The peaking output will be about 25.4 MW. for which two units of 13 MW. are being provided.

It is proposed to plan the whole project as a peaking station for economical operation of the steam power station of the Bihar State Electricity Board and taking up minor variation of load during peak load hour.

The total peaking output in two power houses will be 74 MW. and the total installed capacity 76 MW. at an estimated cost of Rs. 9.44 crores.

Great difficulty is being experienced to meet the water requirements of the industries in the Chotanagpur areas. M/s. Tata Iron and Steel have a programme of the augmentation of their production capacity and they will need approximately 100 million gallons of water per day for 100 days during each year. There is also a demand of water for industries at Muri, Adityapur and Ghatsila. In view of large industrial development considerable amount of water will also be needed for human consumption. The regulated flow of Subernarekha dam will be 350 cusecs and taking into 10 per cent losses in transmission up to the point of utilisation, approximately 300 cusecs, i.e., 162 million gallons per day will be available throughout the year. It will, therefore, be possible to meet the requirement of Tata's in full and also of the other industries downstream of power house no. 2 on Subernarekha.

A contribution of about Rs. 1.0 crore is expected towards the cost of the dam for water-supply to industries. A provision of Rs. 2 crores has been made in Third Five-Year Plan to start the civil works, so that the project can be completed in Fourth Five-Year Plan to give its full benefit. A Bill for regulating supply of water and charges thereof is now being moved by Government.

7. South Koel Hydro-Electric Project.—The South Koel River has its head waters in the Chotanagpur Plateau at an elevation of about 2,000 feet above mean sea level. After flowing through Ranchi and Singhbhum districts of Bihar it enters the State of Orissa, where it joins river Sankh.

It is proposed to develop about 167 MW. firm power with an installed capacity of 337 MW. in different stages. There will not be any irrigational benefits from this project in the State of Bihar but a constant discharge of 3,000 cusecs will be available throughout the year after completion of the project which may be utilised in the State of Orissa for irrigation.

The South Koel Valley consists of two valleys—South Koel and North Karo. The main storage of South Koel Valley is proposed at Basia with a catchment of 1,513 square miles. The firm discharge from this reservoir is proposed to be 2,200 cusecs after storing 1.4 million acre feet of water with a dam height of 142 feet maximum. The firm power output at this power station is proposed to be 15 MW. and the installation proposed is 2 units of 25 MW.

A power canal about 20 miles long, with a capacity of 2,500 cusecs will connect to North Karo Basin which is also a sub-catchment in the major South Koel Basin. A power station at this end of the channel is proposed.

Two reservoirs are also proposed to be constructed in North Koel Valley to store the water of the catchment of 588 square miles. One is called North Karo no. 1 reservoir at Nichitpur and the other is called North Karo no. 2 dam near village Lohajimi 8 miles lower down of the North Karo no. 1 dam. The division of storage between these dams are being finalised. It is proposed that a firm discharge of 800 cusecs will be available with a suitable storage in North Karo nos. 1 and 2 dams from its own catchment of 588 square miles.

Ahead of 530 feet is available below North Karo no. II dam. This head is proposed to be utilised to generate about 115 MW. firm power by utilising a flow of 2,320 cusecs available from South Koel Basin and 800 cusecs available from North Karo no. 2 reservoir to power house lower down. The length of the tunnel would be about 6,600 feet and diameter will be 25 feet. The installed capacity will be 200 MW, consisting of four units of 50 MW. each.

The fifth dam in the South Koel Basin, i.e., North Karo no. 3 is proposed to be located 20 miles below the North Karo no. 2 dam. The total catchment controlled will be 2,558 square miles inclusive of the catchment of four upper reservoirs. The height of the dam will be 150 feet above the lowest bed level of river and the capacity will be 3.95 lakhs acre feet. A power house is proposed to be located at downstream side of the dam. The entire controlled flow of about 3,120 cusecs coming from power house at North Karo no. 2 dam is proposed to develop 28 MW. firm power. It is proposed to instal 3×20 MW. to generate seasonal power and also to operate the power house at a suitable load factor.

The total cost of the whole project is expected to be about Rs. 45 crores. The detailed investigation is under progress.

A provision of Rs. 4.17 crores is being provided in Third Five-Year Plan to start the civil works of the project and benefits from the project will be available in the Fourth Plan Period.

8. *Small Hydel Plant.*—There is a proposal to construct a barrage on the river Sone, 5 miles upstream of the present anicut and to utilise the head available on the two link canals on the two banks of the river for generation of power. The heads available on the two link canals are as follows :—

Head.		Discharge.	Power.
		<i>Left Bank Canal.</i>	
15 feet	...	5 months—6,500 cusecs	6,960 KW.
		7 months—2,500 cusecs	2,700 KW.
		<i>Right Bank Canal.</i>	
16.7 feet	...	5 months—3,000 cusecs	3,575 KW.
		7 months—1,200 cusecs	1,430 KW.

There are also 15 sites available on the western and eastern canals with 12 feet head. It is proposed to provide in the Third Five-Year Plan small generating sets at the following Power Houses :—

Name of the Fall.	Head in feet.	Maximum discharge in cusecs.	Power potential in KW.
(1) Dhelabagh	... 12	3,248	2,985
(2) Nasriganj	... 12	2,003	1,780
(3) Dehri	... 12	2,541	2,260
(4) Tejpura	... 12	2,238	1,983

A token provision of 10 lakhs of rupees has been made for provision of Micro-Hydel Power Station on the Sone Canals. If funds are available it will be possible to provide one or two Micro-Hydel plants in the district of Shahabad.

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 115 MW. in the Third Plan.

Provision has also been made for the power station no. I 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. The firm power available from Kosi Power Station and Gandak Power Station no. I will be approximately 18 MW. We are committed to give half the power from Kosi Project to Nepal. Nepal is also free to draw power generated from Gandak Power House no. I and the power station has to be handed over to them when their offtake 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 grids, i.e., Barauni Grid, Gandak Grid and Kosi Grid.

Barauni Grid.—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 Muzaffarpur, Sugauli, Barauni and Katihar as a first stage of development.

One more grid sub-station at Samastipur may be required by the end of Third Five-Year Plan as it is likely that a fertilizer plant requiring 16 MW. of power may be installed by end of Third Plan. The total cost of this system comes to Rs. 325.0 lakhs.

Gandak 132 KV Grid.—It is proposed to link power house no. I 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 house nos. II and III on the Eastern Canal, the installed capacity of which comes to about 40 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 to 15 MW. of power required by Nepal. If the lower voltage of transmission is employed, it may very seriously affect utilisation of power in Nepal. The total cost of this transmission line including switching arrangements at Sugauli and Raxaul comes to Rs. 122.20 lakhs.

Kosi Grid.—It is proposed to link Kosi Power Station on the eastern canal by a single circuit line to the grid sub-station at Katihar. The total installed capacity of Kosi Project will be about 20 MW. and all the sets can be in operation for few months in the year. The secondary power could be utilised usefully as it will be linked with the steam station at Barauni.

The total cost of the transmission line from Katihar to Bathana, a sub-station at Bathana and switching arrangement at Katihar comes to Rs. 65.5 lakhs.

The total cost of North Bihar grid comes to Rs. 512.7 lakhs for serving the needs of the areas where no extra high voltage line exists.

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, Saunthal Parganas and South-Eastern part of Monghyr.

It is proposed to extend 132 KV. line from Chandil to Rourkela in Orissa *via* Rajkharsawan and Goelkera and from Rajkharsawan to Joda in Orissa *via* Kendposi for giving supply to railways for traction at Rajkharsawan, 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 Pathratu. Double circuit 132 KV. line will be constructed from Pathratu to Ramgarh for linking this power station with D. V. C. grid. 132 KV. line will also be extended from Pathratu to Hatia for supply to Heavy Engineering Corporation.

The Bihar State Electricity Board has also proposed to undertake South Koel and North Karo Project in the Third Five-Year Plan. The total cost of the project is Rs. 45 crores out of which Rs. 7 crores will be invested during the Third Five-Year Plan Period. It is proposed to extend 132 KV. line from Hatia Sub-station to Rajkharsawan in Singhbhum *via* the proposed Power House at North Karo Dam Site no. II. This line is absolutely necessary in the early Third Five-Year Plan as the load requirement of railway electrification and mining and industrial load in Singhbhum areas has to be met from Bihar Grid as power from Hirakud is for temporary period and has to be terminated. If this line is built from Hatia to Rajkharsawan then power from Pathratu will be available for meeting the load of the railways for traction and mining industrial load in the Singhbhum areas which is not possible otherwise.

It is also proposed to instal a power house of 150 MW. in the North Karanpura Area where plenty of cheap low grade coal is available. The site of the station has not been finalised. It is, however, proposed that in case it is not possible to economically construct the power house during the Third Five-Year Plan in this area additional capacity of 150 MW. will be installed at the power station being constructed at Pathratu. The demand in Gaya, Patna, Barun, Japla, Pipradih areas during the Third Five-Year Plan will be about 175 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 Pathratu is inter-connected to the Grid sub-station at Barun. The double circuit line from Riband to Barun will then be existing and a switching station at Japla will be provided for this inter-connection. This inter-connection will also be to the mutual advantage to the Bihar State Electricity Board and Riband Project which will give 25 MW. of power for utilisation in Bihar for railway electrification.

It is proposed to build a 132 KV. transmission line from the Sultanganj Sub-station which is inter-connected with D. V. C. system at Maithon to Mokameh to establish an inter-connection with the Barauni Thermal Power Station for a mutual advantage and standby arrangement at Barauni and for a Second Feed at Sultanganj for meeting urgent loads of railways at Jamalpur.

The total cost of the 132 KV. line mentioned above with 132/33 KV. sub-station at Rajkharwan, Mokameh, Hatia, Jamalpur and switching station at Japla will come to approximately Rs. 482.50 lakhs.

SUB-TRANSMISSION SYSTEM AND DISTRIBUTION.

The proposal for the power project during the Second Five-Year Plan included seven continuing schemes from the First Five-Year Plan. Eleven 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 are being proposed for the Third Five-Year Plan for a capital outlay of Rs. 14.05 crores as given below :—

Serial no.	Names of the schemes.	Cost (Rs. in lakhs)
(1)	Extension of supply in Shahabad, area	90.15
(2)	Extension of supply in Gaya district ...	80.63
(3)	Extension in Mica Mines ...	59.69
(4)	Power development in Coal mines areas of Dhanbad, Hazaribagh, Ranchi and Palamau.	232.92
(5)	Extension of power in Sini-Chakradharpur areas	84.90
(6)	Extension of power in Patna District	80.65
(7)	Power development in rural and urban areas of Bhagalpur, Monghyr and Santhal Parganas.	125.98
(8)	Distribution extension in North Bihar	300.80
(9)	Rural Electrification	350.12
	Total	1,405.84

It is expected that by the end of the Third Five-Year Plan Period the State Electricity Board would have electrified additional 2,600 villages in the whole of the State which will bring the number of electrified villages to 4,647.

Sub-transmission and distribution costing Rs. 14.05 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.

INVESTIGATION OF PROJECTS IN THE THIRD FIVE-YEAR PLAN.

A provision of Rs. 30.0 lakhs has been made for the investigation of projects in the Third Five-Year Plan. The funds will be utilised for the investigation of Sankh Hydro-electric Project and Steam Station and other preliminary work for power projects required for meeting the power needs by the end of Third Five-Year Plan and in the Fourth Five-Year Plan.

TAKING OVER DERELICT ELECTRIC SUPPLY UNDERTAKING AND LOAN TO LICENSEES.

Provision of Rs. 149 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. 60 lakhs is being provided for taking over of derelict electric supply undertakings and loan to licensees during the Third Five-Year Plan. There are at present 11 licensees' undertakings at Patna, Muzaffarpur, Darbhanga, Bhagalpur, Sijua Coalfield and Deshergarh. The total demand of all those 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.

Cost Estimate.—The cost of the power project in Bihar is being predicated upon the assumption that the present day price of the materials, equipments and labour would prevail at the time of procurement and when construction is on way.

The power station at Pathratu having installed capacity of 100 MW. is mainly for meeting the needs of the Heavy Engineering Corporation at Hatia and hence it is presumed that this will be outside the ceiling for power projects of the State. The total cost of this station is expected to be Rs. 15.82 crores. The cost of different projects and their foreign exchange requirements are as given below :—

(Rupees in lakhs.)

	Cost.	Foreign Exchange	Remarks.
1. Steam Stations—			
(a) Barauni Thermal Power Station—1 × 15 MW. 2 × 50 MW.	1,248.50	740.0	
(b) Pathratu Steam Power Station—2 × 50 MW.	1,582.0	700.0	
(c) Additional capacity at Pathratu Steam Power Station 3 × 50 MW.	1,400.0	900.0	

(Rupees in lakhs.)

	Cost.	Foreign Exchange.	Remarks.
2. Hydel Power Station—			
(a) Kosi Hydro-electric Project ..	220.0	90.0	
(b) Gandak Hydro-electric Project	202.6	80.0	
(c) Swarnarekha Hydro-electric Project.	200.0	35.0	Total cost Rs. 944.0 lakhs.
(d) South Koel Hydro-electric Project.	417.0	100.0	Total cost Rs. 4,500.0 lakhs.
(e) Sone Barrage Scheme ..	10.0	Nil.	
3. H. T. Transmission System ..	995.2	313.5	
4. Sub-transmission System ..	1,055.72	152.93	
5. Rural Electrification Scheme ..	350.12	12.70	
6. Investigation of Projects ..	40.0	5.00	
7. Taking over of derelict electric supply undertaking or financial assistance to private licensee.	60.00	8.00	
8. Basic Research on Power ..	5.00	2.00	
Grand Total ..	7,786.14	3,148.13	
<i>Deduct expenditure in the Second Plan on Third Five-Year Plan Schemes.</i>	158.50	25.00	
Total ..	7,627.64	3,123.13	
<i>Add for spillover from Second Five-Year Plan.</i>	72.35	46.00	
Total ..	7,699.99	3,169.13	
Expenditure excluding Pathratu Steam Power Station.	6,217.99	2,460.13	

The power requirement of the Bokaro Steel Plant is expected to be 50.0 MW. by 1964-65 rising to 160.0 MW. by 1965-66. The provision for meeting power requirement of Bokaro Steel Plant has to be found from the allocation under 'Industries and Mineral'.

ANTICIPATED POWER POSITION IN THE STATE BY THE END OF THIRD FIVE-YEAR PLAN.

With completion of the projects included for steam and hydro-power generation, the Bihar State Electricity Board will have an installed capacity of 395 MW. in the Steam Station at Barauni and Pathratu and 35 MW. in the Hydro-power Station at Kosi and Gandak. The installed capacity of

Gandak Power Station no. 1 is primarily for needs in Nepal and very little power is expected from this power station for utilisation in Bihar. Nepal is also entitled for half the power of Kosi Project.

Besides the installed capacity of the Bihar State Electricity Board the D. V. C. have already been authorised to instal two units of 140 MW. at Chandrapura out of which one is for meeting the power load for the railway traction and another is for power requirement in Bihar only. It is expected that approximately 368 MW. of power will be available from the D. V. C. for use in Bihar in the Third Five-Year Plan from the schemes so far sanctioned.

Besides the power which will be available from the D. V. C. the Riband authority has promised to give 40 MW. of power for two years and 25 MW. of power, permanently for meeting the railway traction load in Bihar. They have, however, indicated later that they will have difficulty in continuing this supply. Power from Hirakud for railway traction will be available for a period of three years only and will be discontinued after the first unit at Chandrapura is commissioned.

The anticipated load of North Bihar and South Bihar and the available firm capacity for meeting the load are given below :—

North Bihar.

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 MW.	..	24.35	44.15	62.21	87.62	102.5
. Firm capacity—						
(a) Diesel	11.00	11.00	11.00	Nil	Nil.
(b) Steam	15.00	30.00	30.00	95.00	95.0
(c) Hydro	Nil	Nil	Nil	10.35	18.20
Total—Firm capacity	..	26.00	41.00	41.00	105.35	113.20
Less 10 % losses in auxiliary and transmission.	..	2.6	4.1	4.10	10.53	11.32
3. Net firm capacity	23.4	36.9	36.90	94.82	101.88
4. (a) Net deficit	0.95	7.25	25.31	..	0.62
(b) Net surplus	7.20*	..

*The deficit in 1964-65 and 1965-66 includes the load of Bokaro Steel Plant for which additional capacity will have to be planned separately for which funds will be available from the allocation under Industries and Minerals. If the load of 50 MW. in 1964-65 and 160.0 MW. in 1965-66 is excluded then the net deficit in 1964-65 will be 158.5 MW. and in 1965-66 will be 117.0 MW.

Benefits from Hydro-electric Power Station on Kosi and Gandak canals are likely to be delayed and there may be a deficit of about 3.15 MW. in 1964-65.

South Bihar and Chota Nagpur.

		1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1. Anticipated load in MW.	..	459.63	544.21	614.3	682.0	821.0
2. Firm Power—						
(a) From D. V. C. . .	..	200.0	200.0	368.0	368.0	368.0
(b) From B. S. E. B.	..	Nil	Nil	45.0	90.0	180.0
(c) From Rihand ..	..	38.0	38.0	24.0	24.0	24.0
(d) From Hirakud ..	..	15.5	15.5	Nil	Nil	Nil.
	Total	253.5	253.5	437.0	482.0	572.0
Net deficit	..	206.13	289.71	177.3	(a)200.0* (b)158.5	(a)249.0* (b)117.0

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 120.0 MW still to be met during the Third Five-Year Plan. A minimum installation of 150.0 MW. will be required to meet this deficit for which approximately Rs. 14.0 crores will be needed in addition to the provision already indicated for projects in the Third Plan.

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.

	Installed capacity in MW.	Units generated millions of KWH.	Units consumed millions of KWH in Bihar.	Per capita consumption	
				KWH / HEAD	
				(a)	(b)
				Bihar.	India.
1	2	3	4	5	6
Year 1955—Population—40.2 million.					
A. Public Supply Utility	..	202.93	440.3	6.69	19.65
B. Self-Generating Industries	..	288.0	892.5	20.00	6.10
Total	..	490.93	1331.8	26.69	25.75

*The deficit in 1964-65 and 1965-66 includes the load of Bokaro Steel Plant for which additional capacity will have to be planned separately for which funds will be available from the allocation under Industries and Minerals. If the load of 50 MW. in 1964-65 and 160.0 MW. in 1965-66 are excluded then the net deficit in 1965-66 will be 158.5 MW. and in 1965-66 will be 117.0 MW.

	Installed capacity in MW.	Units generated millions of KWH.	Units consumed millions of KWH. in Bihar.	Per capita consumption KWH/HEAD	
				(a) Bihar.	(b) India.
1	2	3	4	5	6
Year 1961 (Anticipated)—Population—44.6 million.					
A. Public Supply Utility ..	349.55	1365.0	1075.0	24.1	45.0
B. Self-Generating Industries ..	271.0	710.0	641.0	14.4	5.0
Total ..	620.55	2070.0	1716.0	38.5	50.0
Year 1965-66 (Anticipated)—Population—48.1 million.					
A. Public Supply Utility ..	1037.5	4500.0	3240.0	67.5	79.0
B. Self-Generating Industries ..	181.0	660.0	594.0	12.3	6.5
Total ..	1218.5	5160.0	3834.0	79.8	85.5

PHASING OF EXPENDITURE AND FOREIGN EXCHANGE REQUIREMENT

The total expenditure on the Third Five-Year Plan Projects comes to Rs. 8,069.14 lakhs out of which Rs. 158.50 lakhs will be spent during the Second Five-Year Plan Period as given below :—

- (1) Barauni Steam Power Station—1 × 15 MW. Rs. 48.50 lakhs.
- (2) Pathratu Steam Power Station—2 × 50 MW. Rs. 100.00 lakhs.
- (3) Investigation of project ... Rs. 10.00 lakhs.

Total ... Rs. 158.50 lakhs.

The expenditure during the Third Five-Year Plan on the scheme comes to Rs. 7,627.64 lakhs plus Rs. 72.35 lakhs spillover from Second Five-Year Plan. The break-up of expenditure during the Third Five-Year Plan and the foreign exchange requirements are given below :—

Phasing of Capital outlay during the Third Five-Year Plan.

(Rupees in lakhs.)

Serial no.	Projects.	Expenditure.					Total for 1961—66.
		1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	
1	2	3	4	5	6	7	8
1	Projects of the B. S. E. B.	671.73	1,025.96	2,088.44	1,574.76	784.75	6,145.64
2	Pathratu Steam Power Station of 100 M.W. for Heavy Engineering Corporation.	226.95	668.71	571.60	14.74	Nil	1,482.00
3	Spillover from the Second Five-Year Plan Projects.	65.00	7.35	Nil	Nil	Nil	72.35
	Total ..	963.68	1,702.02	2,660.04	1,589.50	784.75	7,699.99

Phasing of Foreign Exchange Requirement.

Serial no.	Projects.	Foreign Exchange.			
		1961-62.	1962-63.	1963-66.	1961-66.
1	2	3	4	5	6
1	Projects of B. S. E. B.	229.56	337.63	1,846.94	2,414.13
2	Pathratu Steam Power Station of 100 MW. for Heavy Engineering Corporation.	..	355.00	354.00	709.00
3	Spillover from the Second Five-Year Plan Projects.	46.00	..	..	46.00
	Total ..	275.56	692.63	2,200.94	3,169.13

The total foreign exchange requirement for the Third Five-Year Plan comes to Rs. 32.19 crores which works out to approximately 40 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-section—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. 80.0 crores which will bring the total progressive expenditure to Rs. 111.0 crores.

