

CONFERENCE ONLY

Bihar



GOVERNMENT OF BIHAR

DRAFT PERSPECTIVE PLAN

FOR

BIHAR

(1978—89)

(A MACRO-ECONOMIC ANALYSIS)

PERSPECTIVE PLANNING DIVISION
BIHAR STATE PLANNING BOARD
(DEPARTMENT OF PLANNING AND DEVELOPMENT)
PATNA

FOREWORD

The "Draft Perspective Plan for Bihar (1978—89)—A micro-economic analysis" has been so designed as to enable the State to catch up with the all-India per capita income level by 1988-89 at 1973-74 prices. In formulating the Plan, the three ills, *viz.*, poverty, mounting unemployment and widening disparities in wealth and incomes, which afflict our economy, have been taken into account. The Plan, therefore, *inter alia*, aims at attaining full employment, eradicating poverty and removing social, economic and regional disparities. It also aims at providing minimum needs such as elementary education, drinking water, health care and house-sites or houses to the weaker sections of the society.

It is envisaged that the size of the Perspective Plan may be of the order of Rs. 35,000 crores at 1976-77 prices. This includes the investment by the State Government, direct Central investment, institutional finance and investment by the private sector. Though the size of the plan may appear to be rather ambitious, this is the only way to break the economic stagnation from which the State has been suffering for long.

The Perspective Plan for Bihar was originally being prepared for a period of fifteen years from 1974-75 to 1988-89, covering three Five-Year Plan periods, *viz.*, the Fifth, Sixth and Seventh Five-Year Plan periods. But now that the Fifth Five-Year Plan has been terminated on the 31st March 1978, the Perspective Plan has been prepared for a period of eleven years only from 1978-79 to 1988-89. Subsequently, it will be extended to 1992-93 so that the Perspective Plan may cover a period of fifteen years.

The preparation of the Perspective Plan involved a number of econometric exercises and an extensive use of computer. The work has been completed in record time by Dr. R. B. Singh, Director (Perspective Planning) assisted by Shri B. K. Dey, Deputy Director (Perspective Planning) and Shri N. D. Ray, Junior Research Officer (Perspective Planning), under the immediate supervision and guidance of Prof. D. Jha who had been working as Member (Economics) till January, 1978. I take this opportunity to thank Prof. Y. K. Alagh, Advisor (Perspective Planning) and Dr. K. C. Mazumdar, Chief (Perspective Planning), Planning Commission, New Delhi, for their valuable guidance and ready help to our Perspective Planning Division in preparing the Perspective Plan for the State.

R. P. KHANNA,

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The 18th October 1978

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CHAPTER I

THE STATE ECONOMY

Size and density of population

Bihar is the second largest populous State of India. According to the Census of 1971, its population stood at 56.35 millions which constituted 10.3 per cent of the total population of the country. The State covers an area of 1.74 lakh sq. kms. which constitutes 5.3 per cent of the total area of the country. The State has, therefore, to support 10.3 per cent of the total population of the country in only 5.3 per cent of the total area. The density of population in Bihar in 1971 worked out to 324 sq. kms. as against 178 for the country.

1.2. Almost half of the total area of the State consists of hills and plateaus, while the remaining half is an alluvial plain divided into two unequal parts, north and south, by the river Ganga. The State has, therefore, three well-defined regions—North Bihar, South Bihar and Chotanagpur Plateau, covering an area of 0.54, 0.40 and 0.80 lakh sq. kms. respectively. In 1971, the North Bihar plains had a population of 26.3 millions with a density of 489, the South Bihar plains a population of 15.8 millions with a density of 392 and the Plateau area a population of 14.2 millions with a density of 178.

Estimated growth of population

1.3. The decennial growth-rate of population has been steadily rising over the last three decades in Bihar, although it has remained somewhat lower than the average for all-India as will appear from the following statement :—

			1941—51	1951—61	1961—71
Bihar	..	..	10.27	19.77	21.30
India	..	..	13.31	21.62	24.75

The slightly lower rate of decennial growth in Bihar is attributed mainly to a somewhat lower fall in the death-rate than in India as a whole.

1.4. The population of the State has been projected up to 1988-89 on the basis of 'ng' formula. The projected population for 1977-78, 1982-83 and 1988-89 is given in the following statement :—

Year			Population (in millions)
1977-78	...	—	63.3
1982-83	..	—	69.2
1988-89	—	—	75.4

The annual compound rate of growth during the period 1971—89 works out to 1.73 per cent as against 1.95 in the previous decade (1961—71). The population projections given above take into account the impact of family planning and welfare programmes in reducing the general fertility rate.

Social composition of population

1.5. Scheduled Castes and Scheduled Tribes constituted about 22.9 per cent of the total population of the State in 1971 as against 21.5 per cent for the country as a whole. In addition, Bihar has a sizeable population of other socially and educationally backward classes who need special assistance. There is a high concentration of Scheduled Tribes in the Plateau area (92.6 per cent) and Scheduled Castes in the North Bihar plains (59.2 per cent). It is necessary to protect them from social exploitation and bring them at par with the rest of the population.

Low urban growth

1.6. The population of the State is predominantly rural, constituting about 90 per cent of the total population as against 80 per cent for the country. In North Bihar plains, the percentage of rural population is as high as 96 per cent, the corresponding figures for the South Bihar plains and the Plateau area being 87 and 84 per cent respectively. Even by 1988-89, the rural population is expected to constitute about 85 per cent of the total population, which will mean a marginal increase in the percentage of urban population to the total population from about 10 per cent in 1971 to about 15 per cent in 1988-89. Bihar is thus essentially a State of villages and its development mainly means rural development.

Overwhelming dependence on agriculture

1.7. In 1971, the percentage of workers to the total population was 31.00 per cent as against 31.90 for the country which indicates a somewhat heavier burden of dependency in Bihar as well as in India generally.

1.8. A vast majority of the workers of the State are engaged in cultivation and their percentage to the total workers has increased over the years, while the percentage of workers engaged in cultivation has only slightly increased, taking India as a whole, from 69.5 per cent in 1961 to 69.6 in 1971, it has increased in Bihar during the same period from 77.1 per cent to 82.3.

1.9. In 1971, 38.9 per cent of the total number of workers was agricultural labourers as against 36.3 per cent for all-India. The Census figure of 1971 indicate significant increase in the percentage of agricultural labourers to the total population.

Land-use pattern

1.10. Out of the total area of 173 lakh hectares in 1976-77, the net area sown was about 84 lakh hectares (48 per cent), fallows about 27 lakh hectares (15 per cent). Culturable waste lands (about 5 lakh hectares) constitute 3 per cent of the total area and forests (about 28 lakh hectares) 16 per cent. The following statement gives the details of land-use pattern in the State in 1976-77:—

Land-use	Area (in lakh hect.)	Percentage to total area
1. Net area sown	83.51	48.18
2. Current fallows	17.05	9.84
3. Other fallows	9.55	5.51
4. Culturable waste land	4.87	2.81
5. Miscellaneous tree-crops and groves	2.19	1.26
6. Permanent pasture and other grazing land	1.55	0.90
7. Land put to non-agricultural use	16.44	9.49
8. Barren and unculturable land	10.35	5.97
9. Forests	27.81	16.04
TOTAL	173.32	100.00

Subsistence cultivation

1.11. The net area cultivated *per capita* in 1971 was only 0.15 hectare in the State as a whole, 0.13 hectare in the North Bihar plains, 0.15 hectare in the South Bihar plains and 0.17 hectare in the plateau area as against 0.26 hectare for all-India. With the growth in population, the net area cultivated *per capita* has declined further. The pressure of population on land is, therefore, extremely heavy.

1.12. About 79 per cent of the holdings in the State are of less than 2 hectares in size account for only about 30 per cent of the total operated area. The majority of the farmers are, therefore, small and marginal farmers subsisting on very low earnings with little or no resources of their own for either land development or provision of the high-cost inputs needed for raising productivity or yield per hectare. On the other hand, about 21 per cent of the total operated area is owned by large land-holders having holdings of more than 10 hectares which account for less than 2 per cent of the total number of holdings. The lands are actually cultivated by share-croppers who have neither the necessary motivation nor the resources needed for land development and modernisation of agriculture. Delay in the implementation of land reforms measures is, therefore, an important factor contributing to the low average agricultural yield in State.

Unstable agricultural production

1.13. Although Bihar is noted for the richness of its agricultural lands, the agricultural production in the State has remained unstable due to recurrence of floods and droughts. The gross area irrigated in 1977-78 is estimated at only 35 per cent of the gross cropped area. Cultivation, therefore, still remains dependent very largely on rainfall. The crop intensity has been more or less static around 1.30. It is, however, expected to rise to 1.38 by 1977-78. Among cereals, there has been marked increase in the production of wheat, but the same cannot be said of rice. The output of pulses has declined and commercial crops has not shown any significant increase:

Lop-sided industrial development

1.14. The industrial structure of the State is lop-sided. While there has been some development of heavy industries, chiefly in the mineral belt of the State, there has not been any significant growth of secondary and tertiary sectors. Although Bihar is the richest State in mineral wealth, it still remains an industrially backward State. As against the national average of 5.93 per cent of the working force engaged in manufacturing industries in 1971, the percentage for Bihar was only 2.29. The State's share of mineral production in the country has declined from 41 per cent in 1951 to 29 per cent in 1976.

Inadequacy of infrastructural facilities

1.15. The State's infrastructure of roads, irrigation and power also needs a good deal of strengthening. The length of surfaced roads per lakh of population in 1977-78 was only 41 kms. in Bihar as against 90 for all-India. The *per capita* consumption of power in Bihar in 1976-77 (93 KWH) is well below the national average (115 KWH). The irrigation potential to be harnessed through major and medium schemes in Bihar by 1977-78 is likely to be only 23.02 lakh hectares and through minor schemes 22.74 lakh hectares as against the utilisable water resources of 68.20 lakh hectares/metres of surface water and 27.33 lakh hectares/metres of ground water. With the increase in irrigated area, the ground water resources may go up to 35.83 lakh hectares/metres by the end of the perspective plan.

Inadequate growth of items of social consumption

1.16. The State is also lagging far behind in general literacy and education, provision of health services, rural roads and other items of social consumption. In

1971, only 19.9 per cent of the population in Bihar was literate as against the national average of 29.5 per cent. As regards the beds in hospitals, although the population in Bihar constitutes about 10.3 per cent of the total population of India, the number of beds available has generally been 4 to 5 per cent of the total number of beds in India. The bed-population ratio in Bihar works out to only 1 : 3,325 as against the all-India average of 1 : 1,960. Similarly, the doctor-population ratio in the State works out to 1 : 24,000 in rural areas and 1 : 5,000 in urban areas as against the all-India average of 1 : 17,000 and 1 : 4,000 respectively.

Poverty and unemployment

1.17. The socio-economic problems of poverty and unemployment still continue to be alarming. In 1973-74, it is estimated that about 70 per cent of the total population in Bihar were below the poverty line as against 61 per cent for the country. The projected percentage for 1977-78 works out to 56. Unemployment and under-employment have been on the increase. Based on the data contained in the 27th Round Survey of the NSSO, it is estimated that in 1972-73, there were 4.08 lakh persons 'chronically' unemployed in the State, the all-India figure being 38.60 lakhs. The volume of unemployment in equivalent person-years was estimated at 20.54 lakhs which accounted for 11 per cent of the all-India figure of 185.70 lakhs. The figure of unemployment in Bihar at the end of 1977-78 is estimated at 22.10 lakhs.

Net domestic product and per capita income

1.18. The overall performance of the economy is ultimately reflected in the increase of net domestic product and *per capita* income. The annual compound rate of growth of the State income at 1960-61 prices during 1950-51 to 1975-76 has been lower (2.75 per cent) than the national income (3.60 per cent). More increase of the State income, however, does not provide a clear indication of economic welfare. A part of the increase in the total State income has been eaten away by the increase in population which grew in Bihar at the rate of 1.83 per cent per annum (compound) during the same period as against 2.05 per cent for the country. This is reflected in a slower growth of *per capita* income. The annual compound rate of growth of *per capita* income during 1950-51 to 1975-76 worked out to 1.11 per cent for Bihar *vis-a-vis* 1.52 for the country. The gap between the *per capita* income of Bihar and the country has widened. The *per capita* income of the State which was 26 per cent below the national level in 1950-51 has gone further down to 35 per cent below the national level in 1975-76.

Low per capita plan outlay and Central assistance

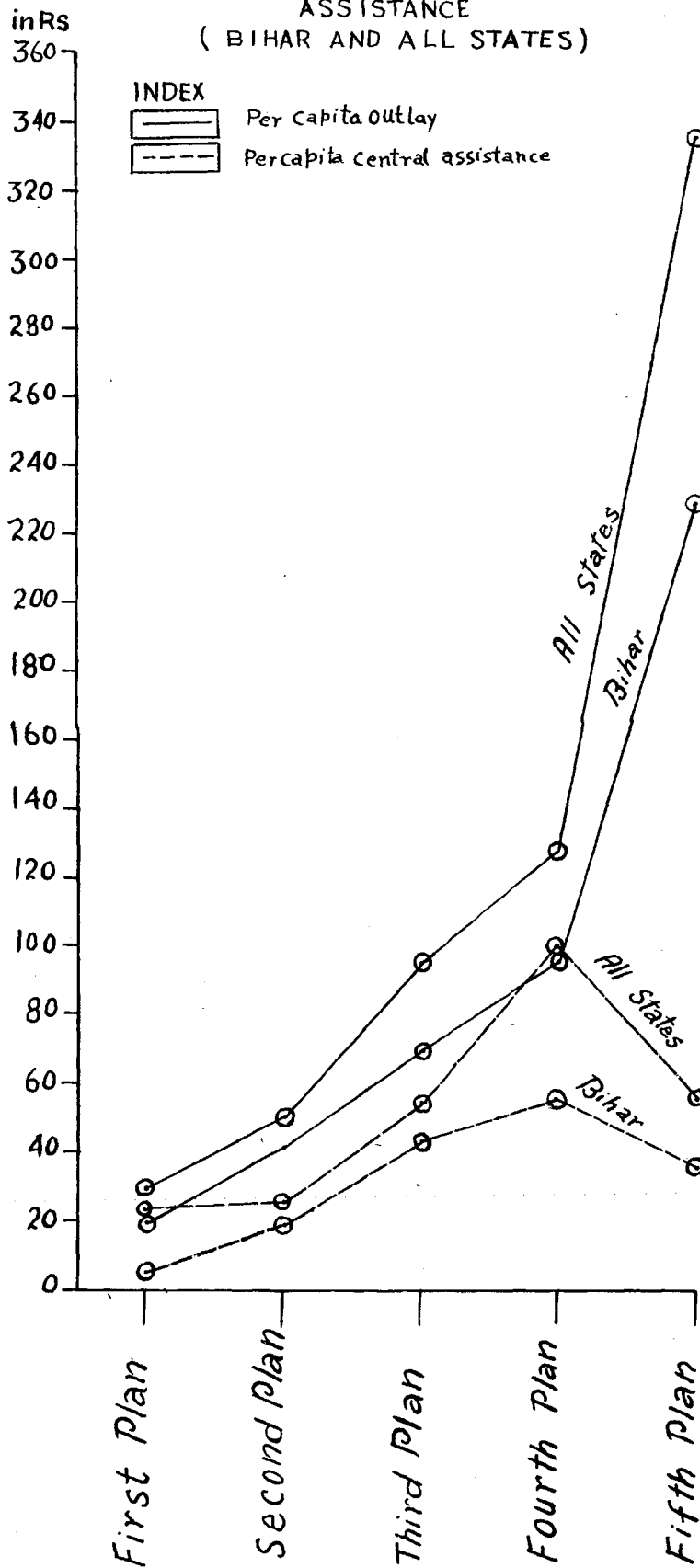
1.19. The slow growth of State income and *per capita* income is attributed to a large extent to the low level of *per capita* plan outlay, inadequacy of Central assistance, inadequate flow of institutional finance and insignificant share in the total market borrowings for the country. The following statement will reveal the low level of *per capita* plan outlay and Central assistance in Bihar *vis-a-vis* all States in India.

Plan period	Per capita plan outlay (Rs.)		Per capita Central assistance (Rs.)	
	Bihar	All-States	Bihar	All-States
First Plan	19	39	5	24
Second Plan	42	51	19	26
Third Plan	71	97	44	55
Fourth Plan	97	128	57	99
Fifth Plan	230*	337*	37†	58†

*Relates to 1974-79.

†Estimates for the first three years 1974-77.

PER CAPITA PLAN OUT-LAY & PER CAPITA CENTRAL ASSISTANCE
(BIHAR AND ALL STATES)



"Alan"

Fig:- 1

Insignificant share in market borrowings

1.20. In the matter of market borrowings during the Fourth Plan, Bihar's share (Rs. 64.33 crores) in the total borrowings for the country (Rs. 1277.77 crores) worked out to only 5 per cent, although it accounts for 10.3 per cent of the total population of the country. The *per capita* borrowing for Bihar was Rs. 11.4 being the lowest for all States. Even during 1976-77, as against the total all-India market borrowings amounting to Rs. 430 crores, the share of Bihar was only Rs. 28.7 crores, which worked out to only 6.7 per cent of the total.