The revenue by sale of power has been calculated on the following average rates :—

- (1) Supply at 33 K.V. @ 6.0 MP. per KWH.
- (2) Supply at 11 KW @ 8.0 NP per KWH.
- (3) Supply to agricultural load @ 15.0 NP per KWH at low tension.
- (4) Supply to small industries at low tension @ 15 NP per KWH.
- (5) General lighting and fan load @ 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 ..	794.40	1,028.20	1,183.60	1,662.50	2,038.60	6,707.30
2	<i>Operation and Maintenance—</i>						
	(a) On capital up to Second Plan.	86.38	89.28	89.38	89.38	89.38	443.80
	(b) On capital in Third Plan.	—	14.21	44.10	110.62	141.83	310.76
3	Cost of energy from other agencies.	428.74	525.74	601.74	578.69	544.04	2678.95
4	Cost of fuel ..	60.97	81.35	94.89	159.25	245.80	642.26
5	(a) Interest on Second Plan Projects.	125.40	131.20	131.40	131.40	131.40	650.80
	(b) Completed Projects of Third Plan.	27.60	83.92	178.10	265.33	306.96	861.91
6	Depreciation ..	88.96	109.05	141.43	193.41	221.79	754.64
7	Total working expenditure.	818.05	1,034.75	1,281.04	1,528.08	1,681.20	6,343.12
8	Net revenue surplus (+) or deficit (-).	(—)23.65	(—)6.55	(—)97.44	(+)134.42	(+)357.40	(+)364.16

MANPOWER REQUIREMENT.

The manpower requirement for Construction and Maintenance including the personnel are given below :—

Category of staff.	1964-65.			1965-66.		
	Construc- tion.	Main- tenance.	Total.	Construc- tion.	Main- tenance.	Total
1	2	3	4	5	6	7
1. Technical Engineering—						
(a) Electrical Degree	214.0	156.0	370	145	190	335
(b) Electrical Diploma	430.0	310.0	740	280	372	652
(c) Tele-communica- tion Degree.	..	6	6	..	11	11
(d) Tele-communica- tion Diploma.	..	20	20	..	30	30
(e) Civil Degree ..	35.0	25.0	60.0	30	40	70
(f) Civil Diploma ..	95.0	75.0	170.0	60	80	140
(g) Mechanical Degree	30	20	50	20	28	48
(h) Mechanical Diploma	55	45	100	38	52	90
(i) Others ..	..	14	14	..	14	14
Total (a) to (i) ..	859	671	1,530	573	817	1,380
2. Skilled Staff ..	5,805	6,905	12,770	5,020	7,760	12,780
3. Unskilled Staff ..	19,780	3,810	23,590	17,150	4,420	21,570
4. Administrative Accounts and others.	1,010	1,825	2,836	785	2,010	2,795
Grand total ..	27,454	13,271	40,725	23,528	15,007	38,535

In the requirement of construction work the requirements of the Board and the Contractor force are also included. Some construction staff mostly from the Contractor's force will be laid off with the completion of the construction work.

INDUSTRY AND MINING.

LARGE AND MEDIUM INDUSTRIES 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 machinery. No large new plant was established in the private sector. In the public sector, the Sindri Fertiliser Factory which went into full production, 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 economy and greater utilisation of raw materials, 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 Plant and Foundry Forge at Hatia near Ranchi and an Oil Refinery at Barauni. 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 factory of India Explosives, Ltd., at Gomia and a new distillery for the manufacture of power alcohol, which is going to be set up in North Bihar and for which a licence has already been issued.

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 more advanced States in respect of employment in registered factories covered by the Census of Manufacturing Industries (1954) is seen in 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	236	59	788
Per cent	12.2	21.7	29.9	7.5	100
(4) Employment ('000)	111	465	538	147	1,715
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 and the largest mineral tract in the country accounting for 32.8 per cent of all minerals by value produced in India. It has also considerable sources of electrical power and has well-developed communication, particularly in South Bihar and Chota Nagpur 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 Chota Nagpur 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 square 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 to raise 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. The expansion of the industrial pace is, therefore, the essential first step, if imbalance is to be avoided and greater productivity is to be achieved.

8. Keeping in view the above objective and the recommendations of the various Working Groups constituted by the Government of India as well as those constituted at the State level, the proposals for the development of industries under different heads are discussed below.

Outline of the Plan.—The Plan is divided into the following eight Sections :—

Section I.

Large and Medium Industries including Mineral Development.

It is proposed under this head to take up larger numbers of public sector industrial projects of special importance to the State, to set up 'Mixed Enterprise' (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 these to meet larger credit requirements and take up the management of State-owned enterprises. This proposal covers the following schemes :—

- (1) *Enhancement of equity capital of the Bihar Industrial Development Corporation—(Rs. 75.00 lakhs).*—Experience gained during the Second Plan Period suggests that for the expeditious implementation of the schemes autonomous Corporations or similar agencies are necessary. Accordingly Bihar Industrial Development Corporation (B. I. D. C.) will be set up in the Second

Plan Period for running the State-owned Superphosphate and Insulator Projects. Management of public enterprises to be set up hereafter is also proposed to be transferred to the above Corporation. Besides administrating the State owned projects, the Corporation will also act as a holding company with powers to invest in equity capital of private enterprises. The scheme, therefore, envisages the enhancement of equity capital of B. I. D. C. by a sum of Rs. 75.00 lakhs.

(2) *Enhancement of share capitals of the Bihar State Financial Corporation—(Rs. 10.00 lakhs).*—To stimulate industrial development in the State it is proposed to amend the Bihar Financial Corporation Act so as to enable the Corporation to apply its funds to investment in large or medium industrial enterprises. To make it possible for the Corporation to do so its share capital will be raised substantially and the limit of loans to one individual unit from 10 to 25 lakhs. Only a token provision of Rs. 10 lakhs is, however, made under this scheme. Additional funds required will be met by the Corporation by raising its own resources through sale of shares and debentures.

(3) *Strengthening of the Development Wing of the Directorate—(Rs. 20.00 lakhs).*—It is proposed under this head, to strengthen substantially the nucleus of the Development Wing created in the Directorate of Industries during the Second Plan Period, by appointing technical officers, mainly at headquarters, in 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 prospective 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 scheme suiting 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 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.

(4) *Research and Investigation—(Rs. 17.00 lakhs).*—While the National Laboratories and the Council of Scientific and Industrial Research are engaged in tackling the problems of

countrywide importance, it is felt that for proper implementation of the industrial programme considerable research facilities will have to be developed for carrying out investigation on problems of special importance to Bihar. These investigations will mainly relate to—

- (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 tree,
- (iv) the marketing and full utilisation of mica,
- (v) investigation into the quality of the less 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 utilisation of Khari salt and salt-petre resources of North Bihar,

In addition, laboratory facilities for testing the products of industry for quality marking will also be provided.

This scheme, therefore, envisages the reorganisation and expansion of the existing Provincial Industrial Research Laboratory, with suitable staff and laboratory equipments at an estimated cost of Rs. 17 lakhs for the entire Plan Period.

- (5) *Surveys and Preparation of Project Reports—(Rs. 10.00 lakhs).—*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 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 again necessary data will have to be collected through a number of field surveys and other investigations. For conducting surveys and for the preparation of project reports by outside agencies in respect of each individual industry, a total outlay of Rs. 10 lakhs is proposed for the Five-Year Period of the Plan.
- (6) *Expansion of the public sector industrial projects—(Rs. 108.00 lakhs)—(i) Expansion of the Superphosphate Factory, Sindri—(Rs. 50.00 lakhs).—*The State Government have established a Superphosphate Factory at Sindri. A scheme for the expansion of the 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.

- (ii) *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 will be doubled from 2,400 tons to 4,800 tons as projected. In this expansion provisions will be made for manufacture of hardwares for insulators so that the insulators are sold in assembled condition. Besides providing increased employment, such a provision will also augment the profits of the factory. For the proposed expansion a tentative provision of Rs. 58 lakhs is made under the scheme.
- (7) *Establishment of Spun Silk Mill—(Rs. 60.00 lakhs).*—This Project envisages the spinning of silk waste, specially tassar waste, thus stabilising silk prices and enabling rearers to earn an assured income. This project was included in the Second Plan but due to foreign exchange difficulty and also owing to delayed approval of the scheme by the Central Silk Board, there appears to be no hope of the scheme coming up during the Second Plan Period. It is, therefore, proposed to include it in the Third Plan.
- (8) *Establishment of other public sector undertakings with private collaboration—(Rs. 100.00 lakhs).*—The recent techno-economic survey has brought out the immensity of industrial potential in the State, and to harness the same properly in the interest of balanced economic development of Bihar, a number of candidate industries have been recommended. Obviously the implementation of these recommendations will have to be staggered commensurate with the resources available. But at least in respect of such of the projects as are considered to be of immediate importance to the State, it is proposed to make a small provision in the Plan, leaving the rest of the funds required for these schemes to be met through loans to be raised by investment agencies like the Bihar Industrial Development Corporation and the Bihar State Financial Corporation. A part of this requirement can also be met by inviting private sector participation in these schemes. Foreign collaboration can also be attempted. The State Government will, therefore, sponsor the establishment of these projects which will be taken up only if adequate resources are raised in the manner indicated above. The justification for each of these schemes is given below :—
- (i) *Low Temperature Carbonisation of Coal and Tar Distillation Plant—(Rs. 64.00 lakhs).*—Coal is the most important mineral of Bihar. But in the present open stack method of manufacture of domestic coke, part of the heat energy and all the bye-products are lost. Therefore, this plant is of vital importance to the State. Besides recovery of valuable coal-tar as bye-product, the coke produced in the plant will replace cow-dung as fuel which is so much needed to manure fields in order to raise agricultural production. This industry will

also be indirectly helpful in preventing deforestation by providing an alternative source of fuel. Use of domestic coke in place of raw coal in towns and cities will prevent the smoke nuisance and enable the people to live in clean and healthy atmosphere. The Techno-Economic Survey Team, have, on these considerations, observed in their report that development of coal industry with ancillary chemicals should be a major objective of Government's policy.

Such a plant was included in the draft Second Five-Year Plan but ultimately it was dropped. It is again proposed to make a small provision for this scheme in the Third Plan. The total investment is estimated at Rs. 428 lakhs out of which Rs. 364 lakhs is proposed to be raised through private investment. The plant will be located in Barkakana area and the project will provide employment to 3,500 persons.

(ii) *Caustic Soda and Chlorine Plant*—(Rs. 24.00 lakhs).—There is acute shortage of caustic soda all over the country. With the proposed petroleum refinery coming up and the expansion plans of India Aluminium, together with the increase in operations in the manufacture of chemicals, demand for both caustic soda and chlorine will be very high. In fact, caustic soda from this plant will find immediate use in the aluminium oxide plant at Muri and in the paper mills to be set up in the private sector. Similarly chlorine which will be a by-product, will be used for manufacturing bleaching powder and for various other purposes.

The capital investment on a 20 tons per day caustic soda plant is estimated at Rs. 75.25 lakhs, out of which Rs. 51.25 lakhs will be met through private investment.

(iii) *Industrial—Refrigeration Equipments Manufacture*—(Rs. 12.00 lakhs).—There is even today a considerable demand for air compressors, refrigerating machinery and large air conditioning plants. Projected expansion of industries would generate greater demand for these equipments, thereby justifying a separate unit specialising in their manufacture. Cost on the setting up of such a plant is estimated at Rs. 50.00 lakhs. Out of this Rs. 38.00 lakhs will have to be found with private collaboration.

(9) *Mixed Enterprises*.—In the recent techno-economic survey a number of candidate industries have been recommended which could be taken up in Bihar. The following out of the above are some of the industries of immediate importance to the State :—

- (i) Glazed kid leather (estimated cost Rs. 30.00 lakhs) manufacture.
- (ii) Power alcohol plant (estimated cost Rs. 23.00 lakhs) with one million gallon capacity.
- (iii) Plant for malleable (estimated cost Rs. 7.50 lakhs) castings with an annual production capacity of 3,000 tons.
- (iv) Mechanical Handling (estimated cost Rs. 150.00 lakhs) Equipments Manufacture.

- (v) Electrical Equipments (estimated cost Rs. 15.00 lakhs) Manufacture.
- (vi) Manufacture of Metal (estimated cost Rs. 30.00 lakhs) tools and Machine tools.
- (vii) Small Paper Plants (estimated cost Rs. 30.00 lakhs) each.

These enterprises will be sponsored mainly by private parties, and with State participation where necessary, will be mixed in character. Already provision of Rs. 50 lakhs has been made under the Small Industries group for State participation in such undertakings. No separate provision is, therefore, being suggested under this head.

- (10) *Assistance for the establishment of Development Authority (Rs. 10.00 lakhs).*—Although North Bihar will have a pattern of development by and large geared to small-scale and cottage industries, with the establishment of the Thermal Power Plant and Oil Refinery at Barauni and the Ganga bridge at Mokameh, 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 fertilisers and other chemical industries, will mean that Barauni in due course will develop into an industrial township. It is also possible that the broad gauge line may be extended in the Third Plan from Barauni, to Samastipur and Darbhanga, in which case the industrial potentialities of these two towns will also be considerably increased.

In Chota Nagpur region considerable growth potentialities exist in and around Ranchi owing to the establishment of heavy industries in the public sector. Ramgarh-Barkakana area adjoining the South Karanpura coalfield is another favourable site for the development of integrated industries based on coal. 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 in this region having tremendous possibilities of industries based on iron and steel.

Therefore, for acquiring and developing sites in the areas mentioned above, as also in other areas of the State where similar growth possibilities exist, and to provide water and power facilities, gas supply, 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 Government which are concerned, only a token provision of Rs. 10.00 lakhs

towards assistance for this scheme is proposed under the Industries plan. Additional funds, if required, will be found by internal adjustments in the Plan later.

(11) *Mineral Development Schemes (Rs. 80.00 lakhs).*—(i) *Strengthening of the staff in the Directorate of Mining and Geology and establishment of a laboratory for routine tests (Rs. 44.00 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 certificate 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 investments 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. Simultaneously a laboratory for undertaking certain essential routine examinations will also be necessary. Additional cost

on these is estimated at Rs. 44 lakhs for the Five-Year Period of the Plan.

(ii) *Assistance for the establishment of Bihar Mineral Development Corporation—(Rs. 36.00 lakhs).*—It is proposed to establish a Mineral Development Corporation with the following objects :—

- (i) To mine minerals for commercial and profitable exploitation to earn more income to the State.
- (ii) To arrange for beneficiation of low grade minerals like, iron ore, manganese, chromite, graphite, asbestos, etc.
- (iii) To arrange for imparting technical training in underground mining and surveying, etc., to the students of the Mining Diploma Institutes set up by the State Government.
- (iv) To arrange for investigations and research with a view to bring about improved methods of mining, better mineral conservation and to find beneficiation methods for upgrading the low grade minerals of economic value.

As private investment in such a Corporation is not expected to be large, at least in the initial stages, it is proposed to make a provision of Rs. 35 lakhs under this scheme which will be applied towards purchase of shares of the Corporation by the State Government.

(12) *Spill-over expenditure on schemes carried over from the Second Plan.*—A sum of Rs. 10 lakhs has been provided to cover spill-over expenditure of 6 lakhs under the Bihar Superphosphate Factory and 4 lakhs under the High Tension Insulator Factory.

2. Development programmes of small-scale and cottage industries 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 under-employment and augmenting agricultural incomes,
- (ii) to revive and strengthen the existing crafts by encouraging the gradual progress in techniques of production in the un-organised 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 correlating them with production programme in large-scale sector where necessary, and
- (iv) to ensure great 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 short essentially to lay down a basis for decentralised society.

In order to fulfil these objectives and considering the imperative needs of the State, an outlay of Rs. 1,524.78 lakhs which is more than twice the

allocation in the Second Plan (Rs. 649 lakhs), is proposed for schemes under the Village and Small Industries Sector. This provision also includes a small spill-over expenditure of Rs. 1.83 lakhs concerning the Industrial Estate schemes taken up during the Second Plan Period. In preparing these schemes the policies and methods advocated by the All-India Boards have been kept in view in so far as these relate to the industries within their purview.

Section II.

Factory accommodation (Industrial Area, Industrial Estate, etc.)—Rs. 274.74 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 in Patna, Biharsharif, Darbhanga and Ranchi have been helpful in building up an industrial outlook 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, following schemes of industrial estates are proposed in the Plan :—

- (i) Three 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) Three 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) Fifteen 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 the Village artisans @ 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 with all facilities except factory sheds. These sheds will be put up by the parties themselves subject to certain minimum standards to be followed. A Block provision of Rs. 100 lakhs has been suggested for this scheme for the entire Five-Year Period of the Plan.

To cover areas where power is not available but ready and willing entrepreneurs can be located, a provision of Rs. 15 lakhs has been suggested for installation of diesel operated electricity generating sets, in accordance with the recommendation of the Working Group set up by the Government of India.

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.

The total outlay on schemes in this Section, therefore is put at Rs. 274.74 lakhs for the entire 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 a Corporation for Small-scale Industries, as detailed below :—

I. TECHNICAL ASSISTANCE (RS. 226.47 LAKHS).

1. *Industrial Extension Services.*—This comprises of schemes for the establishment of (i) two Branch Institutes in the North Bihar and Chota Nagpur regions subordinate to the existing Small Industries Service Institute at Patna, which cannot cater to varying needs of the whole State covering an area of 67,000 square miles, (ii) two workshops for 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 service to specific industries, close to their existing concentration 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. The schemes mentioned against (i), (ii) and (iii) are expected to be the direct responsibility of the Small Industries Organisation at the Centre. No provision of funds for these schemes, is therefore, included in the Plan.
2. *Rural Workshops.*—(Maintenance and repair facilities—Establishment of 70 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 repairs of all these equipments and implements suitable facilities will have to be developed in the rural areas. It is, therefore, proposed to set up 70 rural workshops at suitable places in the State.
3. *Pilot Production Centres.*—The object of these centres is to encourage, by actual working of the units, private entrepreneurship in the fields unexplored by Small-scale Industries. It is, therefore, expedient to set up pilot units (a) for production of articles which are considered basic and essential like shoelaces, surgical instruments, etc., for which private entrepreneurs might not be forthcoming and (b) to develop entrepreneurs might not be forthcoming in interior areas where people are not eager to come forward to set up industries, although the places might hold sufficient potentialities.

4. *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 shortfalls 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 through a well organised contingent of technical personnel under the State Directorate of Industries.
- (iii) Being gifted with natural resources Bihar has been able to attract a large number of 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 a vigilant staff constantly searching for new opportunities and seeking co-ordination with other developmental programmes like road construction, power projects, water-supply, etc.
- (iv) State Government will have invested directly, during the First and the Second Plans, a sum of nearly Rs. 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 nothing less than Rs. 30 crores, out of which Small-scale Industries including industrial estates alone will get a share of nearly Rs. 10 crores.
- (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.

In the circumstances stated above, it is essential to lay adequate 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*—

- Dy. Director of Industries (Produce and Marketing).
- Dy. Director of Industries (Leather).

- Dy. Director of Industries (Planning).
- Dy. Director of Industries (Loans).
- Dy. Director of Industries (Publicity and Exhibition).
- Dy. Director of Industries (Extension).
- Dy. Director of Industries (Training).
- Dy. Director of Industries (Powerlooms).
- Asstt. Director of Industries (Training).
- Asstt. Director of Industries (Powerlooms)—two posts (one for North Bihar and another for South Bihar).
- Asstt. Director of Industries (Handloom).
- Asstt. Director of Industries (Survey)—two posts.
- Asstt. Director of Industries (Leather)—Additional post.
- Asstt. Director of Industries (Exhi. and Publicity).
- Asstt. Director of Industries (Sericulture)—Additional post.
- Junior Field Officers (Survey)—four posts.

The cost on the above staff is estimated at Rs. 15.15 lakhs during the Plan Period.

- (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. Estimated cost on this organisation will be Rs. 10.32 lakhs.
- (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 IV staff will also have to be provided. Cost on the proposed additional staff at the district level is estimated at Rs. 29.50 lakhs.
- (d) At the Block level there will be one Industrial Extension Supervisor in every C. D. Block instead of one for two Blocks as at present. The cost on additional Supervisors is estimated at Rs. 66 lakhs.
- (e) For the three Pilot Projects (Industries) which will be continued in the Plan, a provision of Rs. 12.50 lakhs has been made for the entire Plan Period. Assistance from the Government of India is assured for these schemes according to the pattern approved.

II. Training (Rs. 230.40 lakhs).

In a developing economy, 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) those who are pursuing the trade and need supplementary training in technical and other related subject for being better suited for the job.

Training programme will, therefore, have to be organised by the State Directorate in the trades like blacksmithy, carpentry, leather work, tanning, shoe-making, tailoring, etc., which are not covered by the Craftsmen's Training Scheme of the Ministry of Labour, Government of India.

The training programmes will be executed mostly through (i) twenty-four permanent tuitional classes, which will have to be re-organised, both in their existing set up and working details, in the light of the recommendations of the Working Group set up by the Government of India.