Inadequate flow of institutional finance

1.21. Bihar has also not been able to secure its due share of funds available with the various institutional agencies. The increase in advances by commercial banks have not been commensurate with the increase in deposits. The incremental credit-deposit ratio during June, 1975 to June, 1976 worked out to only 47.5 per cent for Bihar as against the all-India ratio of 76.5 per cent. The position with respect to the total credit-deposit ratio was also more or less similar. The ratio in June, 1976 was only 43.5 per cent for Bihar as against 76.8 per cent for the country. In 1977, the ratio for Bihar further deteriorated to 39.4 per cent as against 71.0 for the country.

CHAPTER II
AN APPRAISAL OF PLANNED DEVELOPMENT (1951—78)

Planning is a continuous process and cannot be looked at in isolation for short periods. Viewed at from this angle, the First Five-Year Plan was a projection and continuation of the previous plans (Post-war Reconstruction Schemes) and, at the same time, a prelude to the subsequent plans. A critical appraisal of the achievements and failures of the Plan just concluded is, therefore, most essential for the formulation of the succeeding plan. The appraisal highlights the surplus or deficit in the various fields, as also the various constraints limiting the growth of the economy. While formulating the subsequent plan, an attempt is made to avoid such imbalances and to eradicate the constraints. The achievements and failures of the various plans executed in Bihar are given below, Planwise, as a prelude to the perspective Plan for the State for the period from 1978-79 to 1988-89.

The First Five-Year Plan (1951-52 to 1955-56)

2.2. Bihar ushered into an era of planning alongwith the rest of the country with the commencement of the First Five-Year Plan in 1951-52. The Central First Five-Year Plan represented Free India's first attempt at national reconstruction of the economy impoverished by the Second World War and Partition. The First Five-Year Plan was, therefore, largely motivated by the need for initiating a process of development, which might form the basis of the larger efforts in the future Five-Year Plans. At that time, the need to correct the mal-adjustments in the economy caused by the War and Partition was the paramount need of the country. It was in this context that Bihar launched its First Five-Year Plan (1951-52 to 1955-56). Although the First Plan of the State was a successor to the Post-War Reconstruction Schemes, it set a pattern, for the first time, of co-ordinated development in all sectors of the economy.

2.3. The First Five-Year Plan of Bihar was a modest plan compared to the needs. Due to financial limitations, the total outlay of the First Plan was cut down from Rs. 140.00 crores to Rs. 57.29 crores. It was subsequently raised to Rs. 67.79 crores. The performance of the First Five-Year Plan, however, exceeded the most optimistic estimate. As against the total revised provision of Rs. 67.79 crores, the actual expenditure was Rs. 73.28 crores, exceeding the Plan provision by Rs. 5.49 crores. Table 1 shows the outlay and expenditure incurred during the First Five-Year Plan by main sectors.

TABLE 1
OUTLAY AND EXPENDITURE IN THE FIRST PLAN BY MAIN SECTORS

Head of development	Outlay	Expenditure	(Rs. in lakhs)	
			Expenditure as percentage to outlay	
1. Agricultural programme	1517.40 (22.38)	1441.61 (19.68)	99.9	
2. Co-operation, C.D. and Panchayats	163.70 (2.41)	162.60 (2.22)	99.3	
3. Irrigation and Flood Control	1265.40 (18.68)	1294.30 (17.66)	102.3	
4. Power	955.60 (14.09)	946.20 (12.91)	99.0	
5. Industry and Mining	136.30 (2.01)	103.80 (1.42)	76.2	
6. Transport and Communications	1000.00 (14.75)	1078.10 (14.71)	100.3	
7. Social Services	1741.00 (25.68)	2119.00 (28.92)	121.7	
8. Miscellaneous .. .. .	.. .. .	182.00 (2.48)	..	
TOTAL	6779.4 (100.00)	7327.61 (100.00)	108.1	

2.4. It will be seen from the above table that the agricultural development programmes were given a high priority in the First Five-Year Plan. A sum of Rs. 15.17 crores was provided for agricultural programmes. In addition, another sum of Rs. 12.05 crores was provided for irrigation and flood control and Rs. 1.64 crores for Co-operation, C.D. and Panchayats. Taken together, agricultural programmes, Co-operation, C.D. and Panchayats and irrigation and flood control accounted for 43.46 per cent of the total outlay. Social services were also given high priority.

2.5. As a result of the implementation of the various programmes added by favourable seasonal conditions, the production of foodgrains increased from 44.42 lakh tonnes in 1950-51 to 56.21 lakh tonnes in 1955-56, although the area under foodgrains declined from 98.35 to 92.95 lakh hectares. The yield rate recorded an increase from 452 to 605 kg/hect.

2.6. Irrigation is one of the most important aspects of agricultural development. For meeting emergent needs, medium and minor irrigation schemes were largely undertaken. Considerable progress was made in taming the Kosi, the river of sorrow, in North Bihar. During the Plan-period, a sum of Rs. 7.35 crores was spent on the schemes of minor irrigation by the Agriculture and Revenue Departments, benefiting an area of 6.64 lakh hectares. In addition, new irrigation potential of 1.87 lakh hectares was created through major and medium irrigation schemes, out of which the actual utilization was only 1.07 lakh hectares. The pre-plan figure of irrigation potential as well as of utilisation stood at 4.03 lakh hectares. The gross irrigated area declined from 22.64 lakh hectares in 1950-51 to 17.83 lakh hectares in 1955-56.

2.7. The First Plan made large advance in power generation and distribution. The Bokaro Thermal Station of the Damodar Valley Corporation, which is one of the largest in Asia, started working from 1953. In North Bihar, which is particularly deficient in electric power, 12 diesel pilot generating stations with a capacity of 8 MW were established. Regarding distribution of power, efforts were mainly concentrated on the distribution of power obtained in bulk from the generating undertakings. The total installed capacity increased from 245.56 MW in 1950-51 to 472.43 MW in 1955-56. During the same period, the *per capita* consumption of energy increased from 19.8 KWH to 29.7 KWH and the number of places electrified, from 10 to 364.

2.8. In public works programme, the road plan for Bihar was the largest among all the States of India, amounting to Rs. 10.78 crores. It is gratifying to note that as against the revised target of 3,631 kms. of improved road, the target achieved was 3,649 kms. This is in addition to the considerable improvement made in 'Kachcha' roads in which public participation was available on a large scale. In the field of education, there was rapid expansion of primary and secondary education. The percentage of school-going children in the age-group of 6—11 increased from 27.9 in 1950-51 to 35.7 in 1955-56, the corresponding all-India figures being 42.6 and 52.9. During the same period, the percentage of enrolment in the age-group of 11—14 increased from 7.3 to 10.3 the corresponding all-India figures being 12.7 and 16.5. In the public health sector, over Rs. 10 crores were spent on the various State and Central Schemes. The number of Government managed hospitals and dispensaries increased from 40 in the pre-plan period to 137 by the end of the First Plan. A 250-bed well equipped surgical unit, one of the biggest of its kind in Asia, was added to the Patna Medical College Hospital. Improvements were made in the Darbhanga Medical College also. The main objectives of health services programme were control of communicable diseases, extension of institutional medical care and increasing the number of the medical and para-medical personnel.

2.9. The First Five-Year Plan also initiated a number of institutional changes of far reaching character. The reform of an outdated land tenure system which was restricting agricultural production, setting up of an agricultural extension service as part of a comprehensive Community Development Programme, revitalisation of the co-operative movement, and establishing a number of specialised institutions for providing credit to agriculture and industry and for giving special assistance to

backward sections of the population, were some of the important features of the First Plan.

2.10. Despite the inherent limitations of inadequate technical and administrative personnel, relatively poor finance of the State and recurring natural calamities of floods and droughts, the physical achievements in different sectors kept pace with the specified targets. But the success of the First Five-Year Plan lies not so much in its achievement of physical or financial targets as in its contribution to building up solid base for future plans.

The Second Plan (1956-57 to 1960-61)

2.11. The successful completion of the First Five-Year Plan encouraged the State Government to formulate a bigger plan. As against an expenditure of Rs. 73.28 crores in the First Plan, the Second Five-Year Plan (1956-57 to 1960-61) outlay was fixed at Rs. 190.22 crores after making the necessary efficiency cut of 5 per cent suggested for all the States and taking into account the transfer of territories consequent on the reorganisation of States in November, 1956. In the wake of the peculiar difficulties of growth experienced by the country and the difficult balance of payments position leading to the pruning of the National Plan from Rs. 4,800 crores to Rs. 4,500 crores, the outlay of the State Second Plan was reduced to Rs. 175.62 crores. As against this total provision, the actual expenditure was Rs. 177.98 crores. Table 2 gives the outlay and expenditure incurred during the Second Five-Year Plan by main sectors.

TABLE 2
OUTLAY AND EXPENDITURE IN THE SECOND PLAN BY MAIN SECTORS.

Head of Development		Outlay	Expenditure as percentage to outlay.	
1. Agricultural programme	.. ..	2696.63 (14.18)	2858.40 (16.06)	106.0
2. Co-operation, C.D. and Panchayats	.. ..	2294.23 (12.06)	2561.85 (14.40)	111.7
3. Irrigation and flood control	.. ..	3258.50 (17.13)	2698.53 (15.16)	82.8
4. Power	.. ..	2685.17 (14.12)	3113.93 (17.30)	116.0
5. Industry and mining	.. ..	1166.68 (6.13)	847.30 (4.76)	72.6
6. Transport and communications	.. ..	1585.54 (8.33)	1519.84 (8.54)	94.9
7. Social Services	.. ..	5239.83 (27.55)	4127.76 (23.19)	78.8
8. Miscellaneous	.. ..	95.23 (0.50)	69.91 (0.39)	73.4
TOTAL		19021.81 (100.00)	17797.52 (100.00)	93.6

2.12. During the First Plan, the first priority was given to the social services sector, followed by agriculture, irrigation and transport and communications and power. The order of priorities was slightly changed during the Second Plan. Agriculture was given the first place, followed by social services, power, irrigation and transport and communications. During the Second Plan, while Agriculture and Community Development accounted for 30.5 per cent of the total plan expenditure, social services, power irrigation and transport and communications accounted for 23.2, 17.5, 15.2 and 8.5 per cent respectively.

2.13. The figures of financial outlays given above are undoubtedly important as they show the magnitude of investment in the public sector. But far more important are the achievements in the various fields of development. The most significant achievement of the two Five-Year Plans is the setting up of an extension agency to cover ultimately all the villages in the State and also to uplift the economy largely through community effort. During the Second Plan, the task of constituting Gram Panchayats was carried further to give shape to democratic decentralisation as stressed by the Balwant Rai Mehta Committee. Co-operative movement made further progress during the Second Plan, both in the increase in the number of co-operative societies and in the diversification of the functions of the societies.

2.14. During the Second Plan, agriculture took pride of place. The production of foodgrains increased from 56.21 lakh tonnes in 1955-56 to 74.19 lakh tonnes in 1960-61. The actual production in the various years, however, showed wide fluctuations, thus exposing the dependence of agriculture on monsoon. The area under foodgrains during the plan period increased from 92.95 to 99.28 lakh hectares. The yield rate increased from 605 to 747 kg./hect.

2.15. In order to reduce the dependence of agriculture on rains minor irrigation schemes were given great importance on account of their low cost of execution and the possibility of deriving immediate benefit from the potential created. During the Second Plan, 10.63 lakh hectares of land received benefit through minor irrigation schemes as against 6.64 lakh hectares in the First Plan. In addition, the irrigation potential created during the Second Plan period by medium and major schemes was of the order of 2.46 lakh hectares, the actual utilisation also being 2.46 lakh hectares inclusive of 0.80 lakh hectares coming on unutilised from the First Plan period. Thus during the Second Plan period, the irrigation potential increased from 5.90 to 8.36 lakh hectares, while the actual utilisation increased from 5.11 to 7.57 lakh hectares. As against 7.77 million hectares of cultivated area of the reorganised State of Bihar, assured irrigation was, therefore, made available to only 8.36 lakh hectares, i.e., 11 per cent of the total cultivated area. The gross irrigated area increased from 17.83 lakh hectares in 1955-56 to 20.62 lakh hectares in 1960-61.

2.16. The flood control programme was executed with great measure of popular support and practically all the major rivers in the North Bihar were controlled by the end of the Second Plan. The First and the Second Plans added an area of 2.33 and 10.32 lakh hectares to the original area of 10.06 lakh hectares already protected from floods by 1951, at a cost of Rs. 5.60 crores and 17.69 crores.

2.17. As regards the industrial sector, the State had necessarily to depend on the Central Industrial Plans because of the heavy investment required to tap the vast resources of the State. As part of the Central Plan, the Fertilizer Factory at Sindri was established during the First Plan and preliminary work was done on the Heavy Machinery Plant and the Foundry Forge at Hatia and the Barauni Oil Refinery during the Second Plan. The State Second Plan made a modest attempt to start a Super Phosphate Factory at Sindri and a High Tension Insulator Factory at Ranchi.

Schemes for a spun silk factory at Bhagalpur, a co-operative spinning mill and a co-operative sugar factory were also included in the Second Plan. In the private sector, an Explosive Factory was established at Gomia and the production of iron and steel, sugar, vehicles, electrical equipment, chemicals, paper and textiles was expanded. The plan also emphasised the scope for considerable expansion of the small scale and village industries. As against Rs. 1.04 crores spent on industry and mining during the First Plan, Rs. 8.47 crores were spent during the Second Plan.

2.18. During the Second Plan, there was a sizable increase in power generation. The State Electricity Board was set up in 1958 to manage the generation and distribution of power on commercial lines. The installed capacity increased from 472.43 MW in 1955-56 to 782.84 MW in 1960-61 and the per capital consumption of electricity, from 29.7 KWH to 41.1 KWH. During the same period, the number of places electrified increased from 364 to 2,475.

2.19. In the field of transport, the total length of surfaced road increased from 4,800 km. in 1950-51 to 10,989 km. in 1961. Due to paucity of funds, the level of development of roads remained far below the all-India average. There was, however, a significant development of the railways during the decade as part of the Central Plan. A bridge was constructed across the Ganga at Mokamah. A broad gauge line was laid up to Barauni and also between Chandrapura and Ranchi. A huge scheme of electrification to cope with the additional loads on the Railways was also drawn up.

2.20. Social services like health, education and welfare of backward classes received high priority. The number of Government managed hospitals and dispensaries increased from 137 in 1955-56 to 587 by the end of the Second Plan. In order to cope with the increased requirements for medical graduates, the number of seats was increased in the two Medical Colleges at Patna and Darbhanga and the third Medical College was opened at Ranchi.

2.21. In the sphere of education, efforts were made to provide universal, free and compulsory primary education. The percentage of enrolment of children of the age-group 6—11 increased from 35.7 in 1955-56 to 53.7 in 1960-61, the corresponding all-India figures being respectively 52.9 and 62.2. During the same period the enrolment in the age-group 11—14 increased from 10.3 to 17.1, the corresponding all-India figures being 16.5 and 22.5. In the field of secondary education, efforts were concentrated on the increase in the number of institutions, diversification of courses and conversion of High Schools into Higher Secondary and Multi-purpose Schools. Significant changes were made in the field of University education also. The Patna University which was an affiliating University, was converted into a teaching-cum-residential University. Later, with the increase in the number of colleges and students it was found essential to establish four Universities in the State in place of two. In the field of technical education, the intake capacity of the technical institutions was increased during the two plans. In addition, two more agricultural colleges and a Second Veterinary college were opened by the end of the Second Plan. Among the measures taken for the welfare of Scheduled Tribes, Scheduled Castes and other backward classes, provision of educational facilities is the most important. Construction of grain golas, strengthening of co-operative societies, development of cottage industries, construction of houses, provision of wells, etc., were the other measures taken.

The Third Plan (1961-62 to 1965-66)

2.22. The first two Plans of the State, no doubt, made some impact on the economy but, at the same time, they were too modest to make any significant contribution to raising the standard of Living of the people. The Third Five-Year Plan (1961-62 to 1965-66) was, therefore, drawn up as a programme of action much larger in size than the First or the Second. It represented the State's first effort to wards development and formed part of the national objective to make the

economy self-generating and self-reliant. Table 3 gives the outlay and expenditure incurred during the Third Plan by main sectors.

TABLE 3

OUTLAY AND EXPENDITURE IN THE THIRD PLAN BY MAIN SECTOR

(Rs. in lakhs)

Head of development	Outlay	Expenditure	Expenditure as percentage to outlay
1. Agricultural Programme	4138.61 (12.28)	3851.05 (11.71)	93.1
2. Co-operation, C.D. and Panchayats	4110.00 (12.20)	2927.55 (8.91)	71.2
3. Irrigation and flood control	7057.10 (20.94)	8177.00 (24.88)	115.9
4. Power	7062.00 (20.95)	9405.00 (28.61)	133.2
5. Industry and mining	1403.00 (4.16)	1053.03 (3.20)	73.8
6. Transport and communications	2140.00 (6.35)	1744.39 (5.31)	81.5
7. Social services	7725.24 (22.92)	5685.52 (17.3)	73.6
8. Miscellaneous	68.42 (0.21)	26.80 (0.08)	39.2
TOTAL	33704.38 (100.00)	32870.34 (100.00)	97.5

2.23. Considering the percentage of the total expenditure incurred on various sectors in the Second and Third Plans, the difference in the sectoral priorities is negligible except in the case of agriculture and Community Development, Irrigation and Power. A substantial proportion of the Second Plan expenditure on agriculture and Community Development was on extension, research and teaching staff that was appointed for the first time. This staff continued in the Third Plan period as committed expenditure, outside the Plan. Most of the expenditure incurred in the Third Plan was thus on works of various kinds to increase production. There was greater emphasis in the Third Plan on execution of the major river valley projects for providing assured irrigation and on power for industry and agriculture. In fact, all the major projects like Kosi, Gandak and Sone schemes had been initiated during the Second Plan itself. During the Third Plan, the tempo of expenditure was higher.

2.24. In the field of agriculture, the actual production of foodgrains in the terminal year of the Third Plan (72.35 lakh tonnes) was a little lower than in the base year (74.19 lakh tonnes) due to unfavourable weather conditions over large parts of the State, apart from non-fulfilment of irrigation target and rise in the cost of fertilizers with inadequate supply. The area under foodgrains declined from 99.28 lakh hectares in 1960-61 to 95.95 lakh hectares in 1965-66. There was, however, a marginal increase in the yield rate from 747 to 754 kgs./hect. during the Plan period.

2.25. The Plan aimed at creating new irrigation potential of 11.26 lakh hectares through major and medium irrigation schemes, out of which the actual utilisation

was expected to be 8.04 lakh hectares. The targets for irrigation potential and utilisation were fixed at 19.62 and 15.60 lakh hectares respectively by the end of the Third Plan. The gross irrigated area during the Plan period increased from 20.62 lakh hectares in 1960-61 to 22.51 lakh hectare in 1965-66. Among the major irrigation projects completed, mention may be made of the Kosi Project which was completed by and large. The remodelling of the Sone Canals and the construction of the Barrage over the river Sone near Dehri were the other important projects completed by the end of the Third Plan. While flood control was established early, the utilisation of irrigation water started on a small scale only in the last year of the Third Plan due to reasons like want of water-courses and delay in the erection of hydel power unit.

2.26. As regards power generation, the total installed capacity increased from 634.84 MW in 1960-61 to 924.37 MW in 1965-66. The *per capita* consumption of power during the same period increased from 41.1 KWH to 57.7 KWH and the number of places electrified, from 2,475 to 4,070. The average *per capita* consumption of energy in Bihar thus remained below the all-India figure of 61.3 KWH. But as the bulk of the energy was consumed in the mineral and industrial belt of the State, the supply in the rest of the State was very limited. Even by the end of the Third Plan, only 6 per cent of the towns and villages of the State could be electrified.

2.27. Considerable progress was made in the construction of National and State Highways and major district roads. The total road length under these categories increased from 4,877 km. in 1950-51 to 14,656 km. in 1965-66. The length of major district roads during the same period increased from a bare 164 kms. to 8,254 kms. The progress was very much marked in North Bihar where the length of metalled roads increased from 704 km. in 1951 to 5,059 kms. in 1965-66. Good progress was made in the widening of trunk roads. The length of double-lane roads increased from 92 kms. only in 1950 to 845 kms. in 1965-66. Although good progress was made in the construction of roads by the end of the Third Plan, vast areas in the interior remained without proper road facilities.

2.28. Although Bihar has a very rich industrial potential, industries could not develop in the State to the desired level. A few mineral based large-scale industries were established even before the First Plan but their existence did not attract ancillary or subsidiary industries. The State set up two factories, viz., the Super-phosphate Factory at Sindri and the High Tension Insulator Factory at Ranchi. The work on the electrical equipment factory was started towards the end of the Third Plan period. The Oil Refinery set up at Barauni by the Government of India went on stream a few years ago. The Machine Building Plant, the Foundry Forge and the Machine Tools Plant at Ranchi on which the Central Government started work during the Second Plan, were partially commissioned by the end of the Third Plan. The work on the construction of Steel Plant at Bokaro was also taken up towards the end of the Plan. The private sector industries expanded their capacities during Plan but the rate was rather slow. The rate of increase in the net value of output of factory establishments and mineral production in the State was lower than in India. The index of industrial production in Bihar with 1956 as the base worked out to 151.3 as against 184.4 for all-India and the index of mineral production with 1955-56 as the base, 151 as against 184 for all-India. In terms of net value, the output of factory establishments increased from Rs. 58.48 crores in 1960-61 to Rs. 78.07 crores in 1965-66. During the same period, the net output of mineral production increased from 33.12 crores to 39.29 crores.

2.29. In the field of education, the enrolment at the Primary, Middle, Secondary and University levels increased from 14.7, 2.2, 1.5 and 0.2 lakhs in 1950-51 to 39.6, 7.1, 4.5 and 1.1 lakhs respectively in 1965-66. The percentage of enrolment in the age-group 6—11, 11—14 and 14—17 rose to 54.3, 18.6 and 13.5 respectively by 1965-66 the all India average being 73.5, 22.2 and 17.8 respectively. The percentage enrolment in the age-groups 6—11 and 11—14 in Bihar, therefore, remained far below the all-India level by 1965-66. The percentage of students studying science at the University stage in 1965-66 was only 31.5 as against 42.5 in the country as a whole. The technical education in the State recorded good progress. The enrollment increased from a bare 132 in 1950-51 to 1,376 in 1965-66. Similarly,

the intake capacity at the diploma level during the same period increased from 100 to 2,129. As regards health, the number of beds in the hospital increased from 4,286 in 1950-51 to 12,755 in 1965-66. The ratio of beds to population, however, was only 1 : 3900 as against the all-India average of 1 : 2060. The doctor-population ratio at the end of the Third Plan was 1 : 6458 as against the all-India average of 1 : 5800. Since the Scheduled Castes/Tribes and other backward classes constitute a sizable portion of the total population of the State, efforts were continued to raise their lot by providing a large number of freeships, stipends and other concessions. The enrolment of the children of these castes in educational institutions increased from 10.17 lakhs in 1950-51 to 29.27 lakhs in 1963-64.

The Three Annual Plans (1966-67 to 1968-69)

2.30. During the Third Plan period, several difficulties seriously disturbed the Indian economy. The aggression of China in 1962 and hostilities with Pakistan in 1965 resulted in heavy commitments on defence. This was followed by the drought of 1965-66. Recession followed. Resources had to be diverted to fight drought and near famine and their aftermath. For sometime, long-term planning had to be virtually suspended. Though the nation as well as the States formulated the Fourth Five-Year Plan (1966-71), planning continued with limited objectives and moderate outlays on the basis of three Annual Plans (1966-67 to 1968-69). The outlay and expenditure of the Annual Plans are given in Table 4.

Table 4
Outlay and expenditure in the Annual Plans by rain sectors

Head of development	Outlay	Expenditure	(Rupees in lakhs)
			Expenditure as percentage to outlay.
1. Agricultural Programme	4778.85 (22.87)	4457.03 (19.56)	93.3
2. Co-operation, C.D. and Panchayats ..	971.46 (4.65)	1074.70 (4.71)	110.6
3. Irrigation and Flood Control	4977.50 (23.82)	6022.77 (26.42)	121.0
4. Power	5575.00 (26.88)	6684.15 (29.32)	119.9
5. Industry and Mining	742.63 (3.55)	621.89 (2.73)	83.7
6. Transport and Communication	966.65 (4.63)	1033.85 (4.54)	107.0
7. Social Services	2859.21 (13.68)	2881.03 (12.64)	100.8
8. Miscellaneous	24.43 (0.12)	18.02 (0.08)	75.0
TOTAL	20895.73 (100.00)	22793.44 (100.00)	109.1

2.31. It will be seen from the table given above that the expenditure on agriculture including irrigation and flood control during the Annual Plans accounted for more than half of the total expenditure (50.69 per cent). During the Annual Plans 1966-67 and 1967-68, as against the target of 16.21 lakh tonnes of additional food-grains production, the potential created was only 5.91 lakh tonnes because of the unprecedented drought and famine over a large part of the State. Flood also took its toll in 1967-68. Agricultural production sought to be stepped up through a large number of short-term measures capable of yielding quick results including the high yielding varieties programme, short duration cropping, multiple-cropping and promotion of subsidiary foodgrains. Spill-over schemes in sectors like irrigation and power were given priority. The total installed capacity increased from 924.37 MW in 1965-66 to

1270.53 MW in 1968-69. Minor irrigation works and rural electrification, particularly energisation of pump-sets, were intensified. As a result of these programmes, the production of foodgrains which dropped from 72.75 lakh tonnes in 1965-66 to 36.21 lakh tonnes in 1966-67, increased to 73.65 lakh tonnes in the following year and remained more or less constant in the next year. The area under foodgrains which declined from 95.95 lakh hectares in 1965-66 to 81.39 lakh hectares in 1966-67, increased to 98.29 lakh hectares in 1968-69. The yield rate which dropped sharply from 754 kgs./hect. in 1965-66 to 444 kgs./hect. in 1966-67, almost regained its position in 1968-69. The gross irrigated area increased from 22.51 lakh hectares in 1965-66 to 26.97 lakh hectares in 1968-69.

2.32. The inadequacy of financial resources during the Annual Plans slowed down the expansion of social services. The expenditure on social services accounted for only 13 per cent of the total expenditure. The tempo of expenditure on education and welfare of backward classes was, however, maintained. In 1966-67, the percentage of enrolment of the children of the age-groups 6—11 and 11—14 increased to 55.2 and 19.1 as against the all-India figures of 79.9 and 33.9 respectively. The percentage further increased to 56.3 and 19.4 in the following year. The percentage of enrolment in the 14—17 age-group, however, declined marginally from 13.5 in 1965-66 to 13.2 in 1966-67 as against the all-India average of 19. But in the next year, the percentage rose again to 13.4.

The Fourth Plan (1969-70 to 1973-74)

2.33. The Fourth Five-Year Plan period (1969-70 to 1973-74) was marked by widespread drought, flood, famine and political instability. As a result, the achievement of physical and financial targets of the Plan was difficult. As against the approved outlay of Rs. 531.28 crores, Rs. 485.76 crores were spent in the Fourth Plan period (Table 5). The revised expenditure of the Fourth Plan is still lower (Rs. 480.88 crores). The shortfall in the achievement of financial targets was much less marked than the achievement of physical targets. This was so because of the high incidence of price during the Fourth Plan period.

Table 5—Outlay and expenditure in the Fourth Plan by main sectors.

<i>(Rupees in lakhs)</i>				
Head of development.	Outlay.	Expenditure.	Expenditure as percentage to outlay.	
1. Agricultural programme	9310.00 (17.52)	7208.00 (14.84)	88.0	
2. Co-operation, C.D. and Panchayats ..	1980.00 (3.72)	1763.00 (3.63)	100.8	
3. Irrigation and Flood Control	27100.00 (51.04)	14544.00 (29.94)	115.6	
4. Power		13577.00 (27.95)	105.1	
5. Industry and mining	1752.00 (3.29)	1739.00 (3.58)	88.9	
6. Transport and Communications	3804.00 (7.16)	3561.00 (7.33)	99.4	
7. Social services	9127.00 (17.17)	6171.00 (12.70)	80.9	
8. Miscellaneous	55.00 (0.10)	13.00 (0.03)	20.6	
TOTAL	53128.00 (100.00)	48576.00* (100.00)	99.8	

*Revised Fourth Plan expenditure is Rs. 480.88 crores.

2.34. The Fourth Plan laid emphasis on agricultural programme, irrigation and power sectors. Agricultural programmes, Community Development, Co-operation and Panchayats accounted for 21.24 per cent of the total Plan outlay. The production of foodgrains increased from 75.61 lakh tonnes in 1968-69 to 77.65 lakhs tonnes in 1973-74. Although the production of foodgrains increased, the rate of increase was well below the national average and much lower than the rates attained in many other States, such as the Punjab, Haryana and Gujarat. Moreover, the agricultural production remained unstable due to recurrence of floods and droughts, lack of adequate supply of fertilizer, non-realisation of the anticipated irrigation potential, etc. The area under foodgrains declined from 98.29 lakh hectares in 1968-69 to 95.97 lakh hectares in 1973-74. The yield rate, however, increased during the same period from 749 to 809 kgs./hectare.

2.35 Irrigation and power accounted for more than 51 per cent of the total Plan outlay. The total irrigation potential created by the end of the Fourth Plan stood at 19.45 lakh hectares and the utilisation at 13.16 lakh hectares. The percentage utilisation worked out to 67.66. As regards minor irrigation, it has been reported that the potential created by the end of the Fourth Plan stood at 17.00 lakh hectares through minor irrigation schemes, both surface and ground water including State tube-wells. The utilisation was also exactly the same. It appears that the potential figure has been computed on the basis of cent per cent utilisation because of inadequacy of data on the potential of various minor irrigation schemes. This has since been reworked by the Planning Board in consultation with the Minor Irrigation Department of the Government of Bihar. The revised figures of irrigation potential works out to 22.38 lakh hectares as against 17.00 lakh hectares. The utilisation has been kept at 17.03 lakh hectares which gives an utilisation factor for 76.09 per cent. The total irrigation potential at the end of the Fourth Plan thus stood at 41.83 lakh hectares and the utilisation at 30.19 lakh hectares, the percentage utilisation being 72.17.

2.36. In the power sector, the total installed capacity increased from 1270.53 MW in 1968-69 to 1783.84 MW in 1973-74. The per capita consumption of power increased to 71 KWH by 1973-74. On the transmission side, as against the targets of 532 MW circuit KW of 220 KV Lines and 1660 circuit KM of 132 KV lines, the anticipated achievements were respectively 664 and 1,088 circuit KM. The achievement of electrifying 9,814 villages and providing connections to 96.30 thousand pumps was below the targets of 12,500 villages and 1.25 lakh pump connections.

2.37. In the road sector, the length of surfaced roads increased from 12,205 kms. in 1968-69 to 13,323 kms. (estimated) at the end of the Fourth Plan. The length of such roads in 1951 was only 4,800 kms.

2.38. In the field of industry, the Central Government have made substantial investments in Bihar since 1951 in the establishment of heavy engineering, fertilizer, oil-refining and steel capacity. One or two large private houses have also invested in setting up of industries based on mineral resources available in the State. But the establishment of heavy industries in the public and private sectors has had very limited impact on the economy. These industries, however, provided favourable conditions for a rapid development of secondary and tertiary in the State. The small-scale ancillaries at Adityapur, Hatia and Bokaro recorded good progress.

2.39. Under the health sector, the programmes of control of contagious diseases, family planning and post-graduate medical education were treated to be programmes of national importance and were, therefore, included in the category of Centrally-sponsored Schemes. For the rest of the programmes, the State Government made a provision of Rs. 15.20 crores in the State's Fourth Plan. The actual expenditure was, however, only Rs. 7.28 crores. The reasons for the shortfall in expenditure were mainly attributable to non-availability of funds and bottlenecks in building construction programme. As against the Fourth Plan target of increasing the number of urban beds to 14,864 from 9,513 in 1968-69, the actual achievement was estimated at 11,590. As regards the rural beds, it was estimated that the Fourth Plan target of raising the number to 3,603 would be fully achieved. As regards education, the

expenditure during the Fourth Plan was of the order of Rs. 28.15 crores as against the Plan outlay of Rs. 38.38 crores. The shortfall was mainly due to non-availability of funds which had mainly affected the elementary and secondary education. As against the target of enrolling 15.02 lakh additional children in the age-group 6—11 during the Fourth Plan, the enrolment was estimated at 8.52 lakhs only. The enrolment was poor particularly in the case of girls. Similarly, the additional enrolment of children in the age-group of 11—14 (3 lakhs) fall short of the targeted enrolment (4.13 lakhs). The percentage of enrolment during the Fourth Plan, however, rose from 55.9 to 62.2 for the 6—11 age-group and from 19.7 to 24.3 for the 11—14 age-group.

The Fifth Five-Year Plan (1974-75 to 1977-78)

2.40. The draft Fifth Five-Year Plan (1974—79) submitted by the Government of Bihar in July, 1973 visualised an outlay of Rs. 1520 crores. After scrutiny and discussions, the Planning Commission decided on a tentative outlay of Rs. 1267.43 crores in January, 1974, which was revised to Rs. 1296.06 crores with the finalisation of the Fifth Plan.