- (iii) fifty-one Production Centres, which will serve as focal point 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 on piece-rate wages,
- (iii) fifteen Model Workshops in trades like carpentry, blacksmithy, leather goods-making including footwear, etc., in urban or semi-urban areas having electricity as well as concentration of artisans needing advanced training in these trades,
- (iv) Rural Artisans' Cluster-type Training Centres in each subdivision of the State, in the light of the recommendation of the Rajnath Committee,
- (v) twelve new Women's Industrial Schools (in addition to existing six so as to cover every district in the State) for imparting training to women in useful crafts, e.g., tailoring and cutting, cane and bamboo work, knitting and embroidery, fancy leather work, etc.,
- (vi) expansion of four existing Women's Industrial Schools and
- (vii) sanction of grants-in-aid to private institutions 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. 97 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. 120.00 lakhs).

One of the major factors that has hindered the growth and development of Small-scale Industries in the State is lack of capital and credit facilities. The Co-operative Banks or private banks have not yet started granting loans to Small-scale Industries while credit facilities available through the State Bank of India

are 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. 100.00 lakhs for loans has been made. In addition, a provision of Rs. 20 lakhs has also been made for grant of subsidy under the aforesaid Act, for development purposes.

IV. *Marketing (Rs. 25.50 lakhs).*

Notwithstanding the recognised fact that any form of assistance that the Government may sponsor to assist Small-scale Industries 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, (d) introduction of schemes of quality marking and (e) establishment of sales emporia.

V. *Organisational Assistance (Industrial Co-operatives) (Rs. 13.50 lakhs).*

Guarantee Fund (Industrial Co-operatives).—A token provision of Rs. 1.5 lakh has been proposed 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.

2. *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, for which an outlay of Rs. 12 lakhs is estimated.

This assistance may be available to a society for a maximum period of four years only, according to the following scale :—

- 1st year—Cent per cent.
- 2nd year—75 per cent.
- 3rd year—50 per cent.
- 4th 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 managerial and technical assistance can be extended to 200 industrial co-operatives of Small-scale Industries during the Third Plan. Rs. 12 lakhs has been provided for the grant of managerial assistance to 200 Industrial Co-operatives during

the Plan Period. Ultimate cost of this scheme is, however, Rs. 15 lakhs. The balance amount of Rs. 3 lakhs will be carried over to the Fourth Plan.

VI. *Other Services (Rs. 65.00 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 industrialists 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. 20 lakhs is proposed in the Plan.

VII. *Dispersal of Industrial Growth (Rs. 50.50).*

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 diffident 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 Orissa where State participation in capital formation has yielded encouraging results, it is proposed to provide a sum of Rs. 50.00 lakhs 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 33 new small industrial units in the hitherto undeveloped pockets of the State.

Government could also help private enterprises in the above case 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 total provision of Rs. 0.50 lakhs is suggested for this.

VIII. Corporation (Rs. 35.00 lakhs).

A Small Industries Corporation would be set up during the Second Plan Period. 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 and establishment of sales depots and emporia at suitable places both inside and outside the State,
- (iv) supply of machinery to small producers on hire purchase system,
- (v) construction of industrial estates, workshop sheds and development of industrial areas,
- (vi) management of State-owned commercial schemes, etc.

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 fabrics, silk, woollen and handicrafts, etc., will be re-organised and expanded so as to function as a subsidiary of the Bihar Small Industries Corporation. Rs. 10 lakhs will be spent over this scheme.

Thus a total allocation of Rs. 35 lakhs has been suggested under this scheme.

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. 50 lakhs in the State Plan represents the contribution of the State Government towards establishment expenses of the Bihar State Khadi and Village Industries Board and 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. 110.20 lakhs in the total outlay under this head represents expenditure on schemes of marketing, including a provision of Rs. 75 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) establishment of six new Pattern Making Factories,
- (ii) two new Finishing-cum-Sizing Plant, besides expansion of the existing unit,
- (iii) expansion of the Co-operative Spinning Mill at Mokameh and establishment of a new Spinning Mill in the Co-operative sector,
- (iv) a fancy yarn-making plant, and
- (v) housing colony for weavers;

those for Silk Weaving include a Designs 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.

For the plan period, the estimated cost for the schemes under this section comes to Rs. 244.84 lakhs.

Section VI.

Powerloom.

Bihar with its population of roughly four crores is one of the largest consuming centres of textiles. With *per capita* consumption of 15 yards, its annual requirement of cloth works out to 60 crore yards. But so far there are only three textile mills in Bihar. Two units out of these at Phulwarisharif and Buxar are very small while the largest of the three at Gaya with 18,500 spindles and 588 looms is practically closed since the last several years. There is no prospect of this unit going into production in the near future, nor there is a prospect of any other textile mill coming up.

The organised mill industry in the State, even when it works to its rated capacity, can barely produce another two crore yards of cloth, which works out to 3 per cent of the total requirement. Production in the handloom sector also, in spite of the various developmental measures taken during the First and the Second Plan has not risen beyond 6 crore yards, thus meeting hardly 10 per cent of the internal requirement. Even with additional measures of development proposed in the Third Plan, total production of cloth in this sector at the end of the Plan Period is not likely to meet more than 15 per cent of the internal consumption. Thus, the existing local textile industry, both in the organised and cottage sectors can meet only 18 per cent of the internal demand at the most, and the remaining 82 per cent of the demand will in any case have to be met through import of cloth from external markets. On these considerations, the textile industry, if properly organised, can generate considerable additional employment during the Plan Period.

The experiment of replacing handloom by powerlooms, providing for mechanised preparatory plant for group of powerlooms, undertaken during

the Second Plan Period has already made its impact and its results in some of the centres have been most encouraging, so much so that in good many weaving centres and particularly at Manpur in Gaya district, the weavers are even prepared to purchase the powerlooms at their own cost. Therefore, it is proposed to introduce 1,500 additional powerlooms in such of the areas of the State where there is persistent demand for it from the side of weavers and thereby meet a portion of the internal requirement of cloth, during the Plan Period. There will still remain a big gap to be met by import of cloth from outside.

It is thus clear that the proposed number of powerlooms can be introduced without any harm whatsoever to the existing Handloom Industry. Furthermore, installation of these powerlooms will provide direct employment to at least 1,500 persons, in addition to hundreds of other people who will be employed in subsidiary occupations like bleaching, dyeing and purchase and sale activities. It will also open up avenues for a number of new manufacturing industries in the State like—

- (i) manufacture of wire healds, reads, etc.,
- (ii) manufacture of shuttles, bobbins, pirns, etc.,
- (iii) manufacture of starch and other sizing materials,
- (iv) manufacture of pickers, buffers, check-straps, etc.,
- (v) manufacture of looms and loom parts.

Additional demand which will be generated by these powerlooms for dyeing, sizing, calendering and finishing facilities as well as of yarn has been taken into consideration in the proposals for the development of Handloom Industry and those relating to the expansion of the co-operative spinning mill to be set up in the Second Plan and a new spinning mill to be set up during the Third Plan Period in the co-operative sector. For the Plan Period, the estimated cost for the powerloom scheme is Rs. 69.50 lakhs. This covers introduction of 1,500 powerlooms @ 300 per year, the entire cost of which will be debited to the above provision. Where the weavers want to instal powerlooms themselves loan will be provided to them out of the above provision for meeting the cost of the powerloom. The provision made does not, however, include working capital requirements which will be available as loan from the Reserve Bank of India, outside the Plan.

Section VII.

Sericulture.

Tassar is the main variety of silk produced in Bihar and a large number of Adivasis of Chota Nagpur and Santhal Parganas depend on the rearing of *tassar* worms and sale of cocoons for their livelihood. Schemes proposed for further development of this industry comprise of the following :—

- (i) Establishment of 8 new *Tassar* Seed Supply Stations and 20 new Sub-Stations.
- (ii) Assistance to about 84 *Tassar* Rearers' Co-operative Societies.
- (iii) Expansion of the *Tassar* Research Station at Chaibasa.

- (iv) Marketing organisation for the purchase of *tassar* cocoons to prevent exploitation of the *tassar* growers by middlemen.
- (v) Establishment of 12 new Training-cum-Production Centres in *tassar* rearing and spinning.
- (vi) 7 centres for improvement in *tassar* rearing.

The establishment of a Spun Silk Mill (Section I) which will maintain a high and low level of demand for *tassar* cocoons, will by itself go a long way to establish this industry and ensure a fair return to the *tassar* rearers.

Besides being the largest producer of *tassar* 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 3 new Eri Seed Supply Stations.
- (ii) Establishment of 20 Eri Demonstration Centres.
- (iii) Setting up of 2 marketing organisations 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.

The new proposals are estimated to cost Rs. 64 lakhs.

For schemes carried over from the Second Plan a small provision of Rs. 1.50 lakhs has been made to cover the spill-over expenditure.

Section VIII.

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 siki and jute mats, zari, lace, lac-painted wooden goods, toys and stoneware. The measures proposed for the development of these handicrafts for sale of domestic markets and for export include—

- (i) provision of advanced training to practising craftsmen, comprising of both 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 Industrial Designs, located at Patna, and
- (iv) raw materials 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, airports 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 handicraft workers are mostly illiterate and disorganised, so in order to encourage formation of their co-operatives, managerial and technical assistance, on a sliding scale, for a 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 skills 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 handicrafts goods produced in the area always ready for inspection by foreign or outside buyers as a prelude to purchase orders.

The expenditure on handicrafts will be Rs. 52 lakhs in the Plan Period.

TRANSPORT AND COMMUNICATION.

ROADS.

1.1. 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 Highway; 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.

1.2. 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 surfaced 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)	8,200	210	122.00
(on the basis of Plan).			
P. W. D.	6,900		
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.

1.3. 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 and 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. 21.15 crores. The proposed outlay of Rs. 21.15 crores will enable taking over of 2,765 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.

2.1. *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 from 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. 8.20 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 highway and major district roads entirely and also 250 miles of "Other District Roads". The L. S.-G. Department will administer the construction of 190 miles of the "Other District Roads" and the entire length of the classified village roads, through the various district boards. Other schemes in charge of the P. W. D. and L. S.-G. have been detailed in Annexures I to VII. 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.

2.2. 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. 2.95 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. 3.25 crores would be taken over. Under these schemes, the P. W. D. will be entrusted with works costing Rs. 3.00 crores,

although the expenditure will be limited to Rs. 2.75 crores, and the L. S.-G. will be entrusted with the works costing Rs. 0.25 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.

2.3. *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 has 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.

2.4. *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 32 rollers per year for P. W. D. during the Third Five-Year Plan besides other appliances. A sum of Rs. 1.50 crores has, therefore, been provided for purchase of tools and plants, which, however, is very inadequate for the requirements.

2.5. *Construction of Inspection Bungalows and residences for the officers engaged in the development works* are 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.

3. *Personnel.*—In the year 1966, P. W. D. will have in its fold, 9,000 miles of roads, on which a sum of Rs. 2.70 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.

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.

2. 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.

3. 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 fag-end of the year and the bills could be paid only during 1960-61.

4. The accounts of the Rajya Transport Department as on the 30th April 1959, have not yet been audited by the Accountant-General, Bihar, and moreover, 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 not yet submitted its report. However, on the basis of departmental figures, the Capital Outlay of the State Government on the 30th April 1959, is estimated to be approximately Rs. 214 lakhs. As mentioned already a token contribution of Rs. 5 lakhs was made by the State Government during 1959-60 and moreover, on the basis of decisions arrived at, after discussions with the Planning Commission, the State Government have also further provided for a contribution of Rs. 17 lakhs during the current financial year. Thus at the end of the Second Five-Year Plan Period, the total Capital contribution of the State Government would approximately be Rs. 236 lakhs. As against this amount, the Ministry of Railways have already contributed Rs. 30 lakhs during 1959-60 and provision for a further contribution by them to the tune of Rs. 49 lakhs has been made in the Budget of the Corporation for the current financial year. At the end of the Second Five-Year Plan, therefore, the total capital contribution of the Ministry of Railways is expected to be Rs. 79 lakhs. Thus the total capital of the Corporation would be Rs. 315 lakhs on the 31st March 1961.

5. 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.

6. 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 schedule vehicles.
			(Rs. 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	Dhanbad, Santhal Parganas, Shahabad, Ranchi, Hazaribagh, Palamau and Singhbhum.	188	88.36
1964-65	Dhanbad, Santhal Parganas, Bhagalpur, Palamau, Muzaffarpur and Darbhanga.	52	24.44
1965-66	Muzaffarpur and Darbhanga	15	7.05
	Total for 1961—66	478	224.66

7. 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.

8. 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 :—

				(Rs. 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

9. 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 Phulwari-sharif, 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 :—

				(Rs. 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.

10. 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 :—

Year.	Tools, Plants and Machinery.	Furniture.	Miscellaneous.
1	2	3	4
	(Rs. in lakhs.)	(Rs. in lakhs.)	(Rs. in lakhs.)
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	1.05
Total	18.50	3.25	7.85

11. 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

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 was 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.

12. 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	10,066	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

13. 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 earning 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 :—

				(Rs. in lakhs.)
1961-62	...	...		5.68
1962-63	...	...		6.66
1963-64	...	...		8.01
1964-65	...	...		9.08
1965-66	...	...		9.32
			Total	38.75

14. 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 :—

			Rs.
(i) State Government	...	...	200.00 lakhs.
(ii) Central Government (Ministry of Railways).			66.67 lakhs.
Total			266.67 lakhs.

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.

15. 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.

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 have decided to subsidise the Tourist Centre at Rajgir besides the continuance of the abovenoted centres. During the current financial year, i.e., 1960-61, it is proposed to open a Tourist Centre at Patna to cater to the needs of foreign tourists as well as home tourists.

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, have however, included in Part II schemes, the implementation of four schemes, viz., (a) Tourist Reception Centre at Patna, (b) Tourist Shala at Rajgir, (c) L. I. G. Rest House at Barauni and (d) Tourist Shala at Vaishali, at an estimated cost of Rs. 7.00 lakhs to be shared equally by the Government of India and the State Government. In this connection, it may be mentioned that the Government of India have included a plan costing Rs. 4.00 lakhs only for Tourist Reception Centre at Patna but considering the unique importance of the capital city, the State Government propose to invest Rs. 8 lakhs including Government of India share for the above centre. The details 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 for going to Rajgir, Nalanda, Gaya and Kathmandu and as such 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 place of 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.

L. I. G. Rest House at Barauni.—Setting up of the Oil Refinery and Thermal Power Plant at Barauni and the construction of

Rajendra Bridge over the Ganges have considerably increased the tourist traffic at Barauni. Since no accommodation facility is available at this place, a L. I. G. Rest House is proposed to be built there.

Tourist Shala at Vaishali.—Vaishali is the seat of ancient Lichchavis and also birth place of Lord Mahabir, the 24th Tirthankar of the Jains. Recently tourist traffic has increased and hence a Tourist Shala to provide accommodation is felt necessary.

As regards Part III schemes the State Government have to meet the entire expenditure over the execution of these schemes, the details of which are given below :—

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. 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 Upper Class Rest House at Ranchi.—Ranchi, besides, being the summer capital of the State has not scenic beauty and there are several perennial springs to attract the tourists from the State as well as foreign tourists. The establishment of Hatia Project, has increased the importance of the place and hence there is need for construction of an Upper Class Rest House.

Construction of Upper Class Rest House in Hazaribagh Game Sanctuary.—To facilitate the tourists interested in Wild Life, Hazaribagh Game Sanctuary is probably the best site and the tourists have a keen interest in such game. It is, therefore, felt that some sort of accommodation facilities should be made available.

L. I. G. Rest House at Jamshedpur.—Due to industrialisation Jamshedpur, has become important town and attracts the tourists from all over the country. It also attracts foreign tourists. As such necessity of a rest house is felt there.

L. I. G. Rest House at Dhanbad.—Dhanbad has also become important for its rich coalmines and the neighbouring Fertilizer Factory at Sindri. As such L. I. G. Rest House appears to be necessary there for the development of tourist traffic.

L. I. G. 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. It is proposed to construct a Rest shed at the place.

Construction of Rest Shed at Maner.—Of the several places of archaeological interest to be found at Maner (18 miles from Patna) are the Bari Dargah and the Chhoti Dargah. The former is the most sacred of all the local shrines, containing the

tomb of great Sufi Saint, Hazrat Yahya Maneri. It attracts a large number of Muslim visitors.

Construction of Rest Shed at Bhainsalotan.—Bhainsalotan, in the north-west of the State on the border is the head works of the existing Tribeni Canal in Champaran district. It is on the bank of the Gandak and amidst thick jungle and has got natural beauties. Besides, it is becoming more important for being the site for Gandak Barrage. It attracts a large number of tourists every year and hence some kind of accommodation is needed.

Construction of L. I. G. Rest House 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 Rest House is keenly felt.

Construction of Rest Shed at Basukinath and Sultanganj.—Basukinath on Deoghar-Dumka Road is famous for Shiva temple and home tourists visit the place in large number. There being no accommodation facility, it is proposed to construct a rest shed.

People, desirous of visiting Mandar Hills and its neighbouring hillocks, require some sort of accommodation, which will be provided at Sultanganj.

Tourist Shala at Pawapuri.—Pawapuri is a place of Jain pilgrimage and attracts the Jains from all over the country. To provide them shelter, it is proposed to construct a Tourist Shala there.

Construction of cottages at Hundru, Gautamdihara, Kakolat Falls, Sitakund, Bhimbundh and Surajkund.—These places are important for their natural beauty and location in the hillocks. There are springs and water falls to attract the tourists and as such some cottages need to be provided for the visitors.

Development of Kharagpur Lake in Monghyr District.—This lake is famous for its scenic beauty and boating. Tourists often visit this lake. This needs development to increase the tourist traffic and hence provision of fund is needed.

Tourist Publicity.—For wide publicity of the places of tourist interest, it is necessary to publish some tourist booklets, folders, hand-outs and posters, etc., for circulation among the tourists.

Tourist Bureau at Vaishali, Nectarhat, Dhanbad, Jamshedpur.—To promote tourism in the State and to provide facilities to the tourists it is proposed to set up Tourist Bureaus at the above places which are of considerable tourist interest.

It is also proposed to open two Information Centres at important Railway Stations for equipping the tourists, with information. The places of such Centres will be selected later.

The proposals for this sector which include only the State share of Part II Schemes amount to Rs. 25.00 lakhs.

EDUCATION.

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 over one-tenth 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 :—

[Rs. in Crores.]

Year.	Total expenditure.	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)	146.61	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. 246.60 lakhs in 1951-52 went up to Rs. 575.06 lakhs in 1955-56. As against the revised Plan outlay of Rs. 483.96 lakhs for the development of general education, a sum of Rs. 646.27 lakhs was spent. Besides these, a sum of Rs. 208.31 lakhs was spent on Centrally sponsored schemes.

4. During the Second Plan Period an outlay of Rs. 2050.40 lakhs was visualized for the development of General Education, against which a sum

of Rs. 1 697 lakhs only is likely to be utilised. In addition, a sum of Rs. 325 lakhs would also have been spent on Centrally sponsored schemes. It will thus be seen that the capacity of the State for development expenditure in the field of education could be generated to the extent of the original size of the State Plan only. 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 :—

(In lakhs of rupees.)

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.	1038.34	77.48	124.22	148.11	266.32	359.36	975.49
2. Secondary Education.	495.09	44.42	39.02	66.32	75.75	108.40	333.91
3. University Education.	176.67	46.05	30.19	17.82	57.39	64.14	215.59
4. Other Schemes ..	319.82	12.51	19.76	34.82	33.81	55.51	156.41
Total—Education ..	2029.92	180.46	213.19	267.07	433.27	587.41	1681.40
5. Technical Education	20.48	..	..	2.23	6.73	6.59	15.55
Total—State Plan ..	2050.40	180.46	213.19	269.30	440.00	594.00	1696.95
6. Centrally sponsored scheme (Central share).	..	..	3.72	7.36	68.25	246.19	325.52
Total ..	2050.40	180.46	216.91	276.66	508.25	840.19	2022.47

5. The outlay now proposed for the Third Five-Year Plan is as follows :—

(Rs. 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.	207.91	311.25	413.17	511.07	606.60	2050.00
(ii) Secondary Education.	115.12	140.06	161.00	181.94	201.88	800.00
(iii) University and Research.	106.73	118.70	129.92	143.41	151.24	650.00
(iv) Social Education ..	9.37	11.28	13.09	15.03	16.23	65.00
(v) Youth Welfare Activities.	13.84	17.93	20.06	27.94	33.93	113.70
(vi) Miscellaneous Schemes.	7.15	8.67	8.60	9.19	9.69	43.30
Total—General Education.	460.12	607.89	745.84	888.58	1019.57	3722.00
(vii) Scientific and Cultural Education.	7.16	6.77	4.70	4.69	4.68	28.00
Grand Total ..	467.28	614.66	750.54	893.27	1024.25	3750.00

ELEMENTARY AND BASIC EDUCATION.

Enrolment in age-group 6—11.

6. The population of Bihar (after re-organisation of States), which was 388 lakhs in 1951, is likely to rise to 460 lakhs in 1961 and 496 lakhs in 1966. The estimated number of children in the age-group 6—11 in this State has been reckoned about 57.5 lakhs in 1961 and 64 lakhs in 1966 as against the corresponding all India figures of 550 lakhs and 630 lakhs respectively.

7. 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>(i) Number of Primary Schools—</i>						
Boys	18,296	21,574	26,818	34,000		
Girls	1,964	2,125	2,731	4,000		
Total	20,260	23,699	29,549	38,000		
<i>(ii) Total enrolment in Primary Classes—</i>						
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.			
	India.	Bihar.	India.	Bihar.	India.	Bihar.
<i>(iii) Percentage of children of age group 6—11 in schools—</i>						
Boys	59	47.7	69	58.9	82	83.5
Girls	25	8.1	33	12.5	38	27.9
Total	42	27.9	51	35.7	60	55.7

8. 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 by the time the Second Five-Year Plan closes.

9. 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	7
Boys	15,36,100	15,74,407	16,09,305	19,96,072	22,57,001	24,00,000	
Girls	3,24,660	3,53,348	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 figure 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.

In the above background and with one enrolment season still in hand, the proposed target of 32 lakh children in Primary classes by 1960-61 is considered reasonable.

10. 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 is, therefore, being set. It is expected that by the end of the Second Five-Year Plan Period, about 38,000 schools will 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.

11. While fixing the target of enrolment at the end of the Third Five-Year Plan, we have to take into consideration the following two important factors :—

- (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 *Pardah* 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 93.8 per cent for boys and 62.5 per cent for girls, appears quite reasonable and feasible. But considering the financial limitations the more realistic target would be 48 lakhs (30 lakhs boys and 18 lakhs girls). 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 75 per cent children, i.e., 93.8 per cent of the boys and 56.2 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 19.3 per cent against the all India target of 20 per cent set out in the draft outline of the Planning Commission.

12. 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 @ 8,000 teacher units per year, will be Rs. 1100.00 lakhs, comprising Rs. 1000.00 lakhs recurring on account of salary, allowances and contingencies at an average rate of Rs. 1,000, per teacher per year, and Rs. 100 lakhs for teaching equipments.

13. 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	6,621	11,338	19,218	60,000
Total	1,45,989	2,23,107	2,91,099	5,50,000
		1950-51.	1955-56.	1960-61.	
		India.	Bihar.	India.	Bihar.
(ii) Percentage of children of age-group 11—14—					
Boys	22	14.7	30	17.1
Girls	5	0.9	8	1.2
Total	13.9	7.8	19	9.15
				22.6	15.45

The estimated number of children of this age-group which was 31.8 lakhs in 1955-56 is likely to rise to 34.5 lakhs in 1960-61 and 37 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 is considered reasonable. This will mean education to about 25 per cent of children of age-group 11—14 (comprising 40 per cent boys and 10 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. It is assumed that about 50 per cent of the new schools will be opened and maintained by private management. 4,000 teacher units only has, therefore, been made for which an outlay of Rs. 110.00 lakhs, comprising Rs. 100.00 lakhs for salary, allowance, and contingencies and Rs. 10.00 lakhs for teaching equipments will be required.

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 is

proposed 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 wiped out. The disparity will, however, continue in the rate of dearness allowance. The following scales of pay have been proposed :—

Qualification.	Present scale of pay.		Proposed scale of pay.	
	Rs.		Rs.	
1. Trained graduate	100-5-125-E.B.-4-145 -E.B.-3-175.	100-5-130-E.B.-6-110.		
2. Achariya and Fazil	70-3-85-E.B.-4-105-2 -115.	75-4-95-E.B.-5-120- E.B.-3-150.		
3. (a) Untrained graduate	70-3-85-E.B.-4-105-2 -115.	70-3-85-E.B.-4-105- -2-125.		
(b) Intermediate trained				
4. (a) Untrained Intermediate	50-2-70-E.B.-2-90	50-2-70-E.B.-2-90.		
(b) Higher Secondary/ Matric trained.				
(c) Shastri and Alim				
(d) V. M. C. T. and V. M.				
5. (a) Untrained Matric/ Higher Secondary passed.	40-2-50-E.B.-1-60	45-2-55-E.B.-2-75.		
(b) Madhyama and Maulvi				
6. Non-Matric trained	40-2-50-E.B.-1-61- E.B.-2-75.	45-2-55-E.B.-2-75.		
7. (a) Untrained Non-Matric- ulate.	30-1(bi)-40	40-1-50-E.B.-1-60.		
(b) Trained Upper Primary				

A sum of Rs. 160.00 lakhs will be required 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 class room each. The remaining 15,500 Primary Schools together with the proposed 7,000 Primary Schools will require at least 22,500 class rooms to begin with. About 4,800 class rooms 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 class rooms out of the total requirement of 27,300 class rooms with the State assistance of Rs. 156.00 lakhs during the Plan Period, Public contribution, in kind of cash, to the extent of Rs. 84.00 lakhs is envisaged in this programme.

17. It is expected that the local community will undertake minor repairs to the buildings of Primary and Middle Schools costing less than Rs. 200 in

each case. The renovation and major repairs of the school buildings costing more than Rs. 200 will be done by the local community with the assistance of the State Government. A sum of Rs. 60 lakhs for renovation of 3,000 Primary and Middle Schools and major repairs to as many schools as possible has been provided.

18. There are 519 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 119 schools will be covered during the Third Five-Year Plan Period. Most of these schools are ill-equipped and have no adequate accommodation. A sum of Rs. 25 lakhs has been provided for their improvement.

Special schemes for Girls' Education.

19. 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 women teachers, it has been possible to construct nearly 1,000 rent free quarters at the rate of Rs. 2,500 per quarter 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.

20. 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, it is proposed to provide 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.

21. 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 School 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. It is expected that but for nearly 10 schools, all will have been expanded in accordance with the Plan by the end of the Second Five-Year Plan.

22. On the advice of Government of India, 21 Training Schools with capacity of 200 seats in each, have been opened in 1959-60 and it is proposed to open 17 more such schools during 1960-61. Thus by the end of the Second Five-Year Plan there will be 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 under-graduate level:—

Particulars.	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates).	1965-66 (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 women teachers ..	3,464	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

23. 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 ..	80.00	7.80	13.30	16.25	19.65	23.00
2. Training of teachers ..	231.88	42.34	43.84	48.84	49.34	47.52
3. Universal, free and compulsory education for the age-group 6—11.	1115.00	63.00	143.00	223.00	303.00	383.00
4. Expansion and Improvement of Elementary Education.	520.48	75.16	90.24	104.36	118.36	132.36
5. Special Schemes for girls' education.	102.64	19.61	20.87	20.72	20.72	20.72
Total ..	2050.00	207.91	311.25	413.17	511.07	606.60

SECONDARY EDUCATION.

24. The principal objectives of secondary education are to ensure training of young men and women in citizenship and to prepare them for useful vocations 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.

25. 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.

26. 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	1,400	1,700	
Girls	35	45	80	100	150	
Total	643	963	1,428*	1,500	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.	1955-56.	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	5.9	12.0	9.0	15	13.5
Boys	15.4	11.1	..	16.8	..	23.8
Girls	3.00	0.5	..	1.2	..	3.2

(d) *Output of Matriculates.*

		1946-47 (Actuals).	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates).	1965-66 (Forecast).
	1	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., 13.5 per cent comprising 23.8 per cent of boys and 3.2 per cent of girls of the estimated population, viz., 37 lakhs of this age-group, for secondary education may reasonably be assumed desirable as well as feasible by the end of 1965-66. This target will still be 1.5 per cent behind the all-India target of 15 per cent by the end of the Plan Period.

27. There were 1,428 recognised High Schools (including 203 partially recognised) and 328 proposed high schools, in the State in 1959-60. 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. It is, however, assumed that the number of recognised High Schools including partially recognised ones by the end of the Second Five-Year Plan will be near about 1,500. Twenty-seven 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 will have been converted into Multi-purpose Schools by the end of the Second Five-Year Plan. Besides these, 74 Non-Government High Schools have also been converted into Higher Secondary Schools by 1959-60. It is expected that the number of Multi-purpose and Higher Secondary Schools by 1960-61 will be 200, all of whom will have provision for science teaching.

28. 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 least 50 per cent of the existing Secondary Schools into higher secondary pattern, (c) to improve science teaching in High and Higher Secondary Schools.

29. 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 has also been stressed that roughly about 10 to 15 per cent Higher Secondary Schools should be of multi-purpose type. Keeping in view this target, it is proposed to upgrade 600 High Schools to higher secondary standard, and to develop 40 (including 14 schools which had received science teaching grants @ Rs. 50,000 each during the First Plan Period) out of 122 already upgraded Higher Secondary Schools into Multi-purpose Schools during the Third Five-Year Plan. 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).

30. 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 is, therefore, 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.

31. 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 have been given. These schools are, however, not likely to be self-supporting for a long time to come. It is, therefore, 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 is also 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.

32. 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 all categories of teachers of Non-Government Secondary Schools at par with the scales of teachers of Government schools, it is considered desirable to improve their pay scales so that the present disparity is gradually diminished if not altogether removed.

Accordingly the following proposals have been made :—

Description.	Existing scale of pay.		Proposed scale of pay.	
	Rs.		Rs.	
(i) Principal of a Multi purpose or a Higher Secondary School.	200—10—300—E.B.—10—450	..	200—12—260—E. B.—15—350—E.B.—15—500.	
(ii) Headmaster of a High School having more than 200 pupils.	200—10—300 ..	..	200—12—260—E. B.—15—350.	
(iii) Headmaster of a High School having up to 200 pupils.	175—10—275 ..	..	175—10—235—E.B.—12—325.	
(iv) Assistant teacher (M. A. and B. A. Hons., etc.) in Multi-purpose and Higher Secondary School (number of posts fixed).	(a) 150—10—250	..	150—10—240—E.B.—12—300.	
	(b) 125—5—200	..	125—8—205—E.B.—9—250.	
(v) Trained graduate/M.A. and Hons., etc., in Higher Secondary and Multi-purpose Schools,	100—5—125—E.B.—4—145 —E.B.—3—175.		100—5—130—E.B.—6—190.	
(vi) Acharya and Fazil ..	70—3—85—E.B.—4—105—2 115.		75—4—95—E.B.—5—120— E.B.—3—150.	
(vii) Untrained graduate/ trained intermediate.	70—3—85—E.B.—4—105—2 —115.		70—3—85—E.B.—4—105—2 —125.	
(viii) (a) Untrained Intermediate.				
(b) Trained Matric and trained Higher Secondary.	50—2—70—E.B.—2—90 ..		50—2—70—E.B.—2—90.	
(c) Shastri and Alim ..				
(d) V. M. C. T. and V. M.				
(ix) (a) Higher Secondary/ Untrained Matriculate.				
	40—2—50—E.B.—1—60 ..		45—2—55—E.B.—2—75.	
(b) Madhyama and Maulvi.				
(x) Trained non-Matric ..	40—2—50—E. B.—1—61—2 —75.		45—2—55—E. B.—2—75.	
(xi) Clerks ..	.. 45—2—55—E.B.—2—75 ..		50—2—70—E.B.—2—90.	

Recently an increase of Rs. 5 per month in the dearness allowance of employees of local bodies drawing basic pay up to Rs. 250 per month has been sanctioned by the State Government. Teachers of Primary and Middle Schools have got this benefit but those serving in High Schools have not. It is, therefore, proposed to allow this benefit to the teachers of Non-Government Secondary Schools also with effect from 1st April, 1961.

Besides, funds will also be required for giving provident fund contribution to the teachers of Non-Government Secondary Schools. A sum of Rs. 65 lakhs has accordingly been provided for providing all these amenities.

Vocational Guidance.

33. 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. It is estimated that by the end of the Second Five-Year Plan 54 Government Secondary Schools will have got one School Counsellor each and 156 Non-Government High Schools one Teacher-Counsellor each. During the Third Five-Year Plan the proposed six Government Schools and 75 Non-Government Higher Secondary/Multi-purpose Schools having more than 500 pupils on rolls will be provided with whole-time School Counsellors and 250 Non-Government Higher Secondary Schools with part-time Teacher Counsellors.

Teachers' Training.

34. One of the main problems in the re-organisation 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 is proposed to improve the qualifications of 500 such teachers during the Plan Period.

Special Measures for Girl Students and Teachers.

35. At the secondary stage also, as in the elementary, there is considerable disparity between boys and girls, the proportion being 16.8 and 1.2 per cent of the population in the relative age-group. 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 65 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.

36. 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 is proposed to start one more training college for

women towards the middle of the Third Five-Year Plan at Ranchi where the number of women trainees is comparatively the largest, and to increase the intake capacity in the existing 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 4,000.

37. 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 teacher ..	8,108	10,994	13,500	18,000
2. Number of trained teachers ..	1,244	4,255	7,000	10,000
3. Number of women teachers ..	511	457	1,200	2,500
4. Percentage of trained teachers to total number.	15.34	38.70	51.9	55.6
<i>(b) Position of Training Facilities.</i>				
1. Number of Training Colleges ..	1	5	5	6
2. Number of seats (enrolment) ..	130	510	725	1,200
3. Out put in regular course ..	93	494	600	1,000

38. The outlay proposed under different schemes or group of schemes of secondary education is given below:—

Scheme or group of schemes.	Total outlay.	(Figures in lakhs.)				
		1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
1. Administration ..	32.45	6.25	6.38	6.62	6.55	6.65
2. Training of teachers..	51.20	9.20	10.90	9.88	10.40	10.82
3. Research and Evaluation.	2.32	0.38	0.45	0.51	0.53	0.45
4. Multi-purpose and higher secondary education.	458.80	57.23	74.08	91.63	109.03	126.83
5. Guidance programmes	18.27	2.52	3.49	4.29	3.99	3.98
6. Expansion and improvement of secondary education.	70.44	11.93	13.29	14.45	15.62	15.15
7. Improvement of salary scales and other benefits to teachers.	65.00	10.00	11.50	13.00	14.50	16.00
8. Special schemes for girls' education.	101.52	17.61	19.97	20.62	21.32	22.00
Total ..	800.00	115.12	140.03	161.00	181.94	201.88

UNIVERSITY EDUCATION.

39. 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 jurisdiction, co-terminus with the administrative divisions in the State. At the commencement of the new Universities Act, the Patna University has 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 will have 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 will have 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 will have six post-graduate departments, one constituent and 30 affiliated colleges for general education besides an affiliated college for agriculture. In short, besides 63 units of post-graduate departments, there are by now 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 will have increased from 44,218 in 1955-56 to about 89,000 in 1960-61. The number of science students would increase from 9,103 to about 21,000 at the end of the Second Five-Year Plan.

The proportion of science students will be 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 :—

Enrolment.

Description.	1946-47 (Actuals).	1950-51 (Actuals).	1955-56 (Actuals).	1960-61 (Estimates)
<i>(a) Intermediate stage—</i>				
Total	9,349	15,046	31,306	63,500
Boys	9,100	14,505	29,802	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

Description.	1946-47 Actuals).	1950-51 Actuals).	1955-56 Actuals)	1960-61 (Estimates).
(c) Post-graduate stage—				
Total	406	600	2,244	4,000
Boys	388	556	2,092	3,650
Girls	18	44	152	350
Science .. .. .	..	184	420	620

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 rearranging 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 have to 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 have to be run until the courses of studies of the professional and technological institutions are reconstructed to incorporate these 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. A few affiliated colleges will be converted into constituent and deficit-grant colleges in phased manner. In addition to the 56 existing research scholarships, 60 more research scholarships, each tenable for two years will be instituted. At the college and University levels 600 merit scholarships based on the results of Matriculation, Higher Secondary and pre-University examinations and 2,486 merit-cum-poverty stipends 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 have been reserved for girl students. Other major programmes of developments include (i) construction of hostels for 4,850 students, (ii) construction of 76 quarters for teaching staff and 78 quarters for non-teaching staff, (iii) introduction of teaching of Home Science in Ranchi University and library science in the Patna University, (iv) improvement of college premises, purchase of buses for women' colleges, replacement of apparatus, equipments, furniture, (v) replenishing of college libraries.

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 decided to establish 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 re-organised 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 re-organised 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 re-organised 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 Devnagri 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 Devnagri 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 Ahinsa. 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.

49. An outlay of Rs. 650.00 lakhs has been proposed for University education and research schemes for the Third Five-Year Plan as against an

estimated expenditure of Rs. 215 lakhs during the Second Five-Year Plan. This provision is considered to be the barest minimum which is required for the implementation of the programmes detailed in the foregoing paragraphs during the Plan Period. In addition, an outlay of Rs. 247 lakhs as contribution from University Grants Commission and Government of India has also been visualised in these proposals. The phasing of outlay proposed is given below :—

Description.	Total outlay.	1961-62. 1962-63. 1963-64. 1964-65. 1965-66.					
		1	2	3	4	5	6	7
(i) Research Institutes ..	49.67	7.70	8.56	12.77	11.81	8.83	
(ii) Patna University ..	133.00	20.95	23.25	25.60	29.94	33.26	
(iii) University of Bihar, Muzaffarpur	135.00	24.25	25.15	25.50	28.35	31.75	
(iv) Ranchi University ..	110.00	18.50	20.25	22.00	23.75	25.50	
(v) Bhagalpur University ..	150.00	25.05	28.25	30.00	32.75	33.95	
(vi) Sanskrit University, Darbhanga	20.50	2.40	2.80	3.20	5.60	6.50	
(vii) Rural Institute ..	7.00	1.05	1.23	1.40	1.58	1.74	
(viii) Assistance to Tutorial Colleges for Women.	2.00	0.40	0.40	0.40	0.40	0.40	
(ix) Scholarships and Stipends ..	42.83	6.43	8.81	9.05	9.23	9.	
Total ..	650.00	106.73	118.70	129.92	143.41	151.24	

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 un-employed), 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 will 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. The three remaining social workers' training institutes will be upgraded into Janta Colleges. 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. Besides enriching the State and District Libraries and completing the scheme of opening of Subdivisional Libraries, 200 Block Libraries will also be opened. 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 proposed 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	17.30	3.12	3.34	3.51	3.63	3.70
(ii) Library Service	40.85	5.31	6.81	8.26	9.76	10.71
(iii) Audio-visual Education ..	6.85	0.94	1.13	1.32	1.64	1.82
Total	65.00	9.37	11.28	13.09	15.03	16.23

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 had 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 youths 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 are proposed to be covered. Other important schemes of physical education include: development of Vyayamshalas, organisation of seminars and festivals, construction of gymnasium, swimming pools, etc., under the campus work programmes.

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 will, therefore, be 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 those 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 have been linked up with the programme of community developments in N. E. S. Blocks.

62. During the Third Five-Year Plan it is proposed to expand the youth welfare activities in a comparatively large measure. The programme includes—

- (i) Youth Leadership and Dramatic Training camps,
- (ii) Holiday camps for students of Secondary Schools,
- (iii) Youth festivals for college and school students,
- (iv) Construction of youth hostels,
- (v) Organisation of students' tours, developing interest in mountaineering and rock climbing.
- (vi) Constitution of Youth Welfare Boards and Committees,
- (vii) Organisation of Youth Clubs and Centres,
- (viii) Bal Bhawans.

N. C. C. and A. C. C.

63. 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 213 N. C. C. Infantry units will have been set up in 57 colleges and 184 schools. Out of these, 26 units will be in Senior Division and 187 units in Junior Division. Besides these, ten girls' Troops, two Air Wings, one Naval Wing and nine Technical Wings in Senior Division and 25 Girls' Troops, 12 Air Wings and 11 Naval Wings in Junior Division will have been set up in these colleges and schools. 2,310 A. C. C. units will also have been set up in about 850 high schools. N. C. C. and A. C. C. programmes would embrace nearly 18,000 school and college students. A new scheme known as "N. C. C. Rifles" has been introduced during 1959-60 and 1960-61 intended to train nearly 15,000 students.

64. During the Third Five-Year Plan, it is proposed to raise 18 Infantry Coys. for senior boys, 5 Inf. sub-troops for senior girls, 120 Coys. for Rifle training, 100 Inf. troops for junior boys, 30 Inf. troops for junior girls, 15 Navy troops and 15 Air Wing troops for junior boys and girls, 10 units of technical training for senior boys and girls and 500 sections of A. C. C. training. The total number of additional cadets brought within the purview of N. C. C. rifles alone will be about 25,000.

Scouting and Guiding.

65. 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 guide, 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

the organisation offers valuable services in comparatively less cost, it is after the institution of N. C. C. and A. C. C. training programmes. Since proposed to extend financial assistance to it to revitalise its activities.

National Service.

66. Manifestations of indiscipline particularly among the students, have been for sometime, a source of national anxiety. Government of India have, for sometime 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 fruitful 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.

67. 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.

68. 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	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.	
	outlay.						
1		2	3	4	5	6	7
(i) Physical Education and Recreation.	12.65	1.38	1.78	2.14	3.50	3.85	
(ii) Sports and Games	19.97	6.75	6.74	2.78	1.83	1.87	
(iii) Youth Welfare	5.00	1.00	1.00	1.00	1.00	1.00	
(iv) N.C.C. and A.C.C.	74.00	4.44	8.07	13.72	21.12	26.65	
(v) Sporting and Guiding	2.08	0.27	0.34	0.42	0.49	0.56	
Total— Youth Welfare Activities..	113.70	13.84	17.93	20.06	27.94	33.93	

MISCELLANEOUS SCHEMES.

Sanskrit Education.

69. 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.

70. 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.

71. 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 Vidyalayas have introduced modernised courses of studies with the assistance given by Government.