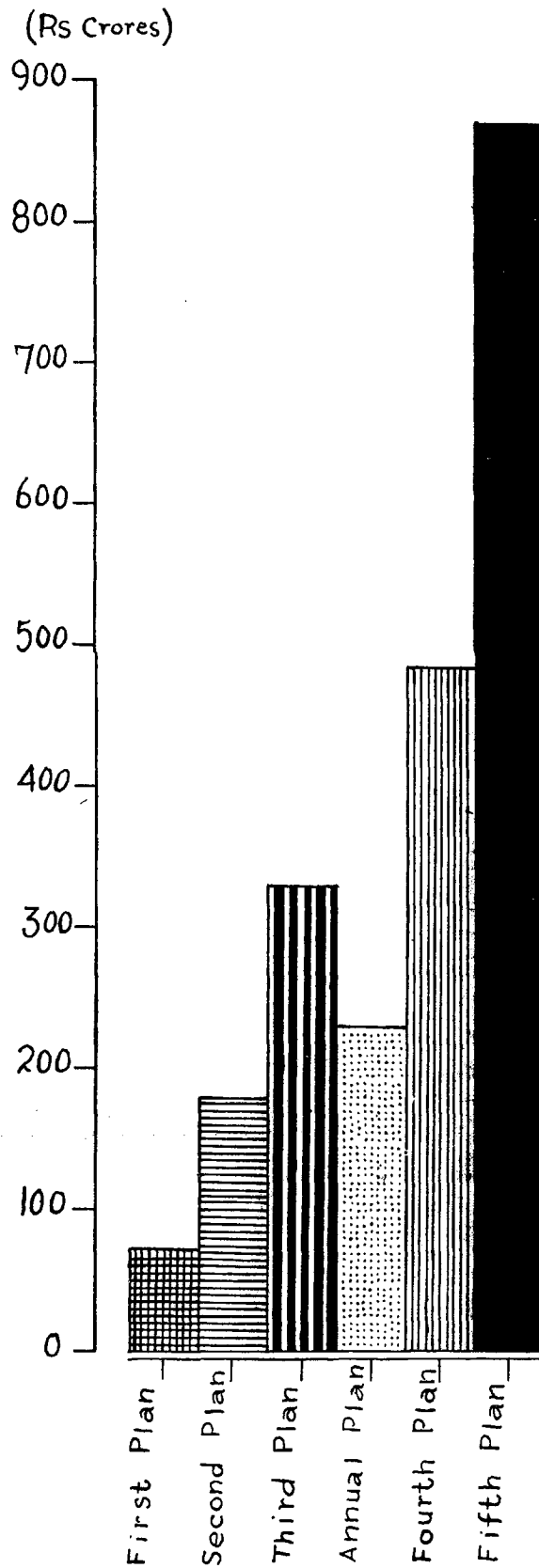
2.41. It has now been decided to modify the existing system of fixed period Five-Year Plans by introducing the concept of a "Rolling Plan". Consequently, the Fifth Five-Year Plan has been terminated on the 31st March 1978 only after four years and a new medium-term plan for five years from 1978-79 to 1982-83 has been launched from April, 1978. With the early closing of the Fifth-Plan, the outlay got reduced from 1296.06 crores to Rs. 971.71 crores.

2.42. The broad sectoral outlay of the original as well as truncated Fifth Plan and the expenditure incurred during the four years of the Fifth Plan are given in Table 6.

Table 6
Outlay and expenditure in the Fifth Plan by main sectors.

Head of development.	<i>(Rupees in lakhs)</i>			
	Original Fifth Plan Outlay (1974—79).	Truncated Fifth Plan Outlay (1974—78).	Actual expenditure (1974—78)	Expenditure as percentage to Outlay (1974—78)
1	2	3	4	5
1. Agricultural programmes	18,916.39	14,748.92	12,159.39	93.61
	(14.59)			
2. Co-operation, C.D. and Panchayats.	3,692.87	(16.18)	1,646.51	95.21
	2.85			
3. Irrigation and Flood Control.	33,780.00	50,700.00	26,233.79	95.21
	(26.06)	(55.61)		
4. Power	35,896.99		22,036.99	101.58
	(27.70)			
5. Industry and mining ..	5,588.25	3,578.82	3,635.54	101.04
	(4.31)	(3.92)		
		(8,732.53)		95.30
6. Transport and Communications.	12,810.74	(9.58)	8,823.26	
7. Social services ..	17,727.33	12,597.87	12,005.93	93.74
	(13.68)	(13.82)		
8. Miscellaneous ..	1,193.43	812.86	762.00	95.76
	(0.93)	(0.89)		
Total ..	1,29,606.00	91,171.00	87,303.41	
	(100.00)	(100.00)		

GROWTH OF PLAN EXPENDITURE IN DIFFERENT PLANS



J. Alam

Fig:- 2

GROWTH OF PLAN EXPENDITURE BY SECTOR IN DIFFERENT PLANS

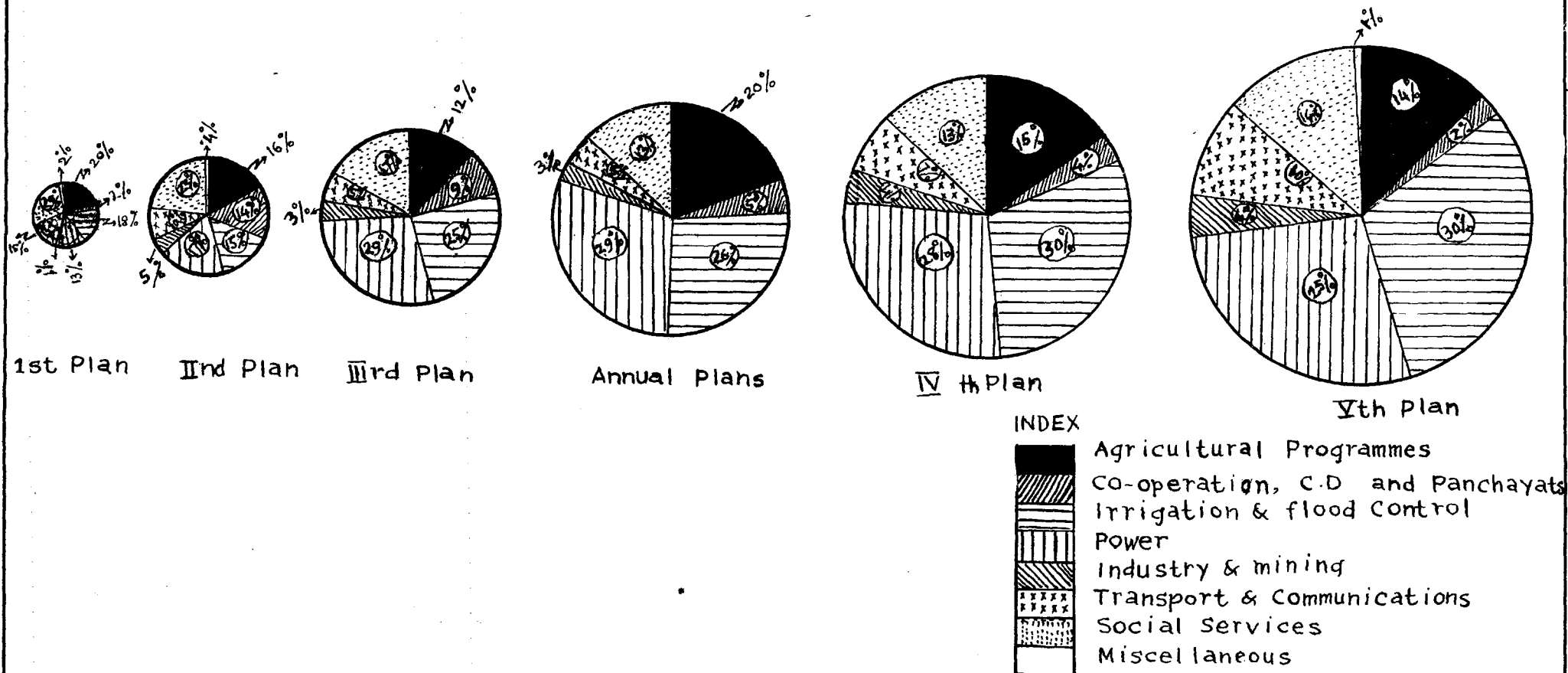


FIG.- 3

J. Alam, Cartographer

2.43. It will be seen from Table 6 that the Fifth Plan laid emphasis on power development, irrigation and flood control. The proposed outlay under these two heads of development in the truncated Fifth Plan accounted for about 56 per cent of the Fifth Plan outlay. Agricultural programmes accounted for about 16 per cent and social services 14 per cent.

2.44. The production of food-grains increased from 77.65 lakh tonnes in 1973-74 to 82.56 lakh tonnes in 1974-75 and 97.79 lakh tonnes in 1975-76. It, however, decreased marginally to 93.58 lakh tonnes in 1976-77. The production in 1977-78 is estimated at 102 lakh tonnes in view of the favourable weather conditions.

2.45. The irrigation potential created through major and medium schemes increased from 19.45 lakh hectares in 1973-74 to 24.85 lakh hectares in 1977-78. The utilisation of the potential created, however, increased from 13.16 to 16.55 lakh hectares. The potential created through minor irrigation schemes increased from 22.38 lakh hectares in 1973-74 to 34.52 lakh hectares in 1977-78, the utilisation in the respective years being 17.03 and 24.85 lakh hectares.

2.46. In the power sector, the total installed capacity increased from 1783.84 MW in 1973-74 to 1935 MW in 1976-77. The installed capacity of the Bihar State Electricity Board during the same period increased from 573.45 MW to 590.21 MW at the end of 1977-78. The capacity at the end of 1977-78 is estimated to have increased to 740 MW. The energy generated increased from 1,884 million KWH in 1973-74 to 2,866 million KWH in 1977-78. The per capita consumption of electricity increased from 71 KWH in 1973-74 to 93 KWH in 1976-77. Regarding rural electrification, out of 67,566 villages 18,695 have already been electrified till the end of 1977-78, leaving a balance of 48,871 villages to be electrified.

2.47. In the road sector, the length of surfaced road increased from 13,323 kms. in 1973-74 to 23,133 kms. in 1977-78. The length of unsurfaced roads in 1977-78 was 53,853 kms. of which almost the entire length (52,861 kms.) was due to village roads only. The length of surfaced roads per lakh of population increased from 31 kms. in 1973-74 to 41 kms. in 1977-78, the respective all-India figures being 62 and 90 kms.

2.48. In the field of industry, the manufacturing industries (factory establishments and small enterprises) accounted for only 10.64 per cent of the State Domestic Product in 1974-75. In 1975-76 the contribution is estimated at 13.22 per cent. The establishment of heavy industries in the public and private sectors thus has had, so far, very limited impact on the economy. However, the condition now seem to be ripe for a rapid development of secondary and tertiary sectors in the State. Minerals accounted for only 4.67 per cent of the SDP in 1974-75 and 7.27 per cent in 1975-76.

2.49. Under the health sector, 22 hospitals/dispensaries were established in 1974-75 in the urban areas, which exceeded the Fifth Plan target of 21. In the rural areas, 35 hospitals/dispensaries were established by 1977-78 as against the Fifth Plan target of 147. In the field of general education, the percentage of enrolment of boys in the age-group 6—11 is anticipated to have increased from 85.2 in 1974-75 to 89.0 in 1977-78 as against the Fifth Plan target of 100. In respect of girls of the same age-group, the percentage of enrolment is likely to increase from 34.1 in 1974-75 to 40.0 in 1977-78, the Fifth Plan target being 50.

Sector-wise Achievements (1951—78)

2.50. The above analysis of planned development in Bihar highlights the successes and failures of the economy, plan-wise, for the period from 1951-52 to 1977-78. An attempt is now being made to present the sector-wise achievements and failures of the economy during the same period with a view to facilitating a quick and connected sectoral study of growth during the planned era in Bihar.

Agricultural Production

2.51. Production of foodgrains has increased from an average of about 41.70 lakh tonnes during the three years ending 1950-51 to an average of 97.79 lakh tonnes

during the three years ending 1977-78, which gave a growth rate 4.98 per cent per annum. It is estimated that the population during the same period has increased from 38.79 to 63.30 millions. The population, therefore, is estimated to have increased by 63.19 per cent over 27 years or by 2.34 per cent annually. The annual compound growth-rate of foodgrains works out to 3.5 per cent as against 1.84 per cent for the population. Although the rate of growth of food-grains production has been maintained at a level higher than the rate of population growth the agricultural production has remained unstable due to recurrence of floods and droughts as mentioned earlier. The cultivation still remains largely dependent on rainfall. Among the cereals, there has been a marked increase in the production of wheat but the same is not true to rice. While the production of pulses has declined that of commercial crops has not shown any significant increase. It is heartening to note that the foodgrains production in Bihar in 1977-78 has exceeded 100 lakh tonnes mark. The production is estimated at 102 lakh tonnes.

Irrigation

2.52. The gross irrigated area is estimated to have increased from 22.64 lakh hectares in 1950-51 to 37.16 lakh hectares in 1976-77 an increase of 13.52 lakh hectares over 26 years or about 2.30 per cent per annum. The development of irrigation has not, therefore, on the whole progressed satisfactorily. The gross irrigated area through major and medium schemes in 1977-78 is estimated at 16.55 lakh hectares and through minor irrigation scheme 24.85 lakh hectares as against the respective potential of 24.85 and 34.52 lakh hectares. The percentage utilisation is estimated at 66.60 for major and medium schemes, 72.00 for minor schemes and 69.73 for all schemes.

2.53. The realisation of the irrigation benefits has not been commensurate with the investment made due largely to delays in completion and effective commissioning of the projects. Various steps are being taken for accelerating the progress of schemes which have already reached an advanced stage and for strengthening the organisational infrastructure of agricultural extension and credit in such areas. The development of the immense ground-water resources available in Bihar began to receive particular attention only after the severe drought of 1966-67. The programme had slowed down to some extent during the early years of the Fourth Plan. Earnest endeavours are being made, however, now to push ahead the ground water development programme on a massive scale. It is also necessary to increase the utilisation of the potential created.

Power

2.54. The installed generating capacity in Bihar has grown from 245.56 MW in 1950-51 to 1,935.27 MW in 1976-77 as shown in the following statement:

(in MW)

	1950-51	1955-56	1960-61	1965-66	1968-69	1973-74	1976-77	
	1	2	3	4	5	6	7	8
1. Board's own Power Station.	3.31	13.34	13.37	58.45	208.51	573.45	590.23	
2. D.V.C. ..	Nil	176.50	331.50	571.50	751.50	871.50	871.50	
3. Other public utilities ..	43.75	35.38	34.38	31.84	30.74	30.84	30.84	
4. Self-generating plants or captive plants.	198.50	247.21	253.59	262.58	279.78	308.05	442.72	
TOTAL ..	245.56	472.43	632.84	924.37	1,270.53	1,783.84	1,935.27	

The per capita consumption of electricity in the State during the same period has increased from 19.80 to 93.19 K.W.H which is well below the national average of 115 K.W.H (estimated). The power generation programme has thus lagged behind and need to be pushed ahead vigorously.

2.55. The number of towns and villages electrified rose from barely 10 in 1950-51 to 18,695 by the end of 1977-78, which is only 28 per cent of the total number of villages to be electrified. A balance of about 48,871 villages are required to be electrified out of a total of 67,566 villages. Rural electrification has also, therefore, lagged behind.

2.56. The transmission and distribution system which is already overstretched and causes heavy transmission losses and voltage fluctuations, need considerable strengthening and reorganisation.

Transport

2.57. The length of surfaced roads increased from about 48,00 kms. in 1950-51 to 22,328 kms. in 1976-77. At the end of the Fifth Plan (1977-78), the total length of the surfaced roads is estimated to have gone up to 23,133 kms. The length of unsurfaced roads in 1977-78 was 53,853 kms. of which almost the entire length (52,861 kms.) was due to village roads only. The kilometrage of unsurfaced roads by the end of the Fifth Plan is also expected to remain the same. Thus even by the end of the Fifth Plan, only about 30 per cent the total length of the roads will be surfaced and 70 per cent will remain unsurfaced. The length of surfaced roads in 1977-78 per lakh of population worked out to 41 kms. and of unsurfaced roads 95 kms. in 1977-78 as against the national average of 90 and 132 kms. respectively. The position in this regard is expected to remain unchanged in the current year. At the end of Fifth Plan, only about 20 per cent of the villages with a population of 1,500 and above are expected to be connected with all-weather roads. It is further expected that 10.4 per cent of the population will have direct access to all-weather roads by 1977-78.

2.58. The economic growth of the State has suffered a good deal due to poor development of road communication. The development of rural roads has been neglected in the past and will need special attention in Sixth Plan for promoting agricultural development, opening up new areas, removing regional imbalances and the hardships of the people. As road development schemes are employment-intensive, this will help, among other things, to maximise employment in rural areas.

2.59. There are extensive areas in the plateau sub-region which do not yet have proper railway communication. There is also need for giving urgent attention to developing more effective railway communication between the highly mineralised plateau region and the densely populated North and South Bihar plains. There are presently serious difficulties in moving substantial quantities of coal and other mineral products by rail from the plateau districts to the plains districts, more particularly North Bihar destinations, which is hampering the industrial growth of the State.

Industries

2.60. Although Bihar has a very rich industrial potential, industries could not develop in the State to the desired level. Central Government have made substantial investment in Bihar since 1951 in the establishment of heavy engineering, fertilizer, oil refinery and steel capacity. One or two large private houses have also invested in the setting up industries based on mineral resources available in the State, but the establishment of heavy industries in the public and private sectors has had very limited impact on the economy. These industries, however, provide favourable conditions for a rapid development of secondary and tertiary industries in the State. The small-scale industries at Adityapur, Hatia and Bokaro recorded good progress. The contribution of manufacturing industries (factories establishments and small-enterprises) in the State domestic product increased from 8.87 per cent in 1950-51 to 13.22 per cent in 1975-76. The State's share of mineral production in the country, however, declined from 41 per cent in 1951 to 28.6 in 1976.

Literacy and elementary education

2.61. Bihar has lagged behind in literacy and education due largely to the low per capita outlay on education due to financial difficulties. In 1971, only 19.9 per cent of the population was literate as against the average of 29.5 for All-India.

2.62. In education, enrolment at the primary stage is expected to rise from 14.6 lakhs in 1950-51 to about 56 lakhs in 1977-78. The percentage of enrolment was 89 per cent for boys and 40 per cent for girls in age-group 6—11. At the middle school level, enrolment is likely to increase from 2.2 lakhs in 1950-51 to about 13 lakhs in 1977-78. The percentage enrolment will be 40 per cent for boys and 14 per cent for girls in age-group 11—14.

Secondary and University education

2.63. The enrolment in secondary schools is likely to rise from 1.5 lakh in 1950-51 to 4.5 lakhs in 1977-78. The percentage enrolment of boys and girls in the age-group 14—17 will be only 15 per cent, 26 per cent for boys and 4 per cent for girls. At the University stage, enrolment has increased from 29 thousand in 1950-51 to 1.93 lakhs in 1976. At both Secondary and University levels, the quality of education has suffered due to overcrowding in schools, inadequacy of teaching personnel in both numbers and quality and lack of library, sports and recreational facilities in many institutions. In Engineering Degree courses, the yearly intake capacity has been increased from above 32 in 1950-51 to 1,376 by 1977-78 and in Engineering Diploma courses from only 110 to 2,129. In the technical education field, the main accent will have to be on improving the quality of instruction and training, introduction of new courses, etc.

Health and family welfare

2.64. The number of beds in hospitals and dispensaries increased from 4,256 in 1950-51 to about 20,000 (including private beds) in 1977-78. About 3,500 beds are available in hospitals and dispensaries in rural areas which contain 90 per cent of the population of the State. The number of beds per lakh of population in Bihar in 1976-77 is 27 as against 51 for the country. For the rural areas of Bihar, the number of beds per lakh of rural population in 1976-77 works out to only 6.

2.65. The family planning programme has not gathered momentum yet. One reason for this, no doubt, is the rather small base of hospitals and dispensaries, more specially in tribal areas.

2.66. The annual intake in medical colleges in Bihar was only 610 in 1968-69 against about 11,500 for India as a whole. It is expected that the annual intake in Bihar will rise to about 670 by the end of the Fifth Plan. It will be necessary to expand facilities for medical education and for training of para-medical personnel on a considerable scale in the Perspective Plan period.

Growth of State Income (1951-52 to 1975-76)

2.67. A study of the economic development of Bihar from 1951-52 to 1975-76 shows that the State on the whole has made progress on all fronts, though the rates of growth have been different for different sectors. The State income together with its sectoral break-downs provides the measures of development in the various sectors of the economy at macro-level. These measures, however, do not throw light on socio-economic issues like employment, distribution of income and wealth and extent of poverty; yet the sectoral distribution of the State income does bring out the impact of development in various fields like agriculture, industry, transport and communications and trade.

2.68. The State income at constant (1960-61) prices increased from 749.15 crores in 1950-51 to Rs. 1476.70 crores in 1975-76, i.e., by 97.12 per cent (Table 7). The compound annual growth rate of State—

Table 7
Growth of total income in Bihar vis-a-vis India (1950—76)

(Rs. crores at 1960-61 prices)

Year	Bihar	India
1950-51	749.15	9,122.00
1955-56	871.14	10,870.00
1960-61	993.02	13,335.00
1965-66	1,118.32	15,234.00
1968-69	1,091.96	17,164.00
1973-74	1,317.61	20,179.00
1975-76	1,476.70	22,131.00

income worked out to 2.75 per cent as against 3.60 for the national income. As the State economy is primarily an agricultural economy, it has greatly been influenced by the vagaries of nature. A measure of growth rate based on the data for only two years, viz., the initial and the final years, cannot, therefore, be taken as a sound one. A more realistic measure of growth is one which takes into account the annual variations in the State income. The semilog regression method which takes into account these variations may, therefore, be taken as a better method. The annual growth rate of State income on this basis as per the data given in Appendix 1 works out to 2.59 per cent (compound) as against 3.61 for the national income. The percentage share of the State income in the total income of the country decreased from 8.21 in 1950-51 to 6.67 in 1975-76, the maximal and minimal percentage being 9.17 and 6.14 in 1952-53 and 1969-70 respectively.

2.69. A part of the increase in the total State income has been eaten away by the increase in population (The population of Bihar during the decade 1951-61 increased at the rate of 19.17 per cent and in the following decade 1961—71, at the rate of 21.30 per cent as against the all-India figures of 21.62 and 24.75 respectively). This is reflected in a slower rate of growth of the per capita income during the period under review. The per capita State income at constant (1960-61) prices increased from Rs. 186.98 in 1950-51 to Rs. 240.45 in 1975-76, i.e., by 28.60 per cent (Table 8). The annual compound growth rate of per capita income worked out to

Table 8—Growth of per capita income in Bihar vis-a-vis India (1950—76)

(Rs. at 60-61 prices)

Year	Bihar	India
1950-51	186.98	252.90
1955-56	198.40	276.20
1960-61	215.38	305.60
1965-66	221.44	311.00
1968-69	204.61	328.00
1973-74	222.27	347.20
1975-76	240.45	368.05

1.11 per cent for the State as against 1.52 for the country as a whole. These calculations are again based on the data for the base year 1950-51 and the terminal year 1975-76 and do not take into account the yearly fluctuations in the per capita income. The semilog regression method has, therefore, been used here also to compute the growth rate. The annual growth rate of per capita income in Bihar based on this method as per the data given in Appendix 2 works out to 1.06 per cent (compound) as against 1.55 for the country as a whole.

2.70. Appendix 2, *inter alia*, shows the gap between the per capita income of the State and the country as a whole at constant (1960-61) prices. It will be seen therefrom that the gap has widened from Rs. 65.92 in 1950-51 to Rs. 127.60 in 1975-76, the maximal gap being Rs. 135.52 in 1969-70 and the minimal Rs. 45.44 in 1952-53. As a result of the widening of the gap the per capita income of the State which was 26 per cent below the national level in 1950-51 has gone further down to 35 per cent below the national level in 1975-76.

2.71. The very slow growth of output and per capita income in Bihar after 1960-61 would appear to be due, to a large extent, to the low level of outlay in the State Plan and inadequate Central assistance, resulting in delayed execution of projects of vital importance generally.* The Central sector investments in the State was almost entirely on long gestation projects and their contribution to net output, and spread effect on the economy was also not large.

2.72. With a view to facilitating a comparison of the growth rates of the State income during the various plan periods and also with the corresponding all-India figures, annual compound rates of growth of the total and per capita income of the State and the country as a whole at constant (1960-61) prices are presented in Table 9, planwise.

Table 9—Annual compound rate of growth in Bihar vis-a-vis India during the various plan periods.

Period	(at 1960-61 prices)			
	Total income		Per capita income	
	Bihar	India	Bihar	India
First Plan	3.06	3.56	1.19	1.78
Second Plan	2.65	4.17	1.64	2.04
Third Plan	2.40	2.70	0.57	0.35
Annual Plans	(—)2.24	4.05	(—)2.60	1.79
Fourth Plan	3.82	3.29	1.67	1.14
Fifth Plan **	5.88	4.71	4.00	2.95
Overall (1950—76)†	2.59	3.61	1.06	1.55

2.73. The table given above shows that the annual rate of growth of the State income has improved from 3.06 per cent in the First Five-Year Plan to 3.82 in the Fourth Five-Year Plan. The performance of the State economy during the Annual Plans (1966—69) was poor because of drought and flood. The annual rate of growth of the State income during these three years worked out to (—) 2.24 per cent. This brought down the over-all annual rate of growth of the economy during 1950-51 to 1975-76 to only 2.59 per cent as against 3.61 for the country. A part of this increase was eaten away by the increase in population which grew in Bihar at the rate of 1.83 per cent per annum compound during the same period as against 2.05 for the country. The per capita income of the State, therefore, increased at the rate of 1.06 per cent per annum (compound) as against 1.55 for the country as a whole.

**Infra*, p.4, para.1.19.

** Relates to 1974—76 only.

† Based on semi-log regression method.

2.74. Since the overall growth rate does not speak of the complete health of the economy, it is necessary to present the sectoral growth rates of the State income. Table 10 gives the annual compound rates of growth in different sectors in Bihar, plan-wise, at constant (1960-61) prices.

Table 10

Annual sectoral rate of growth (compound) during the various plan periods.

(at 1960-61 prices)

Sector	1st Plan.	2nd Plan	3rd Plan	Annual Plan	4th Plan	5th Plan*	Over-all (1950 to 76)
1	2	3	4	5	6	7	8
I. Primary							
1. Agriculture and allied activities	1.25	2.36	0.71	0.33	5.54	5.56	2.35
2. Mining	0.99	2.15	0.30	0.03	6.00	5.36	2.22
	5.64	5.18	5.13	3.10	1.15	8.49	3.93
	9.93	(-)4.58	9.24	(-)2.61	10.24	6.66	5.49
II. Secondary							
3. Manufacturing (total) ..	10.91	(-)3.07	9.81	(-)3.84	0.88	3.06	3.99
4. Manufacturing (Small scale) ..	10.66	11.05	11.94	8.17	(-)8.96	4.79	3.88
5. Manufacturing (large scale) ..	13.75	(-)6.38	8.97	(-)10.23	6.44	2.46	4.01
	4.01	6.67	2.80	(-)1.88	(-)3.48	6.01	2.23
III. Tertiary							
6. Commerce, transport and communications.	2.94	6.58	3.34	1.09	(-)3.91	7.34	2.52
7. Other services	5.31	6.77	2.28	(-)5.17	(-)2.99	4.60	1.91
All sectors (I+II+III)	3.06	2.65	2.40	(-)2.24	3.82	5.88	2.75

2.75. The rates of growth, as could be seen from Table 10, have recorded high variations over the years. The slow growth of agriculture and allied activities during 1951-52 to 1975-76 at the rate of 2.35 per cent compound per annum is a matter of concern. This sector provides wage-goods and raw-materials to other sectors. It can, therefore, be suggested that the agricultural sector acted as a limiting factor on the growth of other sectors. Mining, manufacturing and tertiary sectors grew at the rate of 3.93, 3.99 and 2.23 per cent compound per annum. The State economy as a whole grew at the rate of 2.75 per cent per annum. Planwise, the agricultural sector showed better performance in the Second and Fourth Plans, manufacturing sector in the First and Third Plans and the tertiary sector in the Second Plan.

2.76. The overall growth rate or even the sectoral growth rates do not depict the structural changes in the economy brought about by the planned efforts. These are reflected by the changes in the composition of the State income over the years. Table 11 gives the percentage distribution of the State income at constant (1960-61) prices from 1950-51 onwards.

*Relates to 1974-76 only.

Table 11

Percentage distribution of State income by industrial origin (1950-76)

(At 1960-61 prices)

Sector	1950-51	1955-56	1960-61	1965-66	1968-69	1973-74	1975-76
I. Primary	64.34	58.88	58.06	53.37	55.22	59.86	59.51
1. Agriculture and allied activities.	60.82	54.90	53.57	48.26	49.48	54.83	54.30
2. Mining	3.52	3.98	4.49	5.11	5.74	5.03	5.21
II. Secondary	10.98	15.20	10.54	14.58	13.79	18.62	18.90
3. Small Scale	2.18	1.80	2.67	4.17	5.41	2.81	2.75
4. Large Scale	6.69	11.03	6.96	9.50	7.04	7.97	7.46
5. Construction	2.11	2.37	0.87	0.85	0.92	7.03	7.57
6. Power .. ..	..	..	0.04	0.06	0.02	0.81	1.12
III. Tertiary	24.68	25.92	31.40	32.05	30.99	21.52	21.59
7. Commerce, transport and communications.	13.00	12.92	15.58	16.32	17.26	11.34	11.65
8. Other services	11.68	13.00	15.82	15.73	30.73	10.18	9.94
TOTAL (I+II+III)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

2.77. It can be seen from the table given above that there has been a relative increase in the share of non-agricultural income in the State income. The contribution of primary sector to the State income decreased from the 64.34 per cent in 1950-51 to 59.51 per cent in 1975-76. During the same period, the contribution of secondary sector correspondingly increased from 10.98 to 18.90 per cent and tertiary sector declined from 24.68 to 21.59 per cent. The contribution of tertiary sector has, however, been recording a gradual decline since 1965-66 when it was 32.05 per cent.

Basic weakness of the economy

2.78. The review of planned development in Bihar during the past twenty seven years of planning (1951-78) brings out the achievements in certain areas as well as the shortfalls and basic deficiencies in other areas. For the purpose of perspective planning the gaps and shortfalls merit special attention.

2.79. Among the major deficiencies obstructing the economic development of the State, mention may be made of the vicissitudes of floods and droughts to which the economy is badly exposed. It is necessary for the government to insulate maximum possible areas from the ravages of floods. The inadequacy of water supplied to agriculture calls for special efforts to assess the potentiality of ground water resources in the State and to utilise the available resources to the maximum extent. As regards agricultural output, future progress depends largely on commercialisation of agriculture, dry farming and better land utilisation. The industrial structure is lop sided, while there has been some development of heavy industries, chiefly in the mineral belt, there has not been any significant growth of secondary and tertiary sectors. Another serious problem that confronts Bihar is of power shortage. This calls for creating adequate generating capacity on a war-footing to meet the increasing load-demand. It is also necessary to improve, quantitatively as well as qualitatively, other infrastructural facilities, such as transport. The State is lagging behind in general literacy and education, in provision of health services and other basic social amenities.

APPENDIX 1.

GROWTH OF TOTAL INCOME IN BIHAR VIS-A-VIS INDIA (1950—76).

(Rupees in crores at 1960-61 prices.)

Year.			Bihar.	India.	Bihar as percentage to India.
1	2	3	4	5	6
1950-51	749.15	9122.00	8.21
1951-52	800.02	9306.00	8.59
1952-53	881.16	9612.00	9.17
1953-54	913.65	10219.00	8.91
1954-55	806.09	10511.00	7.67
1955-56	871.14	10870.00	8.01
1956-57	874.73	11477.00	7.62
1957-58	821.68	11279.00	7.28
1958-59	1069.62	12179.00	8.77
1959-60	1016.98	12459.00	8.10
1960-61	993.02	13335.00	7.45
1961-62	1041.96	13825.00	7.54
1962-63	1060.59	14103.00	7.52
1963-64	1081.41	14882.00	7.27
1964-65	1087.14	16028.00	6.78
1965-66	1118.32	15234.00	7.34
1966-67	965.93	15388.00	6.28
1967-68	1059.65	16675.00	6.35
1968-69	1091.96	17164.00	6.36
1969-70	1122.50	18278.00	6.14
1970-71	1308.96	19219.00	6.81
1971-72	1346.08	19555.00	6.88
1972-73	1340.58	19270.00	6.96
1973-74	1317.61	20179.00	6.53
1974-75	1385.02	20360.00	6.80
1975-76	1476.70	22131.00	6.67

APPENDIX II

GROWTH OF PER CAPITA INCOME IN BIHAR VIS-A-VIS INDIA 1950

(Rs. in crores at 1960-61 prices)

Year	Bihar	India	Gap between Bihar & India	Column 4 as percentage to column 3.
1	2	3	4	5
1950-51	186.98	252.90	-65.92	-26.06
1951-52	196.61	254.20	-57.59	-22.65
1952-53	212.36	257.80	-45.44	-17.63
1953-54	215.99	269.20	-53.21	-19.76
1954-55	187.01	271.60	-84.59	-31.14
1955-56	198.40	276.20	-77.80	-28.16
1956-57	202.90	285.80	-82.90	-29.01
1957-58	187.22	275.20	-87.98	-31.97
1958-59	239.48	291.00	-51.52	-17.70
1959-60	223.80	291.10	-67.30	-23.12
1960-61	215.80	305.60	-90.22	-29.52
1961-62	221.93	309.20	-87.27	-28.22
1962-63	221.83	308.20	-86.37	-28.02
1963-64	222.10	318.30	-96.20	-30.22
1964-65	219.24	335.10	-115.86	-34.57
1965-66	221.44	311.00	-89.56	-28.79
1966-67	187.79	307.90	-120.11	-39.01
1967-68	202.25	326.00	-123.75	-37.96
1968-69	204.61	328.00	-123.39	-37.61
1969-70	206.48	342.00	-135.52	-39.63

Growth of total income
in
Bihar & India (1960-76)
(At 1960-61 prices)