72. During the Third Five-Year Plan, it is proposed to improve the already opened 17 Government Sanskrit High Schools besides introducing modernised syllabi in 25 more non-Government Vidyalayas. 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 padagogy.

Arabic and Persian Education.

73. 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 Madrasa called "Islamia Shamshul Hoda" at Patna which provides instructions up to degree standard (Alim). This Madrasa along with other non-Government 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.

74. Under this scheme Islamia Shamshul Hoda will be improved and a non-Government Madrasa 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 three non-Government Madrasas providing teaching up to High School (Maulvi) standard, one each in seven districts. There are 119 recognised non-Government Madrasas of different standards in the State, out of which 66 are in receipt of Government grants. The remaining 53 Madrasas will be brought under the system of grants-in-aid. Provision also includes for giving training to Arabic and Persian teachers in padagogy.

Education for Handicapped.

75. 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.

Training abroad.

76. During the Second Five-Year Plan, it had been proposed to depute two officers on study leave terms and seven officers on scholarship terms

every year for higher training in foreign countries. The scheme was subsequently modified and it was decided to depute only four officers every year on study leave terms. The scheme could be finalised recently, selection of four officers has been made and they are expected to leave shortly. It is proposed to continue this scheme during the Third Five-Year Plan. Besides this, provision has also been made for deputing officers and teachers for specialised training within the country but outside the State.

Reformatory School and Pilot Centre.

77. 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 children problem, 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.

78. 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 to make them specialised craft teachers fit for teaching in Higher Secondary Schools. It is, therefore, proposed to extend the duration of the course to two years.

Other Schemes.

79. 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 Head quarters ..	6.50	0.70	1.00	1.30	1.60	1.90
(ii) Sanskrit Education ..	12.45	2.07	2.30	2.55	2.70	
(iii) Arabic and Persian ..	6.40	0.88	1.23	1.33	1.43	1.53
(iv) Handicapped Education ..	4.70	1.32	1.34	0.64	0.68	0.72
(v) Scholarships ..	5.95	0.95	1.25	1.25	1.25	1.25
(vi) Other Schemes ..	7.30	1.23	1.55	1.53	1.53	1.46
Total ..	43.30	7.15	8.67	8.60	9.19	9.69

OTHER SCHEMES.

Scientific and Cultural Education.

80. In this sector, the scheme which falls within the purview of Ministry of Scientific Research and Cultural Affairs have been dealt with. These schemes have been broadly classified into two groups. These are—

- (i) Museums and Archæology.
- (ii) Art and Culture.

Development of Archæology.

81. 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 Kumahrar in Patna and Sonitpur in Gaya district amply testify this presumption. According to the constitution of Indian Archæology is concurrent subject and it provides for the preservation of monuments which are not of national importance, by State Government. The Central Board of Archæology has been pressing for the establishment for a Department of Archæology 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 Archæology 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.

82. 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 extension. 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.

83. With the advent of Independence, there has been a great cultural awakening and revival of all forms of fine art, 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.

84. 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.

85. 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.

86. 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, it has been decided to constitute a State Board of Cultural Education which will be entrusted with the planning of the execution of these programmes.

87. 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 will be spilled over to the Third Five-Year Plan.

88. 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 Bhat Khanda School of Music at Poona. This scheme was included in the Second Plan but due to financial difficulties the scheme 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.

89. The phasing of outlay proposed for development of schemes in this sector is given below :—

Description.	Total outlay.	1961-62.	1962-63.	1963-64.	1964-65.	1965-66.
1	2	3	4	5	6	7
(i) Museums and Archaeology ..	5.70	0.71	0.78	1.09	1.65	1.47
(ii) Art and Cultural Education ..	22.30	6.45	5.99	3.61	3.04	3.21
Total—Scientific and Cultural Education.	28.00	7.16	6.77	4.70	4.69	4.68

TECHNICAL EDUCATION.

At the end of the First Plan Period, facilities existing for technical education, at degree level, was 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. *Post-Graduate Studies and Research.*—Third Plan proposals include provision for more facilities for research and post-graduate studies at the Bihar Institute of Technology, Sindri and the Muzaffarpur Institute of Technology, Muzaffarpur. Both these institutions have been consolidated during the Second Plan and are ripe for undertaking post-graduate courses. These schemes are expected to be entirely financed by the Government of India as Centrally sponsored schemes.

3. *Expansion of Technical Education at the degree level.*—At the degree level, besides expanding the existing courses, introduction of new degree courses in subjects like Petroleum, Technology, Architectural Engineering, etc., which are important from the point of view of industrialisation of the State, have also been envisaged. 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, 495 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 1,723 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 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 2,390 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, 10 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 3,985. 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 and the State Board 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 77 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. 963 lakhs.

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 was a medical college at Patna, a medical school at Darbhanga with its attached hospital, the Mental Hospital at Ranchi and

Tuberculosis Sanatorium at Itki. There were also a few Government dispensaries at different places. It was only from 1944-45 that Government decided that the district hospitals 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. 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 a number of beds in the district hospitals had less than 100 and as little as 38 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 729 of which 40 hospitals and dispensaries with a bed capacity of 4,256 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 was 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 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 40. For the Rural Health Service the training of Auxiliary Health Workers with an annual admission of 100 has also started at Patna. To provide specialists

facilities for higher studies abroad were provided and Medical Officers are 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 middle of 1960 it is 6,753 which works out to one doctor for 5,924 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. 1.40 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 is 1,012 out of which the Government hospitals and dispensaries would be 520. During the Second Plan, 169 dispensaries were provincialised by March, 1960 and 52 will be provincialised before the 31st of March 1961. The number of new dispensaries sanctioned up to March 1960 is 52 which will increase to 84 by March 1961.

(c) *Number of beds in the State.*—In 1951-52 there were 4,256 beds which rose to 5,702 in 1955-56 and will be 8,330 by the 31st March 1961, out of this the increase in the number of tuberculosis beds is 451. The expansion of beds 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 a 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 institute 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 incurable 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 construct a new Mental Hospital in another part of the State as the present available beds are inadequate. 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 short coming 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 a medical college. For post-graduate training of medical officers provision has been made to give study leave to about 50 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 its 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 practicing Ayurvedic, Unani, Homeopathy and also some scientific medicine.

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. 72.00. It is proposed to construct a Homeopathic College, the land for which has already been acquired. It is proposed to take over the 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 subdivision.

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, 1955-66 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	...	...	...	1,300
Nurses	...	...	...	200
Lady Health Visitors	...	...	...	250
Auxiliary Nurse Midwives	...	...	...	750
Dais	...	...	...	1,500
Compounders	...	...	...	200
Auxiliary Health Workers	...	...	...	450
Sanitary Inspectors	...	...	...	450
Anticipated increase in beds	...	...	...	3,930

The details of the financial provision and the physical targets proposed for the scheme are given below :—

1. *Administration of Plan*—Proposed provision Rs. 10 lakhs.—The proposal is for increase of Administration staff both at the headquarters, divisional level and district level. Out of this Rs. 4.00 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. Hospitals as well as the Patna Medical College Hospital.

3. *Integrated Nationalised Health Services.*—Proposed provision Rs. 26 lakhs.—Out of this, Rs. 20 lakhs are for provision of buildings to expand the bed strength at Saharsa, Madhepura, Supaul, Khagaria and Madhubani by a total of 150 beds and construction of wards, etc., at the rural dispensaries in these areas for recurring expenditure for the increased bed strength.

4. *Improvement and expansion of Sadar Hospital.*—Proposed provision Rs. 125 lakhs.—Out of this Rs. 78.00 lakhs are for increase of bed strength in those Sadar Hospitals where the bed strength is low. Total increase of beds 1,800. 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. 104 lakhs.—Out of which Rs. 59 lakhs are for building to provide additional accommodation for 1,200 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. 95 lakhs.—Out of this Rs. 45 lakhs are for buildings especially to provide 6-bedded wards in all dispensaries. The target is to provincialise 150 dispensaries @ 50 during the first three years.

8. *Health Centres in N. E. S.*—Proposed provision Rs. 365 lakhs.—This provision is for taking over for maintenance of 368 Primary Health Centres on reversion of Blocks from C. D. Stage I to C. D. Stage II and for meeting an additional expenditure on the C.D. Stage I Block 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. 46 lakhs.—Out of this Rs. 30 lakhs are for construction of buildings for the dispensaries and staff quarters. The balance is for opening 80 dispensaries @ 20 each year for first 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. 5 lakhs.—It is proposed to open 20 Dental Clinics 4 each year in the important Subdivisional Hospitals.

11. *Anti-T. B. Measures.*—Proposed provision Rs. 23 lakhs.—Out of this Rs. 8 lakhs are for buildings to provide additional 200 beds attached to Subdivisional Hospitals and the Koilwar T. B. Hospital.

12. *Leprosy Control.*—Proposed provision Rs. 52.00 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 8 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. 5.00 lakhs.—Out of this Rs. 3 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. 70 lakhs.—Out of this Rs. 20 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. 16 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. 15.0 lakhs.— Out of this Rs. 10 lakhs are for buildings and the balance for equipment and recurring expenditure.

16. *National Malaria Eradication Programme*—Proposed provision Rs. 277 lakhs.—This is to meet the State share for the Malaria Eradication programme but this would be a saving, if National Malaria Eradication programme is converted into a National programme entirely financed by the Health Ministry.

17. *B. C. G.*—Proposed provision Rs. 2.5 lakhs.—This is for meeting an additional expenditure for each of the District B. C. G. Team, for regular B. C. G. inoculation work in conjunction with the Tuberculosis Clinic.

18. *National Filaria Control Programme*—Proposed provision Rs. 13 lakhs. This is to meet the State share on the existing pattern. It is proposed to open 5 Units @ 1 every year.

19. *Maternity and Child Welfare*.—Proposed provision Rs. 8 lakhs.—This includes provision for training of 400 *Dais* annually with a stipend of Rs. 30 per month each in 6 months' course. The balance of the provision is for opening of 30 Maternity and Child Welfare Centres attached to Sadar or Subdivisional Hospitals or important Urban and Rural hospitals @ 10 every year. Out of this, 1.80 lakhs for construction of buildings.

20. *Family Planning*.—Proposed provision Rs. 20.88 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.

21. *Drug Control*.—Proposed provision Rs. 2.56 lakhs.—The provision is for appointment of one Drug Inspector with necessary staff for each District.

22. *Patna Medical College*.—Proposed provision Rs. 3 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. 75 lakhs.—Out of this Rs. 50 lakhs are for buildings which comprises of a block of 275 bedded 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. 9 lakhs.—This is for higher training abroad for 50 Medical Officers in a phased programme.

25. *Re-organisation of Nursing Services*—Proposed provision Rs. 25 lakhs.—Out of this Rs. 15 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 School. 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. 5.5 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. 6 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 4.00 lakhs are for constructions of buildings and staff quarters.

28. *Dental College*—Proposed provision Rs. 18.25 lakhs. Out of this 9.00 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. 10 lakhs.—The provision is for increased production of Cholera, T. A. V. Vaccine and Small-pox lymph as well as vaccine for whooping cough, Diphtheria, etc.

30. *School Health Service*—Proposed provision Rs. 35 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. 2.5 lakhs.—This is to meet the Health Education Units started during the Second Plan Period.

32. *Nationalisation of Private Ayurvedic Colleges*—Proposed provision Rs. 22 lakhs.—It is proposed to nationalise three private Ayurvedic Colleges in a phased programme and to improve them.

33. *Expansion of separate Pharmacy of Ayurvedic and Unani Medicine*—Proposed provision Rs. 3 lakhs.—This is for expansion of the unit for production of Ayurvedic and Unani Medicine attached to the college at Patna.

34. *Improvement of Government Ayurvedic College, Patna*.—Proposed provision Rs. 3.50 lakhs.—It is primarily for construction of buildings for the staff as well as for some additional improvement.

35. *Improvement of Government Tibbi College*—Proposed provision Rs. 13 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. 8.80 lakhs.—It is proposed to provide one Ayurvedic dispensary in each subdivision to be located at a place where existing medical facility is inadequate @ 10 each year during the first four years and 20 during the last year and also to construct buildings for these dispensaries.

37. *Opening of New Government Tibbi Dispensaries*—Proposed provision Rs. 8.80 lakhs.—It is proposed to open one Tibbi dispensary on a phased

basis. This would be located in these areas where the existing medical facility is poor.

38. *Establishment of a Research Unit of Ayurvedic and Unani medicines.*—Proposed provision Rs. 0.90 lakhs.—This is for expansion of the scheme of research started in the Second Plan Period.

39. *Ranchi Medical College*—Proposed provision Rs. 240 lakhs.—Out of this about Rs. 130 lakhs would be required to meet the balance of cost for construction of hospital and other buildings and the remaining is for equipment and recurring expenditure.

40. *Improvement of Indian Mental Hospital.*—Proposed provision Rs. 25 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. 45 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. 2.5 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. 3 lakhs.—It is proposed to start a Psychiatric and Child Guidance Clinic 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. 6.5 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. 3.5 lakhs.—This is to meet the expenditure for the Virus Laboratory to be started during the Second 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. *New Mental Hospital*—Proposed provision Rs. 27 lakhs.—It is proposed to acquire land and start construction of buildings during the Third Plan Period and it may start towards the end of the Third Plan.

48. *T. B. Rehabilitation Centres*—Proposed provision Rs. 2.75 lakhs.—This is for starting a scheme for training T. B. patients in crafts for the purpose of rehabilitation. They would be attached to Itki and Koilwar Tuberculosis Sanatoria and Hospital.

49. *Home for incurable mental diseases*—Proposed provision Rs. 15 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 7.00 lakhs are for construction of buildings.

50. *Medical Research*—Proposed provision Rs. 35 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 solution. It is also proposed to establish a properly equipped Research Laboratory.

51. *Establishment of a Homeopathic College at Patna*—Proposed provision Rs. 13.00 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 re-organisation or improvement of existing water works. The towns in which this scheme is under operation or is proposed to be taken up during the Second Plan are Ranchi, Giridih, Chaibassa, Darbhanga, Purnea, Dumka, Katihar, Bhagalpur, Monghyr (Ist 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 cases of Adityapur, Hatia and Monghyr (II phase) 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. 8.00 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. 127.00 lakhs. The new schemes will cost approximately Rs. 242.26 lakhs or say Rs. 243.00. With this amount it has been proposed to take up new schemes of water-supply of all towns having a population of 15,000 and above up to 25,000. These towns are as follows :—

Name of towns.	Population.	Estimated cost of the scheme. Rs.
(1) Khagaul	15,748	4.20 lakhs.
(2) Buxar	18,087	6.16 lakhs.
(3) Barahiya	20,752	8.25 lakhs.
(4) Lakhisarai	17,320	8.30 lakhs.
(5) Dumraon	16,605	6.47 lakhs.
(6) Siwan	22,625	9.02 lakhs.
(7) Samastipur	19,366	7.90 lakhs.

Name of towns.	Population.	Estimated cost of the scheme.
(8) Madhubani	22,283	8.82 lakhs.
(9) Jamalpur	44,172	19.34 lakhs.
(10) Sheikhpura	15,785	18.04 lakhs.
(11) Sahibganj	25,669	12.00 lakhs.
(12) Madhupur	17,144	9.81 lakhs.
(13) Chakradharpur	19,948	14.75 lakhs.
(14) Gopalganj	14,223	9.00 lakhs.
(15) Industrial areas near Jamshedpur.		100.00 lakhs.

2,42.26 lakhs.

2. *Rural Water-Supply*.—The Plan outlay during the Second Plan for this scheme is Rs. 50.00 lakhs. Six schemes of piped water-supply at Rajgir, Bodh Gaya, Nabinagar, Areraj, Singheshwar Asthan and Basukinath are under execution. Also, schemes relating to Latehar and Mahandar are under consideration. With the taking up of these Schemes, the Plan outlay for the current Plan will be completely exhausted by the end of the Plan Period.

Great urgency has been felt for taking up piped water-supply schemes at Pakur in Santhal Parganas district, Manbhum in Parasnath Hills in Hazaribagh district and Simdega in Ranchi district. It is proposed to take up these schemes in the Third Five-Year Plan Period, besides the schemes of Ghogha, Barbigha, Khunti, Dumra, Rajmahal, Manoharpur, Kesaria Bazar, etc.

In the neighbouring State of Uttar Pradesh, a large number of schemes of water-supply in the villages have been taken up from the tube-wells sunk by the Irrigation Department by constructing R. C. C. Tanks. The scheme, it is reported, has been working satisfactorily. Also, the cost of the scheme is very low. It is proposed to take up similar schemes in the Third Plan. A total outlay of Rs. 50.00 lakhs has, therefore, been proposed for 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 only during the Third Plan at a cost of Rs. 247.00 lakhs proposed for the purpose.

4. *Rural Drainage and sewerage.*—The ceiling fixed for this scheme during the Second Five-Year Plan is Rs. 20 lakhs. Two schemes of sewage disposal at Bodh Gaya and Rajgir are under execution. The total expenditure on these schemes during the current Plan is expected to be Rs. 6.75 lakhs. The balance is proposed to be spent on construction of surface drains in the areas of N. E. S. Blocks.

Arrangement for drainage of sullage water from the areas where piped water-supply schemes will be 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 Bazaars 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. 20.00 lakhs has been provided in the Third Plan, for all these purposes.

5. *Mechanisation of Conservancy.*—In the Second Plan there is a ceiling of Rs. 12.00 lakhs for the purchase of Conservancy equipments. A sum of Rs. 8.40 lakhs has already been spent. The rest of the Plan outlay will be spent by the end of the Second Plan. The need for mechanisation of conservancy has been greatly felt. A modest amount of Rs. 12.00 lakhs has been provided for this purpose in the Third Plan. The amount will be sanctioned to municipal bodies in the State on the condition that they make 50 per cent contribution towards the scheme.

6. *Civic Amenities in Urban areas.*—In the Second Plan, there is a scheme for provision of civic amenities in Urban areas. The Plan outlay is Rs. 30.00 lakhs, out of which a sum of Rs. 21.00 lakhs has already 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 from all quarters which, however, cannot be met at present out of the small fund at our disposal.

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. 30.00 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.

7. *Creation of municipal bodies.*—At present, the constitution of municipal bodies and Notified Area Committees is taken up in a random way. It is time now that it is planned in a way so as to establish municipal body of one kind or the other in all places having urban look and satisfying the requirements of the municipal laws, in order that sanitary arrangements are made at such places in the interest of public health. It is, therefore, proposed to cover all such places with a municipality or Notified Area Committee or a Municipal Committee during the Third Plan Period. Taking the number of such places to be 80, a sum of Rs. 4.00 lakhs has been provided in the Third Plan. Out of this amount a grant of Rs. 5,000 will be given to each newly established municipal body to meet its initial expenses. The present practice of giving interest free advance has not worked well due to several reasons, one of them being that it is seldom repaid.

8. *Conversion of Service latrines into Sanitary ones.*—In order to obviate feelings involved in carrying of night-soil in buckets on human head and also from hygienic point of view, it has been considered desirable that service latrines are converted into sanitary latrines. While necessary amendments are being made in the provisions of the relevant laws to give tax-relief to the rate-payers in respect of holdings having sanitary latrines, it has been considered desirable to advance financial assistance in form of loans to needy persons willing to convert their service latrines into sanitary ones. The loans will be sanctioned to municipal bodies which will in turn sanction the same to individuals. A sum of Rs. 5.00 lakhs has been provided for this purpose in Third Plan as an experiment.

9. *Improvement in Municipal administration.*—So far as district boards are concerned, their future set up is under consideration of a Committee appointed by Government. The final shape which district boards will ultimately take is still to be determined. It would, therefore, be premature to suggest or consider the administrative and other changes required in their present set up.

Under the Bihar Municipal Bill which will become an Act by the beginning of the Third Plan, it has been proposed that municipal bodies whose income is Rs. 75,000 or above should have Executive Officers appointed by Government for which a cadre is required to be created. Every municipality will be required to create a post of accountant to which appointment will be made by Government. There will also be a Central valuation organisation consisting of a Valuer and a number of subordinate staff for assessment of taxes on scientific basis. All these measures are expected to tone up the municipal administration in the State which is otherwise in chaotic state. A sum of Rs. 12.00 lakhs has been provided for this purpose in the Third Five-Year Plan.

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 are also 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 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 little over Rs. 12 lakhs and in the year 1959-60, it was a little over Rs. 48 lakhs. It is expected that expenditure in the year 1960-61 would be of the order of nearly 60 lakhs. Due to late execution of the programme, there is likely to be some shortfall in expenditure, which would be 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. 274 lakhs which would, at best, help us in constructing nearly 7,000 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 four years given below :—

1956-57	...	...	...	26.50 lakhs.
1957-58	...	...	...	50 lakhs.
1958-59	...	...	...	44.40 lakhs.
1959-60	...	...	...	44.65 lakhs.

(subject to verification
by audit).

The anticipated expenditure in the year 1960-61 is Rs. 45 lakhs. Applications for this long-term house-building loan are being filed by the people belonging to the Low-income Group in even-increasing number. The State Government has now started inviting applications for loans four times a year instead of twice a year, to cope with the increasing demand. Hitherto, the scheme was in operation in municipalities, notified area committees, subdivisional and district headquarters and such rural areas as are covered by C. D. Blocks. But now the scheme has been 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. With a view to providing for the pent-up demand of such areas as also with a view to catering to the needs of ever-increasing number of applicants from the block areas and urban areas, it is proposed to make a provision of Rs. 320 lakhs. This would, roughly speaking, enable construction of about 4,000 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 town, 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. 200 lakhs in the Third Five-Year Plan out of which Rs. 150 lakhs would be the contribution of the Government of India which would be given outside the State Development Plan. Therefore a provision of Rs. 50 lakhs has been made for this scheme under the State Sector.