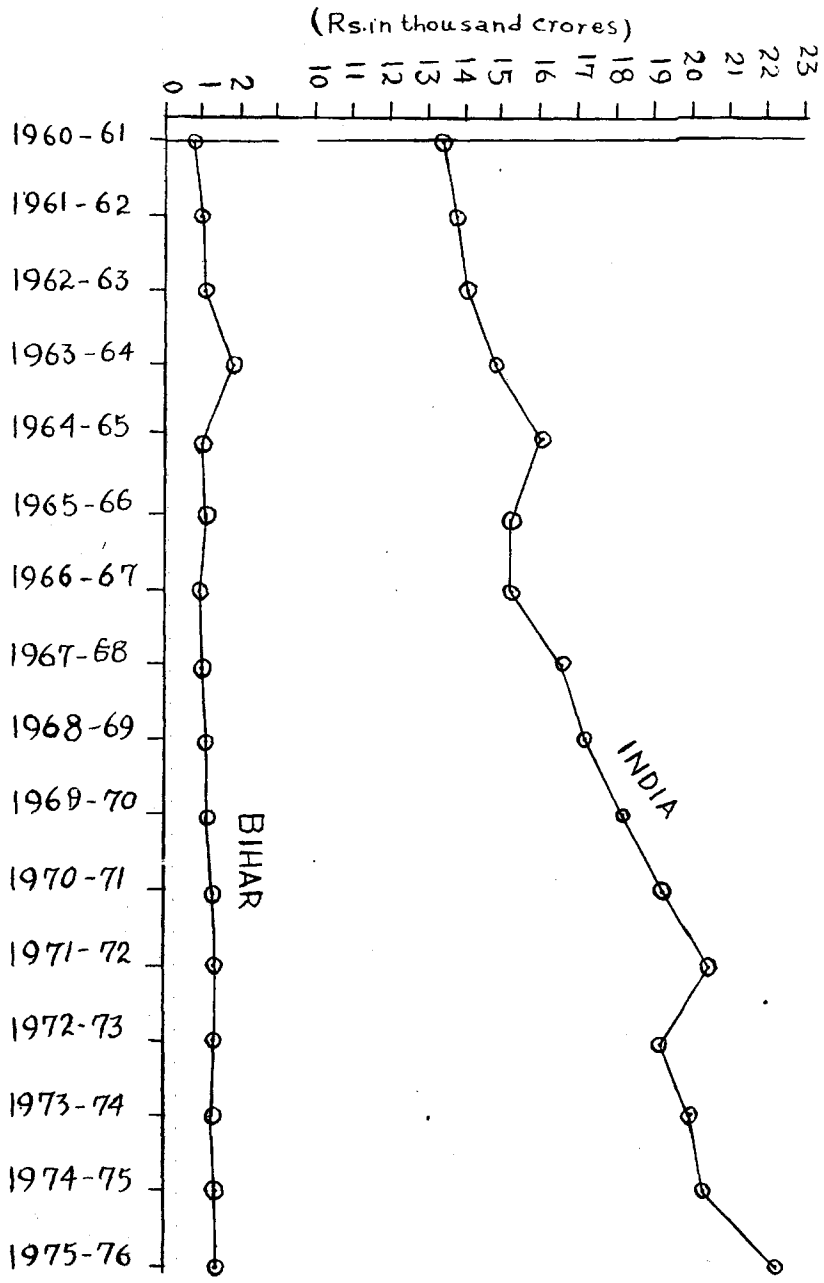
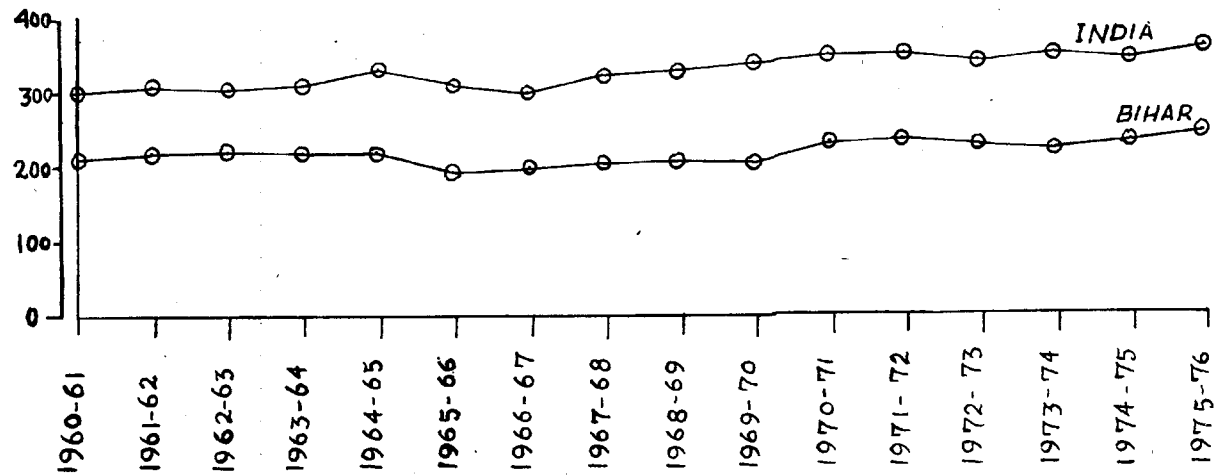


FIG:-4

J. Alam, Cartographer

GROWTH OF PERCAPITA INCOME
IN
BIHAR & INDIA (1960-76)

(Rs. at 1960-61 prices)



J. Alam

FIG:- 5

APPENDIX II—concl'd.

GROWTH OF PER CAPITA INCOME IN BIHAR VIS-A-VIS INDIA 1950

(Rs. in crores at 1960-61 prices)

Year			Bihar	India	Gap between Bihar & India	Column 4 as percen- tage to column 3.
1			2	3	4	5
1970-71	..	..	234.30	351.80	—117.50	—33.40
1971-72	..	..	236.34	350.20	—113.86	—32.51
1972-73	..	..	230.30	337.60	—107.30	—31.78
1973-74	..	..	222.27	347.20	—124.93	—35.98
1974-75	..	..	229.89	345.14	—115.25	—33.39
1975-76	..	..	240.45	368.05	—127.60	—34.67

CHAPTER III

APPROACH TO THE PERSPECTIVE PLAN (1978-79)

I. Need for a Perspective Plan

The ideology of planning for economic development of India and for this State emerged after the country became independent and formulated its First Five-Year Plan in 1951-52. The basic principle in the ideology of economic planning is that 'development' should not be left to evolve under the influence of 'national forces'. Instead, its evolution should be under State control, so that the economic system could be moved in the desired direction. It is based on the belief that the State shall take active and decisive role in the economy by its own acts of investment and enterprise and by its various controls, inducements and restrictions on the private sectors. Planning connotes that State shall initiate, spur and steer economic development.

3.2. Economic development is a long term process. Growth involves introducing changes in the social structure, acquisition of new skill and abilities by the people and creation of social, economic and institutional infrastructure, which are time-consuming in nature. Perspective plan portrays the direction in which the economy is to move and helps to avoid bottlenecks in the economy by taking anticipatory action well in advance. The perspective plan, therefore, provides a background to the successive Five-Year Plans and Annual Plans. The problem that can be solved over a very long period can be taken into account now itself. Indeed, once the perspective for 10-15 years is outlined, it is easier to prepare short term and medium term plans. By now, planners have realised that Five-Year Plans and Annual Plans suffer from 'ad hocism' in the absence of a Perspective Plan.

3.3. There is really no hard and fast rule regarding the choice of a time-horizon for the perspective plan. It could be 10, 15, 20 or 25 years. There are several projects which take long time to mature. A perspective of 10-15 years is usually the period adopted by planners for formulating plans dealing with roads, communications, major irrigation works, education, etc. This gives the decision makers an opportunity to take immediate action in line with the long-term perspective. Indeed, there are numerous factors in development which merit long-term consideration, such as acquisition of certain types of skill, prospecting of natural resources, creation of new institutions, etc. Keeping the various facts into consideration, a period of 15 years from 1974-75 to 1988-89, covering three Five-Year Plan periods, viz., the Fifth, Sixth and Seventh Plans was initially chosen for the Perspective Plan for Bihar. But now that the Fifth Five-Year Plan has been terminated on the 31st March 1978, the Perspective Plan has been prepared for a period of eleven years only from 1978-79 to 1988-89. Subsequently, it will be extended to 1992-93 so that the Perspective Plan may cover a period of fifteen years.

II. Objectives of the Perspective Plan

3.4. In formulating the approach to the Perspective Plan for the State (1978-89), the three ills, viz., poverty, mounting unemployment and widening disparities in wealth and incomes, which afflict our economy, have been taken into account. In addition, the special needs and circumstances of the State discussed in Chapter-I have also been taken into consideration. Further, the new strategy of "growth for social justice" instead of "growth with social justice" has been kept in view. After a careful study of all aspects of the problems, the Perspective Plan has been designed to achieve the following objectives :

- (i) to catch up with the all-India per capita real income level by 1988-89 ;
- (ii) to attain full employment ;
- (iii) to eradicate poverty ;

- (iv) to attain self-sufficiency in foodgrains ;
- (v) to promote industrialisation ;
- (vi) to provide the minimum needs such as elementary education, drinking water, health care, house-sites or houses for the weaker sections of the society, etc. ;
- (vii) to attain self-sufficiency in power and to strengthen the infrastructure of irrigation and roads for ensuring the achievement of the above objectives ; and
- (viii) to remove social, economic and regional disparities.

Catching up with all-India per capita real income

3.5. The Perspective Plan model (Chapter IV) is based on the assumption of catching up with the projected all-India per capita income level of Rs. 1,320 by 1988-89 at 1973-74 prices. The annual rate of growth of the total State income in the Plan model works out to 8.90 per cent per annum (compound) during the Five-Year Plan period (1978-83), 9.10 during Medium-term Plan (1988-89) and 9.02 during the Perspective Plan period as a whole (1978-89).

Attaining full employment

3.6. The magnitude of unemployment and under-employment by 1977-78 in the State is estimated at about 50 lakhs and the addition to the labour force during the Perspective Plan period about 63 lakhs (Chapter V). The volume of unemployment in terms of equivalent person-years by 1977-78 is estimated at 22.10 lakhs. The Plan, has, therefore, selected an investment pattern which will generate large number of jobs in agriculture, animal husbandry, fisheries, forestry and small industries, in addition to promoting self-employment. Special steps such as rural works programme and provision of subsidiary employment, have been suggested to tackle the problem of seasonal unemployment and under-employment in agriculture. The problem of educated unemployment is proposed to be tackled by gearing the educational system to meet the changing pattern of demand. The existence of large-scale unemployment among the educated is a reflection of the over-production of matriculates and under-graduates in the State. With the industrialisation of the Indian economy, a new type of trained personnel are needed in new industries like iron and steel, chemicals, petroleum, machine tools, electrical equipment, etc. The traditional industries like cotton textiles, jute and tea hardly afford scope for additional employment. Since full employment is likely to be attained by 1988-89, the Perspective Plan proposes special employment schemes involving an outlay of Rs. 1163 crores at 1973-74 prices or Rs. 1572 crores at 1976-77 prices as an interim measure to provide jobs to the unemployed till full employment is achieved. This additional outlay, however, forms part of the total investment.

Eradication of poverty

3.7. It is estimated that about 70 per cent of the population of the State in 1973-74 was below the poverty line as against 61 per cent for the country as a whole. Their *per capita* consumption per month was below Rs. 61.8 and 71.3 in the rural and urban areas respectively at 1976-77 prices. The Perspective Plan proposes to eradicate this worst form of poverty through programmes for nutrition, health, educational grants, economic uplift, housing and protected water. It also recognises that "employment is the surest way to enable the vast numbers living below the poverty level to rise above it". The strategic measures to enlarge employment include stepping up irrigation works, adoption of improved agricultural practices, extension of high-yielding varieties of crops, extension of multiple cropping in irrigated areas and adoption of mixed and farming dry land farming techniques in areas not covered by irrigation. In addition, they also include redistribution of land acquired after the impo-

sition of ceiling among the small and marginal farmers, provision of security of tenure to share croppers and temporary tenants, rural works programme, encouragement of new growth centres in small towns and rural areas, development of rural industries, self-employment scheme, etc. It is expected that the percentage of the persons below the poverty line will reduce to 56 per cent by 1977-78 and 35 per cent by 1982-83. Poverty is expected to be eradicated by 1988-89.

Achieving surplus in foodgrains

3.8. As a vast majority of the people in Bihar are dependent on agriculture, the Perspective Plan proposes to give high priority to agricultural production by placing main emphasis on well-co-ordinated area development programmes for optimum use of the irrigation water available, introduction of multi-cropping and high yielding varieties with related inputs and development of roads, markets and storage facilities. It is estimated that the Five-Year Plan (1978-83) of Bihar may end up with self-sufficiency in foodgrains. The Medium-term Plan (1983-89) is expected to show a surplus of 46 lakh tonnes, depending on the success of the contemplated irrigation strategy.

Promotion of industrialisation

3.9. Although Bihar has almost one-third of the total mineral deposits of the country, abundance of agricultural raw-materials, a big market for a large number of consumer goods, location of some of the biggest industries of the country, it is still an industrially backward State. As mentioned earlier, 2.29 per cent of its working force was engaged in manufacturing industries in 1971 as against the national average of 5.93. Although there are a few large scale industries in the State such as TISCO, TELCO, HEC, Bokaro Steel, Barauni Oil Refinery and Sindri Fertiliser Complex, the development of ancillary and auxiliary industries in the State remains unsatisfactory. Again, in spite of immense potential for small scale and cottage industries, their growth has been unsatisfactory. As a result, almost the entire burden of a growing population has fallen on its already overcrowded agriculture. One of the objectives of economic development is to bring about desired structural changes in the economy as that heavy burden on agriculture is gradually shifted to secondary and tertiary activities. In order to achieve this objective the Perspective Plan has been so designed as to reduce the burden on agriculture from 80.45 per cent in 1970-71 to 70.30 per cent in 1988-89. This is proposed to be achieved by a corresponding increase in employment in the secondary and tertiary sectors through investment pattern envisaged in Chapter IV.

Strengthening the infrastructure of irrigation, power and roads

3.10. The irrigation potential created in Bihar till 1977-78 through major and medium schemes is only 24.85 lakh hectares as against the utilisable surface water resources of 68.20 lakh hectare metres. The Perspective Plan, therefore, proposes to take necessary steps for facilitating optimum utilisation of the irrigation potential already created and to take up a number of major and medium schemes. In addition, high priority will be given to the development of the immense ground-water resources available in the State through minor irrigation schemes. The potential created through these schemes by 1977-78 stood at 34.52 lakh hectares as against the utilisable ground water resources of 35.83 lakh hectares metres.

3.11. The per capita power consumption in Bihar 1976-77 (93 KWH) is well below the average for the country (115 KWH). In the North Bihar plains, the average per capita consumption is only around 15 KWH and the position in the rural areas of the South Bihar plains and plateau sub-regions is also not better. The transmission and distribution system is already over-stretched which causes heavy transmission losses and voltage fluctuations. The Perspective Plan, therefore, proposes to expand and strengthen the generating capacity and the transmission and distribution system for carrying out the vast agricultural and industrial development envisaged in the Perspective Plan.

3.12. The economic growth of the State has suffered considerably due to poor development of roads. The length of both surfaced and unsurfaced roads per lakh of population in Bihar is much lower than the average for all-India. As against 90 kms. of surfaced roads per lakh of population in India in 1977-78, Bihar has only 41 kms. The Perspective Plan, therefore, gives high priority to road development. The length of surfaced roads in Bihar is expected to increase from 22,496 kms. in 1977-78 to 70,902 kms. by 1988-89. The length of unsurfaced roads in 1988-89 is projected at 35,392 kms. The length of surfaced roads is thus likely to constitute only 66.7 per cent of the total road length even by the end of the Perspective Plan (1978-89). The length of surfaced roads per lakh of population is expected to increase from the current level of 41 kms. to 90 kms. As regards the access to all-weather roads, it is estimated that by March 1978, only 19.5 per cent of the villages with a population of 1,500 and above in the plains and 1,000 and above in the plateau and sub-plateau areas have been connected by roads. It is expected that over 50 per cent of such villages would be connected by roads by 1982-83 and all by 1988-89.

Removal of economic, social and regional disparities

3.13. Since the advent of the planned era in the State, many steps have been taken to reduce economic inequality, mainly in the field of agriculture. The State Government have already enacted a law imposing ceilings on holdings. Necessary steps are being taken to protect and secure the tenure of 'bataidars' and under-raiyats. House-sites are also allotted to the landless people. The minimum agricultural wage has also been fixed. Urban property regulations have also been enacted for important cities. The various measures proposed in the Perspective Plan to attain full employment and to enable the vast numbers living below the poverty level to rise above it, will minimise economic and social inequalities.

3.14. The economic development of the State does not mean that the fruits of development would be evenly shared by all its regions. Some of the basic indicators of development show that development of this State has been very uneven. There is a great deal of disparity in the basic infrastructure of irrigation facility among the three natural regions of Bihar. In 1975-76, while the gross area irrigated constituted 57 per cent of the gross cropped area in South Bihar plains, the percentage was only 23 in the North Bihar plains and 9 in the plateau area. Similarly, there is a great deal of disparity in the distribution of power. Per capita consumption of the power is only 15 KWH in North Bihar as compared to 41.6 KWH in South Bihar and 174.69 KWH in Chotanagpur, the State average being 93 KWH in 1976-77. Rural electrification has covered only 10 per cent of the villages in North Bihar as against 27 per cent in South Bihar and only 5 per cent in Chotanagpur. Again, the road and rail lengths in most of the districts of North Bihar were lower than the State average of 29 and 9 kms. per lakh of population in 1968 and the relative position continue to be more or less the same. The Perspective Plan aims at removing such glaring regional imbalances.

The setting up of a regional authority known as Chotanagpur and Santhal Parganas Autonomous Development Authority for closer attention to the development problems of the area where the most majority of the Scheduled Tribe population and substantial numbers of other backward classes reside, is a pointer in the direction of removal of regional disparity.

Size of the Perspective Plan (1978-89)

3.15. According to a macro-economic exercise conducted by the Perspective Planning Division of the State Planning Board, the Perspective Plan objective of catching up with the projected all-India per capita income level of Rs. 1,350 at 1973-74 prices requires a total investment of Rs. 18,710 crores at 1973-74 prices or Rs. 23,619 crores at 1976-77 prices. The estimated total investment includes the investment to be made by the three investing agencies, viz., the State Government, the Central Government (direct Central investment) and the private sector.

3.16. The Perspective Plan size of Rs. 23,819 crores by now needs revision upwards to about Rs. 36,000 crores at 1976-77 prices in the light of the latest facts and

figures contained in the two plan documents, viz., Draft Annual Plan (1978-79), Government of Bihar and Draft Five-Year Plan (1978-83), Planning Commission, Government of India now available. According to the Draft Annual Plan of Bihar (1978-79) the per capita income of Bihar in 1973-74 at current prices is only Rs. 535 as against Rs. 604 provisionally calculated earlier by the State Directorate of Statistics and Evaluation. Again, according to para. 1.7 of the Planning Commission document (Volume II), the capital output ratio in the Indian economy (exceeding 4 over the period 1960-61 to 1975-76) has also been higher than the ratio assumed in the previous Plans (about 3 in the Fifth Plan) partly because of inefficiency, but mainly because the capital costs of agricultural development were under estimated. In the coming years, the big irrigation and power programmes are likely to raise the ratio significantly. Again, in cement and fertiliser industries where the capacity has to be expanded project costs have increased enormously. The average capital-output ratio in the State Plan has, therefore, now been assumed to be 3.5 for the Perspective Plan period (1978-89).

3.17. The Planning Commission document referred to in the foregoing para. also shows changes in the projected rates of growth in the Indian economy and the population of the country. The economy is now expected to grow during 1977-78 to 1982-83 at the rate of 4.70 per cent per annum (compound) and during 1982-83 to 1987-88 at the rate of 5.50 per cent as against 6.00 per cent assumed earlier for the period 1983-84 to 1988-89. The population projections have also now been revised upwards. India's population is now expected to grow from the present level of 634 millions to 760 millions in 1988, i.e., 1987-88 which gives an annual compound growth rate of 1.83 per cent. In the light of these new facts, the per capita income of India in 1988-89 is now estimated at Rs. 1,320 at 1973-74 prices instead of Rs. 1,350 calculated earlier by the Perspective Planning Division of the State Planning Board. In this connection, it has been assumed that the population in the country in 1988-89 will grow at the rate of 1.83 per cent applicable to the period 1977-78 to 1987-88 and Indian economy at the rate of 6.00 per cent per annum (compound).

3.18. In the light of the facts of the case discussed above it is now estimated that the Perspective plan size may be of the order of Rs. 36,000 crores at 1976-77 prices instead of Rs. 23,619 crores calculated earlier. It is further envisaged that the size of the Five-Year Plan (1978-83) may be of the order of Rs. 11,325 crores and the Medium-term Plan (1983-88) Rs. 23,955 crores*. This includes the investment by the State Government, direct Central investment and the investment by the private sector. The exact size of the Five-Year Plan of the State (1978-83) could be decided only after the points raised at para. 5.6 of the Central Plan document (Volume I) pertaining to the allocation of the public sector outlay between the Central Plan and those of the States and Union Territories are fully gone into by the Planning Commission and they complete the review of the existing principles for the allocation of Central assistance to States for their plan outlays. However, according to the Draft Five-Year Plan (1978-83) of the Government of Bihar, the size of the Plan has been tentatively fixed at Rs. 6,059.96 crores. The sectoral distribution of the proposed outlay will be as under—

(Rs. in crores)

Sector	Proposed outlay (1978-83)	Percentage to total outlay
1. Agriculture and allied services	676.25	11.16
2. Co-operation	30.21	0.50
3. Irrigation and flood control	1,086.25	17.93
4. Power	1,065.00	17.57
5. Industries and minerals	791.75	13.06
6. Transport and communications	1,190.50	19.65
7. Social and community services	1,035.50	17.09
8. Miscellaneous	184.50	3.04
Total	6,059.96	100.00

*For sectoral break-up of the envisaged investment, see p. 76, Table 5.

IV. Perspective Plan Strategy

3.19. The strategy consists in determining the type of results to be achieved in each important sector of the economy and in co-ordinating individual programmes to achieve the desired results into a coherent and mutually supportive action framework.

Agriculture and Allied Activities

Modernisation and diversification of agriculture

3.20. The crux of the problem of agricultural development consists in intensive use of land to increase per acre productivity. The prime factor leading to intensification of land use is creation of irrigation facility. It is, therefore, proposed to give high priority to agricultural production and development programmes in area where assured irrigation is already available or will become available shortly with the completion of various major and medium irrigation projects which are in an advanced stage, and by rapid development of irrigation by pushing ahead a massive ground water development and rural electrification programme. The main emphasis will be on well co-ordinated area development programmes for promoting the optimum use of the irrigation water available, introduction of multi-cropping and high-yielding varieties with the other inputs required and development of roads, markets and storage facilities. The infrastructure of agricultural extension and co-operative credit will also be strengthened suitably. Advantage will be taken of the undulating terrain in the plateau region to introduce high-yielding varieties of paddy as far as possible in the Don lands situated at lower elevations where sufficient water is generally available during the monsoon. In higher terraces in the plateau region and elsewhere in the State, concentrated attention will be given to the introduction of improved dry farming practices.

3.21. Schemes will be taken up for further improvement and extension of agricultural education and research. Special attention will be paid to applied researches, trials and experiments for promoting the development of the cultivation of pulses and commercial crops. While the Central focus of agricultural development programme will be on increasing the production of cereals, pulses, oil-seeds, vegetable and fruits, efforts will be made to introduce the cultivation of high value cash crops like soyabean, sun-flower, groundnut, besides other traditional cash crops like chillies, potato, sugar cane and jute for each of which detailed programmes have been chalked out.

3.22. Necessary steps will be taken to enforce the land ceiling law and to provide security of tenure to share-croppers and temporary tenants. Programmes of consolidation of holdings will be carried further with vigour and determination and steps will be taken to prevent further subdivision and fragmentation.

Improvement of Extension Organisation

3.23. A proper extension organisation has great role in agricultural development. Much of the ideas, knowledge and programmes initiated for agricultural development do not reach the villages, as the extension machinery that exists today is too inadequate and too incapable of serving the changing needs of the farmers. The Perspective Plan, therefore, proposes an extension organisation of a high quality.

Promotion of "Functional Literacy"

3.24. The process of economic growth entails introduction of a number of devices, such as uses of fertilisers, pesticides, improved seeds, new implements, etc. The benefits of new technology can accrue only when farmers and agricultural labourers are fully conversant with the logistics of their uses. The problem in this State is urgent because most of the farmers and agricultural labourers, on whose efficiency agricultural programmes depend, are illiterate. What is of consequence to these illiterate persons is not their reading and writing ability but their understanding of the modern methods of production, i.e., 'functionalliteracy'. It is heartening to note that one such programme has recently been announced by the Rajendra Agricultural University. The Perspective Plan proposes a comprehensive programme for providing functional literacy.

Animal husbandry, dairying and milk supply

3.25. The availability of milk by the end of the Perspective Plan period is planned to be increased by about three times, eggs by about five times and meat (excluding fish, beef and buffalo meat) by about two times. In 1988-89, it is expected that the per capita per day consumption of milk will increase to 201 gms. and per capita per day consumption of meat (excluding fish, beef and buffalo meat) is likely to increase to 10 gms. for the non-vegetarian section of the population. For this section of the population, the per capita consumption of eggs will be around 50 per annum by 1988-89. The strategic measures include on poultry, piggery, sheep and goat development programmes which mainly benefit the weaker sections of the society, particularly in the tribal and adjoining areas. More attention will be given to animal health, nutrition, breeding and disease control programmes.

Fisheries

3.26. Bihar, particularly North Bihar, has a very high potential for the development of inland fisheries. The annual production of fish is proposed to be raised from about 66,400 tonnes to 2.5 lakh tonnes by the end of the Perspective Plan. Strategic measures include renovation of tanks, ponds and water reservoirs and reclamation of deep areas of chauras and marginal areas of mans, for intensive fish production. Storage, transport and credit facilities will also be provided.

Forestry

3.27. Bihar has approximately 30,000 sq. kms. or 17 per cent of the total area under forests. Of this, an area of 6,000 sq. kms. consists of degraded forests needing soil conservation and afforestation. Forest development measures in the Perspective Plan include economic plantation of teak, bamboo and match-wood, plantation and rehabilitation of sal forests, plantation of quick growing species, plantation on farm lands, Public Works Department roads and canal embankments, plantation of Sabai grass, Cashew, Sigal and Raulfia and exploitation of minor forest produce. It is proposed to raise commercial plantations in at least 4 to 5 lakh hectares and road side, canal side and rail side plantations in about 25,000 kms. It is also proposed to set up a Minor Forest Produce Corporation for collection, processing and marketing of minor forest products. Collection of minor forest products is expected to generate a considerably increased employment in tribal areas and also earn sizeable revenue for the State exchequer.

Soil amendment and conservation

3.28. About 60 per cent of the dry land soils in the State is acidic and some sort of soil amendment is necessary. It is proposed to reclaim at least 7 lakh hectares, preferably 10 lakh hectares, out of 20 lakh hectares of acid soils in the Perspective Plan period in a phased manner. Saline and alkaline soils cover much less area in comparison to acid soil. It is proposed to reclaim 3 lakh hectares of such lands out of a total of 4 lakh hectares found mostly in North Bihar. The problem of drainage congestion and consequential flooding from which the entire North Bihar region suffers, is proposed to be tackled through exploitation of ground water which would help in lowering the seasonal ground water table. New major surface water schemes in this region would generally be undertaken only after the ground water is harnessed for irrigation in a substantial measure.

3.29. Soil conservation programmes are both employment intensive and of considerable importance for building up agricultural productivity. These programmes will receive particular attention, specially in the plateau area.

3.30. The envisaged strategy for the development of agriculture and allied activities will lead to diversification of rural occupations and is expected to swing the terms of trade between agricultural and manufacturing sectors in favour of agriculture.

Co-operation and Community Development

Co-operation

3.31. In the co-operative sector, strengthening and expansion of Agricultural Credit Societies for providing short-term and medium term credit to cultivators, artisans and self-employed workers and strengthening the capital base of the Land Development Bank for advancing long-term credit to farmers are envisaged. Due emphasis will be given to the linking of credit with marketing and processing to bring about an integrated development of co-operatives.

Community Development and Public participation

3.32. The success of democratic planning depends to a large extent on public participation. It provides the principal force and sanction to democratic planning. Unless there is people's participation in the formulation and execution of the plan, contemplated results cannot be achieved. While the programmes of Community Development and National Extension could not achieve the desired level of public participation, it is felt that the Community Development Blocks still continue to remain the grass-root agency for catalysing development activities. Since the success of the Community Development depends on the participation of the people, it is necessary to strengthen the institution of Panchayati Raj. It is proposed to provide intensive training to the members of Panchayats, Panchayat Samities and Zila Parishads.

Rural Integrated development

3.33. Since the Central focus of the Perspective Plan is to transform the rural economy of the State, a comprehensive integrated rural development programme of action has to be initiated. Creation of physical infrastructure and provision of supporting services and facilities through institutional arrangements is the basic prerequisite for integrated rural development. Physical infrastructure consists of roads, bridges, dams, irrigation canals, drainage, warehouses, power, etc. and is capital-intensive in nature. Supporting services and facilities consist of extension facilities, education, soil conservation, credit, pest control, input supplies, marketing, etc. and are capital-intensive in nature.

3.34. Agriculture will continue to be the main source of livelihood and income of the rural population in the next decade also. But the question is would it be able to generate needed employment opportunity for the entire rural population? The answer is not. Therefore, what is needed is to broaden the base of the rural economy by modernising agriculture and building infrastructure for rural industries. The growth of rural industries is considered to be stabilising factor for rural society. These industries would provide employment opportunity to the rural people and dissuade them from leaving the villages. These workers will create additional markets for farm production and will tend to give higher income to the farmers. This would be the first step in transforming subsistence farming into market-oriented farming. Most appropriate rural industries will be processing industry, carpentry, blacksmithy, handicrafts, etc. These industries are simple and cheap in terms of investment and could be carried on either as individual enterprise or on co-operative basis.

Institutional involvement in Planning

3.35. One of the factors responsible for unsatisfactory planning in this State is that the institutions have not participated in the development process in a satisfactory manner. Indeed, for the furtherance of agricultural and small-scale industries, institutions have a big role to play. In several States, there has been large scale development due to institutional involvement. The record of co-operative sugar factories in Maharashtra and milk co-operatives in Gujrat are cases in point where because of participation of these institutions in rural development, it has attained a high rate of growth. In the situation of our State, Co-operative institutions could play a major role in

promoting development. Commercial banks and other agencies also could play substantial role in promoting rural development. One of our strategies, therefore, is to involve the various institutions and other organisations to initiate development programme of some type in different areas of the State.

Area Approach to Planning

3.36. The real issue in development is to raise the living condition of the people inhabiting different areas of the State. In fact, development effort need to be directed to the area where there is concentration of population. In this connection, district/block approach to planning. This approach has the advantage in utilising locally available resources and special endowments of the people of the area in plan effort. Area approach to planning has also the advantage in identifying the weaknesses and deficiencies of the area. This will spur the development of the area by focussing attention on only a few aspects of development, e.g., while construction of roads may create the conditions of development in one block, irrigation may be of high priority in another block, electricity in yet another block and so on. Area approach to planning has the further advantage in enlisting people's participation in the planning process. It also conforms to the criteria of democratic decentralisation. The perspective plan, therefore, lays special stress on the need for area planning.

Irrigation and Flood Control

3.37. Necessary steps will be taken for facilitating optimum utilisation of the irrigation potential already created through major and medium irrigation projects and for completing all projects which have already reached an advanced stage of construction. A number of new major and medium schemes, chiefly in the plateau and South Bihar plains sub-regions will also be taken up. In so far as the minor irrigation schemes are concerned, high priority will be given to the development of the immense ground-water resources available in the State. These measures for rapid extension of irrigation facilities will not only help to raise agricultural production and productivity but also afford necessary protection against recurrent droughts.

3.38. According to the figures worked out by the Irrigation Division of the Planning Board, it is expected that the total irrigation potential will increase from 59.37 lakh hectares in 1977-78 to 165.11 lakh hectares by 1988-89. The utilisation during the same period is expected to go up from 41.40 lakh hectares to 135.16 lakh hectares. The percentage utilisation will, therefore, increase from 70 in 1977-78 to 82 in 1988-89. The gross area irrigated during the period 1977-78 to 1988-89 will increase at the rate of 11.4 per cent per annum compound as against 4.2 per cent during the period 1960-61 to 1977-78. The projection of gross area irrigated at 135.16 lakh hectares by 1988-89 is mainly based on the strategy to develop the ground water resources in the Five-Year Plan (1978-83) in a big way and to attain the optimum utilisation of the potential created during the Medium-term Plan (1983-89). It has been visualised that one lakh borings and tube-wells will be sunk in the private sector and 500 deep tube-wells in the public sector every year.

3.39. As mentioned earlier, agricultural production in Bihar has remained unstable due to recurrence of droughts and floods. Flood control measures during the Perspective Plan include construction of flood embankments and flood detection reservoirs, soil conservation, increasing the water-ways in the rail and road embankments, training of rivers and raising of villages.

Industry and Mining

3.40. The pattern of industrialisation aimed at during the Perspective Plan will have the following priority :—

- (i) development of agro, village, cottage and small-scale industries ;
- (ii) development of selected consumer goods industries ;
- (iii) development of auxiliary and ancillary industries ; and
- (iv) development of mineral-based industries.

Village and cottage industries

3.41. Revitalisation and expansion of village, cottage and small-scale industries constitute another dimension of the strategy for agro-rural uplift. The strategy for village and cottage industries will involve improving the techniques of production to enable these industries to produce goods of standard quality and make them economically more viable, strengthening arrangements for supply of raw materials, credit and marketing and affording adequate protection to these industries against competition by the mill-sector. Provision will be made for further development of handloom and power loom industries, handi crafts, sericulture and Khadi.

Small-scale industries

3.42. The strategy envisaged include promoting rapid growth of small-scale industries as complementary to the large industrial complexes, reservation of items for exclusive development in the small-scale sector, developing consultancy services for serving the needs of small entrepreneurs and streamlining the organisations for the supply of raw materials and credit, developing market centres in different parts of the State as growth centres for small-scale and agro industries, setting up of district industries centres, setting up of the bonded industrial estates for promoting manufacture of items such as forging dies, plastic moulds, fabricated mica, processing of fruits and vegetables, etc., and creation of a focal point in the district headquarters for development of small and cottage industries. The growth centres by linking rural and urban sectors will generate strong forces of rural industrialisation. This will also halt the trend towards indiscriminate migration from the rural to the urban areas.

Large and medium industries

3.43. The Perspective Plan attaches significance to the development of secondary and tertiary sectors and consumer goods industries in particular, to correct the present deficiencies and imbalances in the structure of industries in the State and places emphasis on the fuller utilisation of existing capacities.