(iv) *Village Housing Projects 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 have been provided in the State Plan.

L. S.-G. HOUSING.

1. *Improvement Trusts and Town Planning Schemes.*—The Patna Improvement Trust has already completed the development of 100 acres of

lands east of Kadankuan 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 the balance is to be sanctioned during the Third Plan Period.

The Gaya Improvement Trust has taken up development of 250 acres of land at Gaya. The Trusts at Ranchi, Bhagalpur and Muzaffarpur as also a number of Town Planning Authorities at district headquarters and industrial centres, to come into being during the Third Five-Year Plan will be taking up similar land-development schemes. All these schemes will require enormous funds to be placed at their disposal in the form of loans. In the Second Plan, there was an outlay of Rs. 55.90 lakhs for the purpose. A sum of Rs. 70.00 lakhs has been provided in the Third Plan.

2. *Establishment of Improvement Trusts.*—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 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 during the Third Five-Year Plan at a cost of Rs. 25.00 lakhs.

3. *Establishment of Town Planning Authorities and Townships.*—Due to the lack of adequate finance and personnel, it has not been possible so far to expand town planning activities sufficiently to cope with the present process of rapid industrialisation and urbanisation. As a result our towns have continued to grow in an unplanned and haphazard manner with attendant physical and social ills which would be very costly and troublesome to rectify at a later date. It has accordingly been felt necessary to establish Town Planning Authorities under section 138 of the Bihar Town Planning and Improvement Trust Act, 1951, which are in fact Improvement Trusts in miniature for district towns, important industrial towns and other towns having population of 40,000 and above. Thus the following towns will come under this scheme :—

- (1) Arrah.
- (2) Darbhanga.
- (3) Chapra.
- (4) Motihari.
- (5) Monghyr—Jamalpur.
- (6) Purnea.
- (7) Dumka.
- (8) Saharsa.
- (9) Daltonganj.
- (10) Chaibassa.
- (11) Dhanbad.
- (12) Hazaribagh.
- (13) Bokaro.
- (14) Begusarai—Barauni.
- (15) Biharshariff.

The District Officer or the Subdivisional Officer or any other officer as the case may be will be vested with the powers of the Town Planning

Authority who will be assisted by a wholetime Secretary or Executive Officer to look after the day-to-day administration of the authority.

The authority will execute the Master Plan to be prepared by the State Town Planner, and will take up housing and slum clearance scheme. They will also administer the Bihar Restriction of Uses of Land Act.

In the Second Plan, there was also a provision of Rs. 25.00 lakhs for establishment of townships at Adityapur, Mokameh, etc., but due to paucity of funds nothing could be done in this regard. The position now is that a heavy machinery and Foundry Forge Plant is being set up at Hatia and Ranchi. An oil refinery and thermal power station is being set up at Barauni. A steel factory may be set up at Bokaro. A scheme for establishment of township has already been prepared for Rajgir. There may be other places in the State where new townships may be set up as a result of industrial projects to be taken up. In fact, townships will be set up by the Government of India at places where industrial undertakings are taken up by them. But the tendency is that slums grow up around such townships in the most unhygienic way. Jugsalai in the vicinity of Jamshedpur is its glaring example. The State Government will be called upon in such places to check it. Hence, there is positive need of establishing townships just on the fringe of the townships to be set up by the Government of India. A sum of Rs. 26.00 lakhs has, therefore, been provided in the Third Plan for establishment of townships at Rajgir, Adityapur, Barauni, Hatia and Bokaro and establishment of Town Planning Authorities at the aforesaid places.

4. *Improvement of historic places and health resorts.*—Rajgir has, so far, remained the only historic place, and health resort where various improvement schemes have been undertaken. There are other places, however, not less in importance in any way which are awaiting improvement so as to make them attractive, joyful, convenient to pilgrims, tourists and other kinds of visitors. Some of such places are Bodh Gaya, Nalanda, Sasaram and Natarhat besides Rajgir.

Rajgir.—A Master Plan for Rajgir which includes development of a colony of 348 acres, has been prepared. Development of 50 acres of the land will be taken up in the first phase. Another area of 20 acres will be developed as a permanent site for camping ground for pilgrims during the *mela*. The camping ground will provide common amenities like water-supply, lighting, public latrines and urinals and definite sites for all kinds of stalls which crop up during the *mela*.

Other improvements at Rajgir that need priority are (a) development of Makhdum Kund area, (b) provision of good steps to various hills, and (c) beautification of the area all round, etc. The cost will be approximately Rs. 19.00 lakhs.

Bodh Gaya.—Another place needing special attention is Bodh Gaya. A Master Plan has been prepared for the development of the place. A scheme for comprehensive development of the area around the main temple of Lord Budha which includes (a) provision of bronze railing around the Bodhi tree, (b) provision of a compound wall around the temple square, (c) provision of a camping ground for pilgrims and (d) general beautification of the entire surroundings has been prepared. This scheme will cost Rs. 3.00 lakhs.

Nalanda.—For Nalanda too, a Master Plan has been prepared. The schemes for development includes (a) provision of a small dormitory for

tourists, (b) development of a small Botanical Garden near the excavation for the recreation of tourists, (c) general beautification and desilting of the lake in front of the Pali Institute, and (d) development of a small area of about 20 acres for allotment to various institutions and societies which may be proposed to be located at Nalanda.

This scheme will cost Rs. 5.00 lakhs.

Sasaram.—At Sasaram in the district of Shahabad, we have one of the most important monuments with a fine historical background in Shershah's Octagonal tomb in Afghan architecture standing in the centre of a square in an artificial large tank. A detailed plan for the beautification of the area has been prepared. Among the important improvements envisaged to be taken up are (a) laying out a nice park and motorable road around the tank, (b) construction of an approach road from the monument to the Grand Trunk Road, (c) provision of a 150 feet wide promenade between the Grand Trunk Road and the monument, and (d) prevention of anti-social use of land and positive development of one square mile of the area around the monument.

This will cost Rs. 3.00 lakhs.

Netarhat.—Netarhat is one of the best scenic places in Bihar with pleasant climate and surroundings, being at an elevation of 3,500 feet from the sea-level. It is aimed to develop it as a health resort. A Master Plan for its development has been prepared. The improvement schemes consist of—

- (a) development of motorable roads to various scenic spots;
- (b) construction of pavillions at several scenic spots where tourists can go for picnic;
- (c) development of a lake for recreation by constructing a dam across the narrow neck of the Gaghori River;
- (d) provision of necessary amenities near waterfalls;
- (e) construction of residential houses for renting out to needy changers;
- (f) construction of dormitory for tourists; and
- (g) provision of good transport, market and facilities for communication.

A sum of Rs. 25.00 lakhs will be required for this scheme.

Thus a total amount of Rs. 55 lakhs is required for the execution of the schemes at all the aforesaid places. But, it is not possible to find out the total financial requirement during the Third Plan. Hence, the scheme will be phased for the purpose of execution. In the Third Five-Year Plan Period, therefore, a sum of Rs. 6.00 lakhs only has been provided.

5. *Administration of B.R.U.L. Act.*—The anti-social use of land in urban and rural areas and haphazard growth of towns and other places of habitation can be checked under the provisions of the Bihar Restriction of Uses of Land Act, 1948, if enforced effectively. The provisions of this Act have been applied to several places. If any town or place is to be master-planned for its proper growth and if slums are to be avoided the provisions of this Act operate as a vanguard or forerunner. They have proved very efficacious to the extent applied. The need, however, is to apply it in all

towns and industrial centres. With the industrial growth of North Bihar and Chota Nagpur which is expected to be faster during the Third Plan, it seems necessary that the provisions of the Bihar Restriction of Uses of Land Act are applied to all towns and industrial regions and places. Government are already incurring expenditure over enforcement of the provisions of this Act in Patna and Gaya where controlling authorities are Chairmen of the respective Trusts. In some other places the District Officers or Officers subordinate to them are controlling authorities. Experience has, however, shown that the provisions of this Act can be better administered by the Improvement Trusts or Town Planning Authorities wherever they are set up. At present, however, this is in the non-plan activities of Government but as it serves as an important adjunct to all land development schemes in urban or rural areas, it has now been included in Government's Plan activities in the Third Five-Year Plan. It is proposed to apply the Act to all towns at district headquarters and industrial areas and places having a population of 30,000 and above. This will make our future plan of action to develop towns on modern lines easier. It will also reduce to a great extent the possibility of slums cropping up at these places. The number of such places are 30 and the average cost of administration of the Act will be Rs. 4,566 per town per annum. A sum of Rs. 7.00 lakhs has been provided for the purpose in the Third Five-Year Plan. Assistant Engineers, Overseers, Amins, Chairmen and clerks will be provided to the Trusts, Town Planning Authorities or controlling authorities according to the size and population of the town concerned.

6. *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 of these categories as many of the local bodies would not be in a position to employ superior technical personnel. It is, therefore, proposed to assist the Patna University to start both short-term and long-term diploma courses in town planning to cater to the needs of both superior and inferior technical personnel engaged in the job in the Government departments and local bodies.

The requirements of town planning course as finalised by the Town Planning Institute, London, are (i) historical development of planning, (ii) outline of social and economic organisation, (iii) town planning practice, (iv) Architectural design and amenities in relation to planning, (v) civil engineering in relation to planning, (vi) surveying in relation to planning, (vii) law in relation to planning, (viii) element in Applied Geology and Geography. Necessary teaching staff for the purpose will be arranged

by giving extra allowances to the existing staff of the Patna University and Government Architect and Town Planner.

For the short-term course the period of duration of the course will be six months with 200 lectures and 40 drawings. The recurring expenditure on account of payment of allowances to the teachers @ Rs. 25 per lecture will be Rs. 6,000. The period of duration of the diploma course will be two years with 480 lectures and drawings costing Rs. 12,000. Thus the total cost of the scheme for five years will be Rs. 90,000. A non-recurring expenditure of Rs. 50,000 on books and Rs. 40,000 on instruments and drawings will raise the expenditure to Rs. 1,80,000.

Some officers may also be sent for training in the subject in foreign countries at a cost of Rs. 70,000 and other Indian Institutes at a cost of Rs. 50,000. Hence, a sum of Rs. 3.00 lakhs has been provided for the purpose in the Third Five-Year Plan.

7. Construction of municipal market.—Poverty of financial resources of local bodies is now a well known fact. This matter deserves urgent and serious consideration as to what steps should be taken to augment the financial resources of local bodies. Taxation in any form is unpopular. In the circumstances, an alternative is to allow and facilitate local bodies to take up public utility undertakings on commercial basis in order to augment their existing income from levy of direct taxes. The Bihar Municipal Bill which is now on the anvil seeks to provide amongst other things certain undertakings which municipal bodies may undertake to fetch profit, some of such things are—

- (1) Construction of dwelling houses for being lent on rent;
- (2) Establishment of municipal markets;
- (3) Establishment of slaughter-houses;
- (4) Establishment of dairies and improvement of milk-supply and milk-bars;
- (5) Provision of public entertainment, e.g., cinemas, concert, theatre halls, exhibitions, etc.;
- (6) Establishment of Consumers' Co-operative Stores and Cottage Industries;
- (7) Manufacture of compost and its sale;
- (8) Encouraging of pisciculture and cultivation of vegetables.

Taking up of all these functions together will need huge funds, men and material. Hence, the municipal bodies will be required to try with some of the enterprises easier to handle but with potentiality of surer and sooner returns.

Construction of municipal markets is considerably quite popular and demand for loan by municipal bodies is already heavy for this purpose. This scheme, therefore, should get highest priority in commercial undertakings which is simplest in management. Hence Rs. 15.00 lakhs have been provided for the purpose in the Third Five-Year Plan.

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 those 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 Chota Nagpur Division and minimum wages for agricultural workers in Chota Nagpur 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. Six posts of Inspectors of Factories and two posts of

Deputy Chief Inspectors of Factories have already been created and four posts of Inspectors of Factories are expected to be created during 1960-61. 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.

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 two more Joint Labour Commissioners, one Deputy Commissioner of Labour, ten Superintendents of Labour and nine Labour Officers 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, demand 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.

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 has 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 reoriented 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 the 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. It is expected that 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-operatives and Credit Societies in order to make the benefits of the Co-operatives and Credit Societies easily available to the workers.

9. There were 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 two schemes. " Extension of Employment Service " and " Establishment of Youth Employment Service and Employment Counselling " for the Second Five-Year Plan have already been achieved and those for the remaining schemes are expected to be fully achieved by the end of the current financial year. Only seven districts have now remained to be covered under the Employment Market Information Programme in respect of private sector establishments only. These also will be covered during the current year.

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 4,964—an increase of more than 1,000 per cent. This has been sought to be 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. Seventeen Industrial Training Institutes out of the above have already been started while arrangements are being made to start two new institutions at Daltonganj and Lohardaga during the current year.

ADMINISTRATION OF VARIOUS LABOUR LAWS.

The social, economic and moral welfare of workers engaged in various employments in industrial, agricultural and other sectors, the enforcement of different provisions contained in the series of labour laws continue to be an important objective of the State Government. To achieve this a well-designed enforcement machinery has been devised and entrusted with the work. The machinery has been strengthened both in the First Five-Year Plan and the Second Five-Year Plan. There is yet scope to secure still better enforcement and implementation of various schemes which are in hand besides further inevitable growth and expansion of industries and increase in the number of workers employed in the different employments which would make the task of the machinery more difficult and complicated. Hence all the existing wings of the Labour Department would need further strengthening. It is, therefore, proposed to strengthen the following wings of the Labour Department as indicated below :—

Factory Inspectorate.—The Factory Inspectorate are responsible for the enforcement of various labour laws, a task by no means an easy one. It is a matter of deep concern that there has been steep rise in the accidents in this State. Enforcement of safety provisions and making the workers and employers realise the importance are difficult tasks, which the Inspectorate would be required to perform in the Third Five-Year Plan. The objects have not been fully realised and the efficiency has not reached the desired standard due to shortage of field and the supervisory staff.

Hence four posts of Divisional Inspectors and ten posts of Inspectors of Factories and residential accommodation during this Plan Period at a total estimated cost of Rs. 5 lakhs would be necessary.

Boiler Inspectorate.—This State has 2,100 Boilers working at present. Besides inspection of boiler the survey of inland steam vessels is also being done by the Inspectors of Boilers. Taking into consideration the standard for each Inspector and the additional work being done by them at least three more Inspectors are required to perform the present job. The power supply is not so adequate as to replace the use of the boilers. During the Third Five-Year Plan Period, it is expected that

there will be further growth and boilers of new designs may be installed in the new and old industrial centres. Besides, Fuel Economy Rules, Engineers' and Operators' Examination Rules, Pressure Vessels (Unfired Vessels) Rules, Welders' Test Rules and Registration of Miniatural Boilers' Rules are going to be implemented shortly in this State. The implementation of the abovenoted rules obviously would result in the increase of work and responsibility of the Inspectorate. Considering all these expansions and developments, it is proposed to equip the Inspectorate with more Field Officers and supervisory staff with proper buildings and equipments during the plan period at a total estimated cost of Rs. 3 lakhs.

Other Labour Laws.—The First and the Second Plan Periods have witnessed a mass consciousness amongst the workers of the industrial, agricultural and commercial establishments. The growing need in the expanding economy of the State demands that the various problems of industrial relations, growth of trade unionism on healthy line, maintenance of Code of Conduct and Code of Discipline in industry, strict enforcement of the various labour laws, be attended to with the greatest expediency. No doubt, the State Government had been making strenuous efforts in this direction from the beginning of the First Five-Year Plan Period, but much more remains to be done to achieve the desired goal. The industrial relations and other connected work have become more complicated now specially in the public sector. Maintenance of industrial peace is becoming more and more a complex problem. The burden is heavy and required to be carried by senior officers for the sake of efficiency and promptness. It is, therefore, proposed to create posts of two more Joint Commissioners of Labour in the A. D. M. scale with special pay of Rs. 150, one Deputy Commissioner of Labour, ten Superintendents of Labour and nine Labour Officers with proper accommodation, staff and equipment at a total estimated cost of Rs. 14 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 be continued 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 mill, 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 workers' 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 the 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. 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. It is also intended to conduct the survey of employment market information in the self-employed and agricultural sector during this period. The total cost at the end of the plan period is estimated to be Rs. 10 lakhs.

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 starvation 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 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 womenfolk 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 its right perspective. The problems, mainly are about (a) children working in the factories and to facing industrial hazards, (b) children living in homes where both 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 dependents 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 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 hill stations 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. 5 lakhs.

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-OPERATIVES AND CREDIT SOCIETIES.

In order to make the benefits of the Co-operatives and Credit Societies easily available to the workers, it is proposed to give financial assistance to such societies at the rate of 1 lakh per year during this plan period.

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 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 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 estimated expenditure for the Third Five-Year Plan Period has been worked on the basis of provision of full scale medical facilities to the insured workers and their families. In the estimates for expenditure only State share of expenditure has been shown. The expenditure shareable between the Employees' State Insurance Corporation and the State Government on account of provision of medical care has been worked out in the ratio of 7 : 1. A total provision of 27.36 lakhs has, therefore, been made in the plan as State Government's share.

MANPOWER AND EMPLOYMENT.

The programme of work under Manpower and Employment Schemes during the Third Five-Year Plan Period for which an outline was provided by the Ministry of Labour and Employment (Directorate-General of Resettlement and Employment) broadly relates to further expansion of the employment service, extension of the coverage of the Employment Market Information Programme, expansion of the Vocational Guidance Programme and establishment of Research Unit for exploring possibilities of unemployment insurance and drawing up schemes for relief employment.

A Pilot Employment Exchange for the colliery employers and workers has been set up during the Second Five-Year Plan. It is proposed to set up a few more Exchanges to deal mainly with the colliery employers and workers seeking employment in collieries whose problems are peculiar. Similarly, the Employment Service has not been very easily accessible to the people in the rural areas and it is proposed to set up a few exchanges for catering to the needs of people in the rural areas as also for the needs of employers and people in industrial belts and a big project to be set up in the State where problems are different from those in the cities and towns.

A total of 18 Exchanges are, therefore, proposed to be set up during the Third Five-Year Plan Period. In a big city like Patna where the population is about five lakhs and whose length is disproportionately large, the need for registration booths is also strongly felt and two such booths are, therefore, proposed to be set up. The problems of physically handicapped persons being different from others and needing special attention it is proposed to set up a Special Exchange for the physically handicapped people only. During the Second Five-Year Plan, five University Employment Information Bureaux had been set up in some other States. It is proposed to set up such a Bureau at the Patna University during the Third Five-Year Plan.

The officers and staff, particularly, the latter, for which no arrangements are made by the Directorate-General of Resettlement and Employment, for training in the procedure need intensive initial training and refresher courses in the procedure of work. A staff training unit for imparting such training, particularly to the ministerial staff at the exchanges and also for holding refresher courses is proposed to be set up at the Directorate. The problem of colliery exchanges and exchanges in industrial belts and at project-sites as also in the rural areas being different from those of the exchanges located in towns, the need for provision of vehicles to such exchanges is also strongly felt in the interest of efficiency of work. Few vehicles to the bigger exchanges have been provided during the Second Five-Year Plan Period and it is proposed to provide a vehicle each to 16 exchanges during the Third Five-Year Plan Period. With the proposed expansion of the Vocational Guidance Programme each District Exchange in the State will be manned by two Assistant Employment Officers and for the sake of administrative convenience and efficiency it is proposed to upgrade one post of Assistant Employment Officer to that of Sub-regional Employment Officer at each such district exchange during the Third Five-Year Plan Period. With the expansion of the Employment Service and its various other activities closer supervision and control of the exchanges are needed. It is, therefore proposed to strengthen not only the supervisory staff at the State Directorate but also to set up divisional administrative units which will also be in the line with the administrative set up of the other departments of the State Government.

Under the programme for collection of employment market information, information from all establishments in the public sector and from all establishments employing ten or more persons in the non-agricultural private sector is being collected. This leaves some gaps in so far as information from establishments employing less than 10 workers are left uncollected. It is, therefore, proposed to remove this gap. *Ad-hoc* surveys on employment, unemployment and self-employment are also proposed to be made in order to have a fuller picture. Some intensive studies and research on the data collected are also necessary in order to make their proper utilisation. It is, therefore, proposed not only to strengthen the State Employment Market Information Unit at the State Directorate but also to strengthen the existing field units and to cover the areas falling under the proposed new Employment Exchanges during the Third Five-Year Plan Period under this programme.

During the Second Five-Year Plan four Vocational Guidance Units (Y. E. S. and E. C.) have been set up at four big exchanges in the State. A small supervisory unit at the State Directorate will also be set up during this year. Because of the strong public opinion expressed in the Parliament in favour of expansion of this programme and also for the recommendations of the Bihar Unemployment Committee to the effect that this programme should cover all the areas in the State, it is felt necessary that the programme should be so expanded in the State as to cover all the exchange areas and thereby achieve the desired collaboration at the unit level with programme of educational and vocational guidance being implemented in the Multi-purpose and Higher Secondary Schools of the State. The programme of the Education Department during the Third Five-Year Plan envisages all secondary schools in the State to be covered during the Third Five-Year Plan. It is, therefore, proposed to set up a Vocational Guidance Unit at each of the existing exchanges and also at the exchanges proposed to be opened during the Third Five-Year Plan.

Since the work being done under the scheme "Occupational Research and Analysis" for which there is only a State Unit at State Directorate, is mainly for producing materials for feeding the Vocational Guidance Programme at the exchanges and in the schools, it is proposed to reorganise the Vocational Guidance and Occupational Information Units and to provide some occupational analysis to the Occupational Information Unit.

A modest beginning is proposed to be made in connection with unemployment insurance and relief employment by setting up of a Research Unit during the Third Five-Year Plan in the State to explore the possibilities of starting unemployment insurance and to draw up schemes for the same and for relief unemployment.

The expenditure on the Manpower and Employment Schemes is shared by the Government of India and the State Government in the proportion of 60 : 40. A provision of Rs. 17.64 lakhs is made in the Plan which represents only the State Government's share at 40 per cent of the total cost.

CRAFTSMEN TRAINING.

During the Second Plan, facilities have been created for the training of about 5,000 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 3,985 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 40,000 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 5 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. 758 lakhs. However, recently, 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. 521 lakhs for providing facilities for expansion of craftsmen training. Commensurate with the above allocation, a target of 9,000 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.	5,000 seats.
(2) By establishment of New Industrial Training Institutes.	3,000 seats.
(3) By Apprenticeship Training Schemes ...	1,000 seats.
Total ...	9,000 seats.

2. 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.

3. A small amount has also been provided to cover expenditure on expanding activities of the State Council for Vocational Training.

4. As a necessary consequence of the proposed expansion of facilities for craftsmen training the Directorate staff will also have to be considerably strengthened.

5. The total Plan outlay over the proposed schemes is estimated at Rs. 521 lakhs. Out of 521 lakhs, Rs. 36 lakhs will be required for putting up the buildings for staff quarters and hostels and Rs. 3.60 lakhs 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.

6. According to the existing pattern of central assistance, 60 per cent of the total expenditure under this scheme (Rs. 312.00 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. 209.00 lakhs is to be borne by the State Government. A sum of Rs. 209 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.

7. It was decided during the State representatives' meeting at New Delhi, that of the urgent requirement of craftsmen and also the experience gained during the Second Plan, the physical targets envisaged in the Plan should be so phased that they could be achieved within the first three years of the Third Plan. The targets have been phased once and provision of funds made for construction of buildings, purchase of equipment, etc., not been made accordingly.

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 pocket 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 Chota Nagpur 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 section

of the people, the Commissioner for Scheduled Castes and Scheduled Tribes in his first report for 1951 observed :—

“The general underlying spirit of all safeguards for the Scheduled Castes and 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 of 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 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 Tribes 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. 160.00 lakhs had originally been provided for the welfare of Scheduled Castes, the Scheduled Tribes and the other Backward Classes as given below :—

			Rs.
(i) Scheduled Castes	...	...	65.43 lakhs.
(ii) Scheduled Tribes	...	...	61.66 lakhs.
(iii) Other Backward Classes	...	...	32.91 lakhs.
		Total	160.00 lakhs.

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 to 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. 160.00 lakhs was reduced to Rs. 141.00 lakhs as noted below :—

			Rs.
(1) Scheduled Tribes	...	...	15.17 lakhs.
(2) Scheduled Castes	...	...	82.86 lakhs.
(3) Other Backward Classes	...	...	43.37 lakhs.
		Total	141.40 lakhs.

The total expenditure incurred on all the 18 schemes during the First Plan Period, however, amounted to Rs. 257.72 lakhs. A brief review of the work done with their expenditure is also given below :—

(a) Scheduled Tribes—

Expenditure incurred Rs. 124.76 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 part 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—Achievement.*—The headquarters Gazetted establishment of the Welfare Department consisted during the First Plan Period of a Secretary, an Under-Secretary and one Registra-

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 subdivisinal or lower levels, for Adivasi welfare work, there were District Aboriginal Welfare Officers in the district of Chota Nagpur 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 Sevaks	...	...	39
(5) Ministerial Staff, etc.	...	...	570

(b) *Scheduled Tribes—Expenditure incurred Rs. 176.46 lakhs—Achievement.*—18,000 stipends and 3,000 book-grants will be

awarded. 86 hostels have been opened and 28 hostel buildings have been constructed. 223 schools of different standards have also been started. 310 *grainkola* 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. 154.54 lakhs—Achievement.*—By the end of 1960-61, 58,666 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 *grainkolas* 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 centres, residential houses, wells and various educational grants have also been started.

(d) *Other Backward Classes—Expenditure—Rs. 74.95 lakhs—Achievement.*—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 *Tharuhath* 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 574 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. 401.20 lakhs.*—It is proposed to sanction 15,000 stipends to high school students, 2,000 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 15 junior basic type and four senior basic type schools to sanction grant-in-aid for publications in tribal language and about tribal culture. Stipends are proposed to be awarded to 88 students in dance, drama and music. It is proposed to open 106 *graingolas* to rehabilitate 200 families on cultivation, organise Forest Labourers' Co-operative Societies, sanction loan for starting business, reclaim waste land and to have terrace cultivation, to expand the activities of the Tribal Research Institute, impart training to workers in tribal areas, construct 2,000 wells, open 21 Ayurvedic dispensaries, sanction medical aid in illness, legal aid in law courts, grant-in-aid to institutions and individuals working for welfare of the Scheduled Tribes.

Scheduled Caste—*Rs. 345.20.*—It is proposed to sanction 1,00,000 stipends to high school students, 2,000 stipends to students in technical institutions (other than general Colleges), book-grants to about 5,000, 7,500 stipends to middle school students, 15,000 stipends to primary school students, exemption from payment of University/Board Examination fee, to open 19 hostels, 25 junior basic type residential schools and 13 senior basic type residential schools, grant-in-aid has to be sanctioned to the primary schools catering to the needs of Scheduled Castes, grant-in-aid will further be allowed for publications, relating to uplift of the Scheduled Castes and removal of untouchability. 88 stipends for dance, drama and music have to be sanctioned. Construction of about 42 *graingolas* buildings have to be taken up. Co-operative Societies have to be organised. Provision has to be made for loans for starting business. Drinking water wells have to be dug. Medical aid in illness, legal aid in law courts, grant-in-aid to non-official institutions and individual workings for the welfare of Scheduled Castes have to be sanctioned.

Other Backward Classes—*Rs. 5,800 lakhs.*—20,000 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. One high school in the *Tharuhath* area

has to be granted into Higher Secondary. Besides, provision has to be made for opening a *grainkola* and construction of 26 *grainkola* buildings and medical aid in illness.

The State plan proposals total to Rs. 838.40 lakhs. It is also expected that in addition Rs. 590.15 lakhs would be available for this sector from the Central Plan of the Ministry of Home Affairs, Government of India. The sum of Rs. 590.15 lakhs has not, therefore, been included in the State Plan.

LOCAL DEVELOPMENT WORKS.

It is proposed to continue the Local Development Works Programme for the utilisation of rural manpower and providing certain amenities in rural areas. These amenities are (a) supply of drinking water, (b) roads linking each village to the nearest main road or railway station, and (c) the village school building which may also serve as a community centre and provide facilities for the village library. Each village is to be enabled to provide itself with all these amenities, contribution being made by the local people mainly in the form of labour and to the extent possible in the form of money. The minimum amenities programme for the Third Plan is the development of the local works schemes undertaken during the First and Second Plans which, generally speaking, were appreciated and elicited participation from local communities. The new programme is intended to be carried out in all rural areas. Until all the villages are covered by the community development programme, however, it is proposed to reserve a relatively larger proportion of the funds for (a) backward areas, (b) areas not covered by the community development programme, (c) pre-extension blocks, and (d) blocks which have completed the first and the second stages of the community development programme. It is proposed that the amenities mentioned above should constitute the first charge on the amounts made available for a development block and that any other items should be taken into consideration only when the basic requirements have been met for all the villages in the block.

A provision of Rs. 500 lakhs is made for this programme in the Plan.

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 five Welfare Extension Projects in five C. D. Blocks of 1957-58 series and 28 Welfare Extension Projects of the co-ordinated pattern in 1958-60 series Blocks. These 33 Projects have 250 centres and cover a population of about 25,25,000 within 3,892 villages. During the remaining part of the Second Plan, the State Board proposes to start 12 more such Projects.

(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 woman, 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. During the Third Five-Year Plan, in addition to 45 projects being carried over from the Second Plan Period, it is proposed to open 90 Welfare Extension Projects.

State Board Office.—The expenditure over State Board Office during the year 1959-60 has been equal to about Rs. 40 thousand and this is likely to go up during the current financial year. The expenditure during the Third Five-Year Plan has, therefore, been placed at a figure equalling Rs. 3.70 lakhs, to be shared half and half by the Central Board and the State Government.

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. For example, at present, the State Board is in need of more than 50 trained Gramsevikas in addition to those who have returned this year after training. During the course of Third Five-Year Plan, the requirement at the rate of six Gramsevikas will be of about 120 for 20 Welfare Extension Projects to be opened each year. Provision has, therefore, been made to open two more training centres for Gramsevikas to turn out 100 Gramsevikas per year.

The problem is more acute in case of Mukhiya sevikas and *Dais*. Educated ladies are not coming forward to take up posts in villages. As against the requirement of 49 Mukhyasevikas for the same number of Projects, at present there are only seven trained hands and other eight are undergoing training. It is, therefore, very necessary to provide for Mukhyasevika

training centre in this State to train about 25 candidates in a batch per year. The training for Dais has not yet been arranged, although the Central Board has agreed to pay stipend for each trainee @ Rs. 30 per month per head, besides some provision for house rent. In the absence of trained Dais, most of the maternity and child welfare centres are not functioning. About 100 trained Dais are required at present and there will be need for 30 more Dais per year during the Third Five-Year Plan at four Dais per Welfare Extension Project to be opened then. Hence, the provision for at least one Dais' centre with a capacity to train 50 Dais in one batch of six months is considered essential during the Third Plan.

Other schemes.—It is difficult at present to anticipate about the nature and size of other schemes which the Central Board would like to take up during the Third Plan Period. A lump sum of Rs. 25 lakhs has, therefore, been envisaged against these schemes tentatively.

Only the State share which works out at Rs. 55.91 lakhs has been included in the State Plan.

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 co-operation 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. But it is to be noted that the Probation units have been built up so far only at the district headquarters and subdivisions are not yet covered effectively.

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. The results of the treatment at both the hostels were highly satisfactory. Thirty people have been rehabilitated so far through its agency within the short span of less than a year.

Remand Homes.—In the Second Plan Period six 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 Proposals.

1. *Probation Service.*—It is proposed to cover the entire State including subdivisions with an effective service for all types of social case work. This agency will help in investigations, counselling and supervision, and assist in rehabilitation and follow-up, wherever the services might be required, viz., under Children's Act, S. I. T. Act, Probation of Offenders Act, Prisoners Act, Reformatory Schools Act, etc. It will also mobilise public assistance through its various committees, its paid personnel and its voluntary social workers with a view to develop social control, group and family responsibility, local interest and organise suitable societies and Homes. It will also be an agency for integrating voluntary social work in this field with Government effort into one mutually dependent service by aiding and advising social workers as well as extending financial assistance to them, while at the same time stimulating private charities as well as effort.

2. *Child care.*—The objectives for the Child Care may be defined in brief as follows:—

- (A) Enacting a Children Act, providing for—
 - (a) Juvenile Courts for securing specialised approach towards Juvenile delinquents,
 - (b) care for the neglected, destitute and victimised children.
 - (c) enforcement of parental responsibility,
 - (d) prevention of certain forms of exploitation of children.

In view of the paucity of means at our disposal, the legislation would avoid direct State responsibility as far as possible and depend upon mobilising social support for Child Care as far as practicable.

- (B) In the context of the above it is proposed to develop one Juvenile Court in each district. With the addition of some extra non-officials, these courts would function as welfare councils for dealing with the care and protection of children. It is proposed to combine the benefit of the British and Swedish Methods of approach in the field.
- (C) In the context of the above it is proposed to develop ten Remand Homes during the Third Plan Period. Six Remand Homes have already been developed and the seventh would be developed by the end of the Second Plan. It may be noted that the Remand Homes in this State are on British pattern. They are open institutions, accommodation is limited to 25 children and the atmosphere is that of a home rather than that of an institution.
- (D) The Remand Homes which have been established have revealed that we must have some Homes for long-term stay, where the individualised care for the sake of social as well as personality adjustment may be continued. There are only a few Children's Homes in this State and these Homes are merely protective institutions without any treatment programme. There are a number of cases of children who have to be provided with "Care" when placed on 'Probation' under Probation of Offenders Act. It is, therefore, proposed to provide four Probation Homes. This is sought to be achieved economically by attaching the institutions to the Remand Home. The capacity in each Home would be 25 only.

3. It would appear that the bulk of children coming before the Welfare Council would be dealt with either through non-institutional probation method or through placement in voluntary Homes. The provision for Probation service has taken into account the volume of Probation work needed for the purpose. In order to bring in the voluntary Homes within the organised framework of Child Care in the State and in fact to stimulate their very development on right lines, it is necessary to implement, "The Women's and Children's Institutions (Licensing) Act, 1956". Suitable Homes would be recognised as Probation Homes and would be assisted financially as well as given technical guidance. An Inspectorate for this purpose has been provided for under the item "Care Programme for Women" and the assistance that the voluntary institutions in respect of children placed by the Probation agencies have been also provided.

4. *Women's care—Securing.*—As noted above it is necessary to bring in the voluntary Homes for women and children within the framework of institution in which women, children and girls dealt with under S. I. T. Act, Children's Act or Beggars' Act or under the Probation of Offenders Act may be placed, and an organisation for the purpose has been envisaged in the scheme. This organisation will have lady officers and this organisation will be responsible for Probation work with regard to women under S. I. T. Act and other Acts as well as for developing family counselling service along side community development and W. E. P. agencies. This organisation would help the W. E. P. agencies with technical and scientific advice in the matter and take up treatment where called in by such agencies. The group of schemes under Women's Care has

provided for one Protective Home also. This Protective Home would be different from the Homes developed through voluntary agencies or under the After-care Programmes. The S. I. T. Act envisages a Corrective, Training Centre. At least one of the Protective Homes in the State has to be a place where habitual offenders sentenced to detention from two to five years may be given corrective training. Where this group is mixed up in non-correctional institutions, the non-correctional institutions acquire a stigma and their policy and programme get seriously controverted; for instance when an After-care Home is used as a Protective Home of this type, the policy required in an After-care Home, viz., the one of trust and social integration has to be abandoned in favour of one of distrust, and segregation and the effort leads to a frustration of the objectives of either type of institutions. It is, therefore, necessary to have one Protective Home which has a scientific social case work approach and a programme of correctional training. Such an institution would take away from voluntary and After-care Homes, the burden of a class which cannot be adjusted easily in less specialised institutions. The voluntary Homes would then be able to function without stigma and be in a position to cater for the needs of these in moral danger in a better way. Such Protective Homes of a voluntary nature or After-care Homes have not been included in this Care Programme.

5. *Non-institutional After-care and Special After-care for habitual offenders.*—A provision has been made for the After-care. This is mainly intended to be non-institutional. This will be carried on by the Probations Service. Instead of keeping a person released from one institution in another institution labelled as an After-care Institution, this method seeks to take every person who can be employed in society directly from the institution to the society. It seeks to secure social adjustment through family counselling and assistance in safe-guarding of economic interest. It provides funds and guidance for seeking new jobs.

This group provides also for one highly specialised type of After-care Institution for a type of discharged offender which cannot be employed in the market nor rehabilitated easily in its old motirings. The habitual offender who after reaching maturity tries to make good, gets little opportunity in society. Such type of ordinary After-care institutions bring down the status of those institutions and reduce their general utility. Mixing-up of this type of discharged offenders, specialised approach is needed for this class whose care is also necessary from the point of view of social defence.

6. *Training research and publications.*—As would appear from the preceding paragraphs a large expansion of highly technical social service has been envisaged during the Third Plan. This can be achieved only with trained personnel. Therefore, the training of personnel has to be a continuous feature of the plan and a small provision has been made in this behalf.

It would also be noticed that the programme depends largely upon mobilising public support, publicity has, therefore, to be a regular feature. Furthermore the nature of service would bring in hand a vast store of information on social conditions in our State and country. It would be of real scientific and practical usefulness to analyse such information and make it available in scientific publications. There is very little data or guidance available on a number of social problems which are to be tackled by the

Probation services. From the long-term point of view, it is necessary to carry on continuous research on such problems. A small research and publication group has, therefore, been planned in the scheme. —

The total cost of the above care programmes proposed during the Third Five-Year Plan will be Rs. 37.56 lakhs. Assuming these would be shared equally by the Government of India and the State Government, only State share of Rs. 18.78 lakhs has been provided in the State Plan.

Beggars' Home.

In pursuance of the provisions of the Bihar Prevention of Beggary Act, 1951 a Beggars' Home with a capacity of 100 beggars has been established at Patna during the latter part of 1959-60. The underlying idea is to check begging and reclaim children accompanying beggars and make them useful citizens. The proposed provision is for its continuance during the Third Plan and for opening of another two Beggars' Homes at Gaya and Deoghar, the most important religious places where beggars are in great number. The total cost for the scheme is estimated to be Rs. 9.33 lakhs. Only State share of 50 per cent, i.e., Rs. 4.66 lakhs has been included in the State Plan.

After-care Programmes.

The Scheme of After-care Services envisaged opening of five Homes of different types and 17 shelter-*cum*-reception centres, one in each district in the State. Of the five Homes, one would be for rescued women for whom a fairly large period of social and environmental adjustment may be necessary. Two Homes were proposed for after-care of persons discharged from correctional institutions, one for men and the other for women. At the remaining two Homes, short-term rehabilitation services were proposed to be provided for persons discharged from non-correctional institutions. The district shelter-*cum*-reception centres are meant for the reception, medical examination, screening of these persons before they are passed on to the State Homes.

2. During the Second Five-Year Plan, two State Homes, one for men and the second for women and three district shelter-*cum*-reception centres, one for men and two for women, have been opened by the end of 1959-60. During 1960-61, it is proposed to open one Home and four district shelter-*cum*-reception centres. At present the State Home for women provides accommodation for all the three types of women, viz., rescued and discharged from correctional and non-correctional institutions. The State Home for men also accommodates persons, both discharged from correctional as well as non-correctional institutions. After the new Homes have been set up the different categories of persons will be accommodated separately. In December, 1959, there were 85 women in the State Home at Patna and 41 women had, by that time, been rehabilitated. At that time there were 65 persons in the State Home for men at Muzaffarpur and 24 persons had been rehabilitated. The district shelter-*cum*-reception centres have been newly started and their full utility has yet to be assessed.

3. During the Third Five-Year Plan it is proposed to complete this scheme by opening two more State Homes and ten more district shelter-*cum*-reception centres. The pattern of these Homes and shelters will be the same as the existing ones.

4. During the Second Five-Year Plan, there has been no provision for construction of buildings. It has, however, been found by experience that the buildings of the type that are required for these Homes and shelters are not easily available at the district headquarters and as a result of which there is a considerable lag in their opening. It is proposed to provide some sheds of semi-permanent nature for them during the Third Five-Year Plan.

5. The total cost on the scheme during the Third Five-Year Plan will be Rs. 17.85 lakhs comprising Rs. 10.25 lakhs recurring and Rs. 7.60 lakhs non-recurring. Assuming this to be a Centrally sponsored scheme, provision of 50 per cent of the total cost only has been made in the State Plan.

PUBLICITY.

The schemes under the Sector Publicity do not constitute in the sense of physical targets, any independent schemes by themselves, like those of other departments of Government. They are designed primarily to popularise the schemes of other departments of Government by acquainting the people with the objectives of the schemes of other departments and the physical targets of these schemes and to secure for their progress and achievement, popular co-operation, response and support in ample measure. The schemes under the Sector Publicity, therefore, have for their essential objective, the attainment of the desired popular co-operation for the successful implementation of the Plan by different media and the schemes only reflect the various media employed for the purpose. Since the success of the media in securing the objective cannot be evaluated by any physical results in figures, it is difficult to set any physical target for the Publicity schemes.

The progress achieved during the Second Five-Year Plan and the proposals for the Third Five-Year Plan are as follows :—

Community Listening Scheme.—The object of the scheme is to instal Community Listening Sets in villages having a population of 1,000 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 target of the Second Plan was to instal 5,750 C. I. sets in villages but due to curtailment in the Plan allocations only 3,831 sets are expected to be installed as detailed below—

1957-58	...	...	...	1,131
1958-59	...	...	...	100
1959-60	...	...	...	400
1960-61	...	...	...	2,200
				—
			Total	3,831
				—

During the Third Plan Period it is proposed to purchase 2,000 sets only so as to achieve the target of installation of 5,750 sets with the following phased programme of installation :—

1961-62	...	...	...	Nil.
1962-63	...	...	...	300
1963-64	...	...	...	400
1964-65	...	...	...	500
1965-66	...	...	...	800
			Total	2,000

Out of the total expenditure of Rs. 4.75 lakhs, a sum of Rs. 2.00 lakhs is to be recovered from the beneficiaries.

Field Publicity Scheme.—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. During the Second Five-Year Plan Period five more additional units have been started at important subdivisional headquarters of the State, i.e., Deoghar, Giridih, Gumla, Chaibasa (district unit was at Jamshedpur) and Naugachia. To co-ordinate the working of the various field units and the local field publicity unit of the Government of India and also to supervise the working of the State field units, four divisional units under one Assistant Director each (now upgraded as Deputy Director) have been started at the divisional headquarters of the State. During the Third Five-Year Plan it is proposed to start field units at the 35 subdivisional headquarters of the State to ensure effective publicity of the Five-Year Plan in the blocks. It is also proposed to provide them with a vehicle each during the Third Five-Year Plan. The 35 publicity units are proposed to be started at a total cost of Rs. 32.55 lakhs according to the following programme :—

1961-62	...	...	...	10 units.
1962-63	...	...	...	10 units.
1963-64	...	...	...	12 units.
1964-65	...	...	...	3 units.

Headquarters workshop.—The object of the scheme is to provide for the establishment of workshop for speedy and efficient repairs of departmental vehicles and equipments at economical cost. During the Second Five-Year Plan a workshop at the headquarters has been established.

During the Third Five-Year Plan it is proposed to establish two workshops at the two divisional headquarters, viz., Muzaffarpur and Ranchi at an estimated cost of Rs. 3.90 lakhs.

Information Centres.—The object of the scheme is to keep the local people posted with ready and up-to-date information about the activities and achievements of Government in respect of development plans, with the help of reference books, posters, charts, models, newspapers and periodicals.

During the Second Five-Year Plan Period 19 Information centres at the district and unit headquarters other than those at the State and divisional headquarters have been started with a receptionist clerk in each centre.

During the Third Five-Year Plan it is proposed to start 35 more such Information Centres at the places where additional publicity units are proposed to be established at a total cost of Rs. 2.78 lakhs. It is proposed to establish an Information Cell in each important or group of departments of government at the State headquarters during the Third Plan Period at an estimated cost of Rs. 2.50 lakhs.

Production of Film.—The object of the scheme is to popularise the plan through the media of films and photography. The target of the Second Five-Year Plan was to produce twelve films, i.e., eight of State's interest and four of tribal interest which is likely to be achieved.

During the Third Five-Year Plan it is proposed to spend Rs. 2.73 lakhs over the scheme. It is proposed to establish an auditorium at Patna for giving regular shows of departmental films, documentaries and children films and also for the indoor shooting of the departmental films.

Song and Drama.—The object of the scheme is to organise urban and rural un-official dramatic troupes like Bhajan Mandalies, Yatra Parties, etc., and to help the people in staging drama bearing on the Five-Year Plan and thereby to secure public co-operation in fulfilment of the plan objectives and arouse plan consciousness among the people. During the Second Plan Period the scheme has been carried out with the staff of eight organisers, eight Assistant Organisers, Arts Assistants, Art and Music Instructors, Literature Assistants and some instrumentalists under the charge of a Deputy Director. At the beginning of the Second Plan it was originally decided that the drama festival, i.e., competition of the un-official troupes trained by the organisers should be held twice in a year. But due to curtailment of funds it has been possible to organise one festival at every two years. Provisions for the reward of two best plays and two best productions have been made in the budget.

During the Third Five-Year Plan it is proposed to establish a mobile State dramatic troupe with a Kawali or Bhajan party which may visit at least three field publicity units in a month and give model performances at an estimated cost of Rs. 4.00 lakhs.

Publications.—The object of the scheme is to provide for the preparation, publication and distribution of posters, charts, brochures, pamphlets, etc. bearing on the Plan. Two posts of Assistant Directors, one for distribution and the other for obtaining advertisements for departmental publications and for the sale of publication have been created during the Second Five-Year Plan. During the Third Five-Year Plan it is proposed to appoint certain technical staff under the Section. A departmental monthly magazine for the progress of the Plan scheme is also proposed to be brought out. To

bring efficiency and economy in the preparation of blocks, a block making press is also proposed to be established. The total cost of the scheme during the Third Plan is estimated to be Rs. 2.16 lakhs.

Exhibitions.—The scheme provides for the establishment of one static unit at Patna and two mobile units, one for North and the other for South Bihar. But the scheme of mobile units has not so far been implemented due to curtailment in the Plan allocations. The scheme is under the charge of Exhibition Officer assisted by Assistant Exhibition Officer and an Exhibitionist. For the purpose of making intensive publicity of plan schemes and Governmental activities, exhibitions are organised at the places of public congregations on the occasions of religious and national festivals by the various field Publicity units. The exhibition Section has also been participating in the exhibitions organised on State or inter-State levels in and outside the State. During the Third Five-Year Plan it is proposed to establish the two mobile exhibition units one for North and the other for South Bihar, which have not hitherto been possible to implement in the Second Five-Year Plan Period. It is also proposed to construct a permanent building for accommodating the static exhibition at Patna. The total cost involved in the scheme during the Third Plan is estimated to be Rs. 5.40 lakhs.

Press Advertisements.—The scheme provides for advertisements about the different activities of Government and object and achievements of plan scheme through the process in and outside the State. The scheme remained suspended during 1958-59 and 1959-60 due to paucity of funds in the plan budget. A sum of rupees one lakh has, however, been provided for in the plan budget, 1960-61. During the Third Five-Year Plan it is proposed to spend rupees five lakhs over the scheme @ rupees one lakh per year.

Thus for the publicity sector as a whole it is proposed to provide Rs. 65.77 lakhs during the Third Five-Year Plan.

STATISTICS.

During the Third Five-Year Plan it is proposed to execute various Schemes. The details are given below :—

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 State 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 Assistant Director in the scale of Rs. 200—750, incharge of this scheme. He should be assisted by a statistical supervisor, S. S. A., J. S. As. and Compilers. The estimated expenditure on this scheme will be Rs. 1.78 lakh of which 50 per cent will be met by the National Sample Survey. Only the State Share of expenditure of Rs. 0.89 lakhs has been included in the State Plan.

EXTENSION OF CROP-CUTTING SURVEYS.

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 information. 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 an Assistant Director in the scale of Rs. 220—750. 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. 3.94 lakhs. Out of this cost 50 per cent is likely to be borne by the various commodity committees. The overall pattern of assistance over this survey is, however, under consideration. Assuming that the State will have to bear 50 per cent of the expenditure, Rs. 1.97 lakhs have been provided in the State Plan.

There is no arrangement at present in the State Statistical Bureau for conducting demographical studies. Some work relating to this subject has in the past been done by the staff of vital statistics section which itself has an extremely limited staff. Since 1959 the annual one per cent census is being conducted in the State with temporary staff attached to the vital and medical sections, under the supervision of the Statistical Officer concerned. It is only natural that this is not getting the attention it deserves. In view of the importance of the work it is considered essential to create a permanent demographic cell under a statistical officer who will be assisted by adequate staff for the purpose.

The research work of this section will be undertaken by the general research wing of the State Statistical Bureau and the operational side will be looked after by the officer and staff appointed under this scheme. The total estimated cost of this scheme is Rs. 2.33 lakhs 50 per cent of which will be borne by the Registrar-General of India. Only State Share of expenditure has been provided for in the State Plan.

(i) *Transport and Traffic Surveys.*—To assess the total volume of goods carried, type of vehicles, 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 the assessment of the results of their implementation. The expenditure of the scheme is likely to be shared by the Ministry of Transport (Research Wing).

The State Statistical Bureau 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 State-wide coverage. The Statistical Commission has also suggested undertaking of such surveys.

(ii) *Goods traffic survey by boats and by bullock carts.*—It is proposed to undertake a goods traffic survey by boats and by bullock carts also in the State. It is known that goods are carried in abundance by these means. The survey will, therefore, give valuable information. The above two surveys will be conducted for one complete year in order to iron out the seasonality factor. Similar study may be undertaken about passenger traffic.

(iii) *Socio-economic condition of rickshaw pullers.*—A large number of people are engaged in the profession of 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 section under one Statistical Officer who will be assisted by four supervisors 19 Statistical Investigators, 5 Scrutiny Investigators, four Computers, etc. The total cost involved in this scheme will be of the tune of Rs. 5.07 lakhs, 50 per cent of which will be borne by the Ministry of Transport, Government of India. Only the State Share of expenditure has been provided for in the State Plan.

Strengthening the State Statistical Bureau for over-all Planning needs.—The State Statistical Bureau being a recent creation has not developed fully so far, to meet all the requirements of planning. Considering the requirements of various development plans and daily administrative needs re-organisation of the Bureau is extremely essential. The Bureau has not only 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, meteorology and other allied and miscellaneous statistics. Higher researches and analysis work for various planning needs, are an integral part of this work of the Bureau.

For the present the following surveys are proposed to be undertaken :—

- (i) Expenditure survey,
- (ii) Bench mark socio-economic survey of pre-project areas of Bhaisalotan, Barauni and Hatia,
- (iii) Preparation of middle class cost-of-index numbers,
- (iv) type studies for the estimation of national income,
- (v) Farmer's income and expenditure survey for construction of an index parity between prices received and prices paid by the farmers.

It is also proposed to study for analysing the impact of community development schemes on production, consumption, social and cultural aspect, on the life of the people residing in the areas, etc. It will be necessary to undertake some type study survey for it.

In addition several studies in the field of agricultural statistics are also to be undertaken during the Third Five-Year Plan. Some of the important studies will be (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 sample error in each case, (iii) effect of developmental activities on acre-yield of various principal crops, (iv) causes of increase/decrease in net area sown. 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 subject studies on one side and in the field surveys on the other. At least one post of Joint Director is, therefore, considered essential. At the district level the D. S. Os. will be in charge of all statistical surveys and studies. There is no representative of the State Statistical Bureau 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 survey and inspection works is greatly felt. Scrutiny of efforts in the various processes involved in compiling figures of agricultural statistics for the various crop season is also essential as the data are collected and supervised by the staff belonging to several departments. Statistical Officers at the subdivisional level should be able to assist the S. D. Os. in all statistical matters. There are 41 Mufassil subdivisions in the State. Therefore, 41 posts of S. S. Os. will be essential. Each of these officers will be assisted by one J. S. A., one typist-clerk and two Amins. The estimated cost over this scheme will be of the order of Rs. 44 lakhs. Assuming 50 per cent of the cost is likely to be shared by the Central Statistical Organisation, provision of Rs. 22 lakhs has been made in the State Plan.

District Statistical Agency.—In consideration of the fact that the quality of statistics collected and compiled at the district level was unsatisfactory and defective, and the fact that statistics have to be made readily available for district administration, it was decided that district statistical offices should be set up under the D. S. Os.

There is a growing need and pressing demand for correct and reliable statistics. The figures are likely to be useful only if they are made available at a short notice. The District Officers always need statistical data for different activities for administrative purposes. It is, therefore, essential to expand the district offices so that they may prove more useful. The District Statistical Offices should have a S. S. A., a J. S. A., a compiler, a Head Clerk, a routine clerk, a draftsman and a daftary-cum-peon, in addition to the staff it already has.

The estimated cost of the scheme is Rs. 10.32 lakhs, 50 per cent of which will be met by the C. S. O. Rs. 5.16 lakhs have been provided in the State Plan for this scheme.

Training of Statistical Personnel.—This State is a permanently settled State and till recently it had no permanent revenue agency. Therefore, since the year 1945 the area enumeration work relating to crop statistics had been entrusted to specially appointed Sarkari Amins in the beginning who were later on absorbed as Karamcharis under the Land Reforms Department.

These Karamcharis were also entrusted with the work relating to crop survey. With the post-Zamindari abolition administration work entrusted to them it became practically impossible for them to devote much attention to it and the coverage figure dropped down very badly. Therefore, the area of work of a Karamchari was distributed among the Gram Sewaks and the village level workers. As at present the area enumeration work is being done by the village level workers, Gram Sewaks and Karamcharis and the supervision work has respectively been entrusted to the Agricultural Extension Supervisors, Gram Panchayat Supervisors, and the Circle Inspectors. The Karamcharis and Circle Inspectors of Revenue Department were conversant with this work. But the V. L. Ws., Gram Sewaks, Agricultural Extension Supervisors and Gram Panchayat Supervisors were unfamiliar with it and accordingly it became necessary to give them a thorough training. 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 V. L. Ws. and Gram Sewaks is progressively on the increase. Moreover, fresh batches of Karamcharis, V. L. Ws., Gram Sewaks and also the Supervisory staff became 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 initiation of different types of surveys from time to time. The total number of these agencies roughly come 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, and for imparting various lectures to trainees in the training institutes of the Revenue, Agriculture, and Gram Panchayat Departments. Thus a provision for four training officers has been made at the rate of one Officer for each Division. These officers will work under the direct supervision of a Senior Training Officer who will remain posted at the headquarters. This Officer will be responsible for the preparation and revision of syllabus, arrangement of various training classes and other allied matters. In addition this Officer 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 Administration Service while under training at the State Secretariat. The Senior Training Officer will also be in overall charge of the training work relating to Junior Statistical Supervisors and others at the State headquarters. Under this scheme provision of a few assistants, typists and orderly peons has also been made. This scheme will cost Rs. 3.91 lakhs, 50 per cent of which will be met by the Central Statistical Organisation. Only the State share of expenditure has been included in the State Plan.

2. *Miscellaneous expenditure survey.*—While reviewing the progress of the Central Bureau of Economics and Statistics, Bihar in 1958 the Chief Minister desired that investigation, amongst other subjects, be also undertaken on the overall *per capita* income of different economic groups of the people in Bihar. He further desired that a study of incidence of taxation, local, State and Central, be also taken up in this State.

Accordingly a pilot study on the basis of 1 per cent sample survey was conducted in three districts, namely, Patna, Muzaffarpur and Ranchi. The report of the above survey is being released by the Bureau. As regards the

study of incidence of taxation, the Commercial Taxes Department has been requested to collect data of taxation commodity-wise.

As the study on *per capita* income in Bihar is based only on a pilot survey conducted in three districts it is essential to conduct a final survey on the subject and collect the necessary information. It is proposed to do so under the technical guidance of a Deputy Director (Research) who will be placed in overall charge of all Socio-Economic and Agro-Economic research work. He will be assisted by 10 Supervisors : One Supervisor will be placed incharge of two districts. Eight Supervisors will thus be required for 17 districts, while one Supervisor will remain posted to the State headquarters to assist the Deputy Director in matters of co-ordination and other details. The tenth supervisor will be the leave reserve supervisor. The Deputy Director will further be assisted by 22 S. S. As. who will be employed on scrutiny work of the schedules. The 17 districts in the State will require 17 S. S. As., 2 S. S. As. will be required at the State headquarters for final and random scrutiny work and compilation and tabulation of the results of the schedule, two S. S. As. will be required as leave reserve S. S. As. The schedules will be canvassed by the Investigators. One U. D. and two L. D. Assistants will be required for correspondence work. It is also necessary to provide one orderly and one office peon. This scheme will remain in operation only during the first three years of the Third Five-Year Plan. It is hoped that during this period the surveys in view shall have been conducted. The estimated expenditure over the scheme is Rs. 6.48 lakhs.

Construction of office buildings for District Statistical Officers.—The District Statistical agencies set up in each district for collection of Statistical information under a District Statistical Officer are experiencing acute difficulty in obtaining office accommodation. The Collectorates are much congested and District Officers are unable to allot sufficient space for smooth running of the Statistical Office. As these Statistical agencies have to work in close co-operation with the officers and staff of the collectorate it is also essential to provide accommodation for them in some building in the collectorate. It is very difficult to obtain suitable private building at reasonable rental for office accommodation. In these circumstances, the Government has decided to construct building for the accommodation of the District Statistical Officers and their staff.

A model plan and estimate was prepared by the Superintending Engineer, Community Project for constructing building for District Statistical Officer and staff at a total cost of Rs. 12,850 each (including Rs. 1,500 for electrification and Rs. 1,000 for sanitary installation). This estimate will, however, go up because provision of a Record room and a garage is extremely essential. Due to paucity of funds, the building programme could be taken up only in 6 of the 17 districts during 1959-60 and 1960-61 at a total cost of Rs. 77,100.

Construction programme of office buildings in the remaining 11 districts along with construction of garage and Record room will be carried out during the Third Five-Year Plan Period. A provision of Rs. 1.97 lakhs has, therefore, been made in the Third Five-Year Plan.

DAIRY AND MILK SUPPLY.

(1) MINIMUM REQUIREMENT AND AVAILABILITY OF MILK.

1.1. 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.

1.2. The milk production has to be increased to meet the demand for milk for further rise due to industrialisation and consequent raising of the standard of living in the State, as well as for the growth of population.

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

2.1. At present, milk from rural areas is not properly marketed due to lack of proper communication. Only a small quantity of rural milk produce finds its way to the urban areas through Makhnias (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 Makhnias give a poor return to the primary producers with the result that there is no incentive to produce more.

2.2. 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.

2.3. 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 crop is too acute to admit 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 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 industries.

2.4. 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.

3.1. 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 of 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.

4.1. During the Second Five-Year Plan, more assistance was given to these Milk Unions in 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 is under implementation. 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.

4.2. The total provision for dairy projects during the Second Plan was of Rs. 47.07 lakhs. The Plan envisages 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.

4.3. 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, which was intended to be located at Jamshedpur, is being taken up by the TISCO, Limited and necessary assistance and technical advice are being extended to them for its implementation. The TISCO, Limited are expected to bear the entire cost of this project.

4.4. 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 the liquid milk of the growing industrial town of Barauni.

4.5. The total estimated cost of the Second Plan schemes is expected to exceed 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.

4.6. 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.

4.7. 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 works, the need for the further expansion of the dairy development section is being acutely felt.

4.8. 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 before the close of the Second Plan period. Still there will be shortage of trained personnel even for 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.

5.1. In the background, the target for the Third Five-Year Plan has been kept as follows, based on the long-term objectives of (i) achieving milk-production of 10 oz. *per capita*, (ii) organising the supply of pure milk to the industrial towns and the towns having population over 50,000, (iii) cleaning cities with a population of one lakh and above of all milch animals to improve their sanitary condition and (iv) organising production of butter, ghee and other milk products of standard quality, by the end of the Five-Year Plan and (v) the growth of Milk Producers' Co-operatives. The total estimated expenditure of the Third Five-Year Schemes comes to Rs. 200 lakhs

exclusive of the committed expenditure. The estimated cost of each scheme has been indicated below :—

ADMINISTRATION.

Reorganisation and expansion of the Dairy Development Section.	7.80 lakhs.
Survey and statistics	2.00 lakhs.
<i>Training of personnel—</i>	
Training of Dairy Personnel	3.98 lakhs.
<i>Establishment of Milk and Dairy Units—</i>	
Spill over (completion of the schemes started during the Second Five-Year Plan Period).	25.00 lakhs.
Setting up of Dairy Extension Units ...	15.47 lakhs
Removal of milch animals from urban areas (Esstt. of cattle colonisation centres).	40.00 lakhs.
Esstt. of new milk supply schemes ...	40.00 lakhs.
<i>Expansion of the existing Dairy Project—</i>	
Expansion of the existing Dairy Project ...	60.00 lakhs.
<i>Miscellaneous—</i>	
Financial assistance to individuals and co-operatives for purchase of better milch animals and for setting up Dairy Farms.	5.00 lakhs.
Setting up a State Milk Board ...	0.75 lakhs.
Total ...	200 lakhs

(6) REORGANISATION AND EXPANSION OF DAIRY DEVELOPMENT SECTION.

6.1. 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. 7.80 lakhs.

7. SURVEY AND STATISTICS.

For planned and development of the dairy industries in the State, it will be only 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 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.

7.1. A large number of technical personnel will be required for the various dairy projects of the Second, 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)	13
(3) B. E.	3
(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

7.2. Candidates for these 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 United Kingdom, 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 estimated cost on training is estimated at Rs. 3.98 lakhs.

8. COMPLETION OF THE SCHEMES OF THE SECOND PLAN.

8.1. 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.

9.1. 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.

10.1. 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 town has developed mainly due to lack of facilities for quick transport of milk produced in the rural areas and also because of inadequate production and 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 town. 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 of 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 into smaller plots to be allotted to individual milk-producers. The construction of cattle-shed, 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.

11.1. 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 to be located in the towns with a population of over 50,000 (which will not be covered till the Second Five-Year Plan and some rapidly growing industrial towns. The estimated cost for these schemes is Rs. 40.00 lakhs, @ 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 ultimately develop them on the "Anand pattern".

12. EXPANSION OF THE DAIRY PROJECTS.

12.1. 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.

12.2. The requirement for expansion of the existing dairy projects is estimated at Rs. 60.00 lakhs.

13. FINANCIAL ASSISTANCE TO INDIVIDUALS AND CO-OPERATIVES FOR PURCHASE OF BETTER MILCH ANIMAL AND SETTING UP DAIRY FARMS.

13.1. With a view to increase the production of milk in the milk-shed of the dairy project, it is proposed to provide financial assistance to individuals and Co-operatives 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 farmers of 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.

13.2. The total requirement for financial assistance has been estimated at Rs. 5.00 lakhs.

14. MILK BOARD.

14.1. 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 coordinate 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 function 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 propaganda 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.

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

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

15. EMPLOYMENT POTENTIAL.

15.1. The employment potential of the plan is assessed as follows:—

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