3.44. The more important minerals produced in the State are coal, iron ore, limestone, mica, copper, bauxite, fire-clay and other clays used in the manufacture of refractories and ceramic products. It is expected that the Central Government will make further investments in Bihar for the development of heavy industries based on these and a large variety of other minerals. There is good scope for major expansion of copper manufacturing capacity in the State and development of large aluminium complex in the Palamau district and a large hard-coke complex in the Jharia field for meeting industrial demand. There is also good scope for the development of coal-chemicals and petro-chemicals, refractory and ceramic industries, mica-based industries and palletisation plants, ministeel plants and sponge iron plants.

3.45. Among the agro-industries, it is proposed to set up another tractor manufacturing plant. Steps will be taken to promote the development of consumer goods industries, e.g., pharmaceuticals, detergents, automobile tyres, etc. Industrial areas and industrial estates, including functional units, will be developed further for promoting the growth of medium/small-scale industries of various kinds.

Mineral development

3.46. A Mineral Development Corporation has been established recently for promoting the development of minerals, particularly minerals which have not received sufficient attention so far. There is scope for development of coal-mining in the district of Santhal Parganas. This will help to promote the development of a backward area and also facilitate better coal supplies to North Bihar for power generation. Efforts will be concentrated on the development of infrastructure in the inaccessible mining areas to open up communication and other facilities for the development of mines.

Choice of technique

3.47. Developing societies have to choose technique of production suited to their requirements. Obviously, with a large number of labour force existing in our society, labour-intensive technology would be appropriate till the process of industrialisation gets such a powerful momentum that the new entrants to labour force can be absorbed. At the same time, the need for capital intensive technology for effecting rationalisation and modernisation of the existing large scale industries cannot be ignored. The Perspective Plan, therefore, recommends the adoption of labour-intensive technique in agro, village, cottage and small-scale industries and auxiliary and ancillary industries, and capital-intensive technology in large-scale and heavy industries which are necessary to provide infra-structural facilities for further economic development.

Full and efficient utilisation of capacity created

3.48. Economic growth does not depend merely on making investments but also on the fuller utilisation of the capacity created. A substantial proportion of the capacity created in irrigation, electric generation and industrial undertakings remains under-utilised, which is highly undesirable, particularly in a capital scarce economy. It is, therefore, necessary to evolve a suitable policy-frame in the Perspective Plan period to ensure maximum utilisation of the capacity already created. This will increase supplies and reduce per unit cost of output.

Improvement in the Management of Public Undertakings

3.49. Over the years, a vast sum of money has been invested in public enterprises of various types. It is estimated that roughly the State Government has invested a sum of Rs. 250 crores in about 25 public sector undertakings and co-operative enterprises. Barring a few, most of these are running at a loss. It is, therefore, of utmost importance that management of public undertakings must improve. It is imperative that all public undertakings are managed efficiently on the lines of modern business management practices and be viable and remunerative.

Development of private enterprise

3.50. In a society where a predominant part of economic activities have their basis on private effort in agriculture, industries, trade, transport, services, etc., economic development will be speeded if requisite type of entrepreneurship emerges to seize economic opportunities afforded by planning in the State. The Perspective Plan will also initiate a number of measures for entrepreneurial development in the State, such as training in skills and management. In addition, necessary facilities and encouragement will be provided by ensuring the development of transport, power and other services and by appropriate fiscal and other measures. The State should continue to foster institution to provide financial aid to these industries. Special assistance would be given to enterprises organised on co-operative basis for agricultural and industrial purposes. In suitable cases, the State might also grant financial assistance to the private sector. These industries will also be rendered help in getting their licensing and sales tax problems resolved.

3.51. As a result of the various measures contemplated during the Perspective Plan period, it is expected that there will be a structural change in the economy and the dependence on agriculture will reduce from 80.45 per cent in 1970-71 to 70.30 per cent in 1988-89. Correspondingly, there will be an increase in employment in the secondary sector from 8.02 to 13.05 per cent and in the tertiary sector from 12.50 to 16.64 per cent.

Power

3.52. The Perspective Plan gives high priority to the expansion and strengthening of the generating capacity and the transmission and distribution system to carry through the programmes of agricultural and industrial development. The demand for

power in the State excluding the D.V.C. area has been projected at 2,824 MW by 1988-89. The installed capacity by that time will increase to 4,722 MW in the State excluding D.V.C. and the peak capability will be around 3,290 MW. In order to meet the increasing demand for power during the Perspective Plan period and thereafter, the super generating schemes that are under consideration are :

Koel Karo Hydro-electric Project	..	..	..	950 MW.
Colgong Super Thermal Power Station	..	..	..	3,000 MW
Tenughat Thermal Power Station	..	..	..	1,000 MW
Ray Thermal Power Station	..	..	..	2,000 MW
Sankh Hydel Power Station	..	..	..	700 MW

The transmission and distribution system as mentioned earlier is already over-stretched and results both in heavy transmission losses and voltage fluctuations, etc. Top priority will have, therefore, to be given to further expansion and strengthening of the transmission and distribution system. It is proposed to electrify 80 per cent of the villages by 1988-89 and all the 67,566 villages by 1992-93.

3.53. In the DVC area in Bihar, current demand is estimated at 640 MW and the supply at 400 MW. There is thus a shortage of 240 MW. The power demand is expected to rise to 1,220 MW by 1988-89. In order to meet the power requirement, the DVC has to build an adequate generating capacity. Important proposals of the DVC which are under consideration are New Bokaro Thermal Power Station (600 MW) and Maithon Thermal Power Station (1,000 MW). Besides, the Ray Power Station (2,000 MW) which is within the DVC area should be built by the DVC itself. The DVC Act also will have to be suitably amended to ensure fair distribution of benefits to Bihar and to enable the State Government to exercise control over DVC affairs

Transport and communications

3.54. The economic growth of the State has suffered considerably due to poor development of road communication. High priority will be given to the completion of the road bridge over the Ganga at Patna and the construction of roads in sugar factory and mining areas. Among the new projects, high priority will be given to the construction of missing road and bridge links in the existing road networks so as to improve their efficiency and utilisation. In this connection, priority will be given to the construction of two road-cum-rail bridges across the Ganga at Colgong and Rajmahal. The road connecting district and subdivisional headquarters, and other important growth centres, on which there has been a heavy increase of traffic will be widened and strengthened. Regarding rural roads, the Perspective Plan proposes to connect by all weather roads all villages with population of 1,500 and above in the plains area and all villages with population of 1,000 and above in the plateau and sub-plateau areas and to connect the remaining Block headquarters with metalled roads.

3.55. There are extensive areas in the plateau sub-regions which do not yet have proper railway communication. There is also need for giving urgent attention to developing more effective railway communication between the highly mineralised plateau region and the densely populated North and South Bihar plains, to facilitate movement of coal and other mineral products, which is essential for the industrial growth of the State. The Perspective Plan should be able to fill in this void in rail communication.

Social Services

Education

3.56. The strategy is to enrol all children in the age-group 6-14 and to provide out of school education to all children who leave school before class V, mainly due to their poverty. The aim will be to give a minimum of five years complete schooling to all children in Bihar. Organisation of functional literacy centres to benefit all

illiterate adults upto 35 years of age is also planned. Secondary education will be 'vocalised' with emphasis on self-employment. There will be rapid expansion of middle-grade technical and workers education. Universities will be developed as Centres of excellence in post-graduate teaching and research. Technical, medical and managerial education will be based on (appropriate) man-power planning.

3.57. The programme-structure will consist of expanding and enriching the staffing of the primary schools and equipping them for providing out of school and adult education, preventing indiscriminate expansion of secondary education and converting as many units as possible to vocationalized institutions, reducing expenditure on mainstream degree college and expanding polytechnic and industrial training centres and instituting thorough man-power planning at university level education.

3.58. Education upto class X has already been made free. The same benefit will be extended to out-of-school education so that the children dropping out of school could receive the minimum of schooling and illiterate adults upto 35 years of age could become literate.

Health, nutrition and family planning

3.59. The Perspective Plan provides for expanding health services to all areas in the direction of preventive medicine and community health programmes, improvement of nutrition with particular attention to the weaker sections of the population and imparting of dietic education and intensification of family planning and welfare programmes, chiefly directed towards weaker sections of the society.

3.60. The efforts to raise the per capita income of the State may get neutralised in part if the trend towards population growth is not arrested. It is, therefore, necessary to give high priority to the further strengthening of family planning measures. The strategic aim is to reach to minimum population figure of 7.54 crores by 1988-89 through family limitation strategy, mainly directed towards weaker sections of the society. This strategy will have two-fold effects: firstly, it will limit population growth and secondly, it will contribute to the welfare of the poor house-hold and will, therefore, reduce the number of persons below the poverty line.

3.61. The programme structure will consist of intensive propaganda of small family norm and setting up of a large number of family welfare centres. In this connection, it is necessary to secure the services of voluntary organisations and local community head in favour of adoption of small family norms and enforcement of legislation relating to child marriage. Special stress will be laid on child-care and female education.

3.62. It is necessary to aim at integration of health, family planning and family welfare services. These objectives can be achieved only if the organisational infra-structure of the public health services is further strengthened and necessary steps are taken for training of the medical and para-medical personnel required.

Water-supply and sanitation

3.63. *Urban water-supply.*—Over 75 per cent of the total urban population have already been provided with piped and protected water-supply. It is proposed to cover the remaining population during the Perspective Plan.

3.64. *Rural water-supply.*—It is estimated that about one-third of the total number of villages in the State do not have adequate provision of drinking water facilities at present. It is proposed to provide drinking water facilities to all villages of the State before the end of the Perspective Plan. The massive ground-water development programme taken up for purposes of irrigation will also ensure fresh drinking water to a large percentage of rural population.

3.65. *Sanitation*—Adequate attention will be given to the provision of sewerage and drainage facilities in urban areas. Service laterines will be converted into septic ones. Priority will be given to providing all towns above one lakh of population with underground sewerage. Emphasis will be given to providing sanitation facilities in rural areas including provision of public laterines.

Housing and urban development

3.66. *Urban Housing*.—In urban areas, cheap housing has to be provided for the weaker sections of the society which constitute about 70 per cent of the total urban population. Houses will also be constituted for low and middle income groups. There will also be adequate expansion of commercial accommodation and marketing centres. In addition, land will be acquired and housing-sites developed for setting them to individuals. This will promote housing development and prevent the growth of new slums. As for the existing slum areas which constitute a substantial part of the major towns/cities in Bihar, schemes for slum clearance and improvement will be taken up in a phased way during the Perspective Plan.

3.67. *Rural housing*.—It is proposed to take up an enlarged programme for providing house-sites to landless rural workers and to render them help in the construction of houses. It is also proposed to improve rural sanitation by undertaking accelerated environmental improvement programmes in the villages, particularly in North Bihar.

Welfare of backward classes, labour welfare and social welfare

3.68. *Welfare of backward classes*.—It is estimated that about 40 per cent of the total population of Bihar belongs to Scheduled Tribes, Scheduled Castes and other socially and economically backward classes. It is necessary to protect them from social injustice and exploitation and bring them at par with the rest of the population. Every effort will be made to ensure that the backward classes share the full benefit arising from economic growth in the State. Special programmes in the tribal areas will be taken up and these will be improved and further expanded. Area based programmes, where there is concentration of Scheduled Caste population, will also be taken up. Programmes of educational grants, economic uplift, health, housing etc. will be continued and strengthened.

3.69. *Labour welfare*.—Special attention will be given to promoting industrial peace by encouraging the growth of healthy labour unions and promoting the welfare of labour. Due attention will be given to provide training facilities to the workers.

3.70. *Social Welfare*.—Due attention will be given to special welfare programmes for women, children, aged and the handicapped. An old age pension schemes has been introduced. Welfare and rehabilitation measures for handicapped children and adults will be intensified. The administration machinery for carrying out of social welfare and social defence measures will be suitably strengthened.

3.71. *To sum up*.—The main strategies for achieving the objectives of the Perspective Plan will be :—

- (i) strengthening and revitalising area development programmes in the major irrigation commands for promoting optimum utilisation of the irrigation potential available and introduction of multi-cropping and high-yielding varieties with related inputs ;
- (ii) Accelerating the progress of irrigation projects which have already reached an advanced stage of execution ;
- (iii) rapid development of irrigation from ground-water resources and rural electrification ;

- (iv) enforcement of land ceiling law and other land reforms measures ;
- (v) promoting development of ancillary and small-scale industries in the large industrial complexes and agro-industries elsewhere ;
- (vi) promoting the development of secondary and tertiary sectors on a large scale and utilising idle capacity to the full ;
- (vii) giving higher priority to road development for opening up new areas for development and reducing regional imbalances ; and
- (viii) providing necessary facilities for various items of social consumption like elementary education, non-formal adult education, drinking water-supply, health care, house-sites for landless labourers, etc.

V. Resources for the Perspective Plan

3.72. The size of the investment indicated at paras. 30 and 31 will be met from four sources, namely, State's own resources, direct central investment, private sector and institutional finance. The Perspective Planning Division have already prepared a preliminary paper on the resource appraisal for the perspective plan, which is being examined in depth. From the preliminary exercise already conducted, it appears that the size of the investment proposed would materialise, provided adequate direct central investment comes through and there is fair and adequate flow of Central assistance and institutional finance.

CHAPTER IV

THE PERSPECTIVE PLAN MODEL

The Perspective Plan Model was originally prepared for a period of 15 years from 1974-75 to 1988-89, encompassing the Fifth, Sixth and Seventh Five-Year Plans. But as the Fifth Five-Year Plan (1974-79) has been terminated on the 31st March 1978 and a new Medium-term Plan for a five-year period (1978-83) has been launched from the 1st April, 1978, it has been considered necessary to modify the original Perspective Plan Model. The modified model now covers a period of 11 years from 1978-79 to 1988-89. For the sake of analysis, the Perspective Plan period of 11 years has been divided into two sub-periods—the Five-Year Plan period from 1978-79 to 1982-83 and the Medium-term Plan period from 1983-84 to 1988-89. This exercise will be subsequently extended to 1992-93 so that the Perspective Plan could cover a period of 15 years from 1978-79.

4.2. The Perspective Plan Model is based on the assumption of catching up with the estimated all-India per capita income of Rs. 1,320* by 1988-89 at 1973-74 prices. In order to achieve this basic objective, it is necessary to step up the rate of investment during the Perspective Plan period (1978-89). The population of the State in 1988-89 multiplied by the desired per capita income in that year (Rs. 1,320 at 1973-74 prices) gives the total income required in the target year. This brings in the question of population projection.

Population projection

4.3. The population of the State has been projected up to 1988-89 according to the 'ng' formula†. The projected population is given in Table 1. The growth of population during the decade 1971-81 works out to 20.40 per cent as against 21.30 during the previous decade 1961-71. The annual compound rate of growth during the decade 1971-81 works out to 1.90 per cent as against 1.95 in the previous decade. The annual growth rate is expected to fall to 1.57 per cent during the period 1981-82 to 1988-89. The population projections take into account the impact of family planning programme in reducing the general fertility rate. This has been achieved by gradually

* The per capita income of Rs. 1,320 has been estimated on the basis of the projected population of 77.4 crores in 1988-89 and the annual compound growth in G.D.P. at 4.37 per cent during 1973-74 to 1977-78, 4.70 per cent during 1977-78 to 1982-83, 5.50 per cent during 1982-83 to 1987-88 and 6.00 per cent during 1988-89. The population projection and the growth rates are based on the Draft Five-Year Plan (1978-83) of the Planning Commission, Government of India and economic judgment.

† The population relationship for future years according to this formula is given by :

$$P_n = \frac{2000 + n \cdot g}{2000 - n \cdot g} \times P_1, \text{ where}$$

P_n = Estimated population in the nth year after 1971;

P_1 = Population at the last Census (1971) and

g = Decennial rate of growth of population on the mid-Censal population.

$$= \frac{P_1 - P_0}{(P_1 + P_0) / 2} \times 100,$$

$$= \frac{P_1 - P_0}{P_1 + P_0} \times 200, \text{ where}$$

P_0 = Population in 1951.

reducing the value of 'g' in the formula from 19.22 in 1971-72 to 19.14 in 1978-79 and 17.00 in 1988-89.

TABLE 1—PROJECTED POPULATION OF BIHAR (1978-79 TO 1988-89)

Year	Population (in crores)
1978-79	6.45
1979-80	6.54
1980-81	6.66
1981-82	6.79
1982-83	6.92
1983-84	7.02
1984-85	7.15
1985-86	7.24
1986-87	7.34
1987-88	7.45
1988-89	7.54

4.4. The projected population of 7.54 crores in 1988-89 and the postulated all-India per capita income of Rs. 1,320 give the total income of Rs. 9,953 crores in the target year (1988-89). The State income during the Perspective Plan period (1978—89) is, therefore, expected to grow at the rate of 9.02 per cent per annum (compound). However, instead of assuming a uniform rate of growth throughout the Perspective Plan period, it has been assumed that the growth of income would be steady and gradual. This has been considered necessary to make the programme of development realistic and feasible. It has been postulated that the rate of growth of income would increase gradually from 8.93 per cent in 1978-79 to 9.59 per cent in 1988-89. The rate of growth is expected to increase as many of the investments made in the past would start yielding fruits in subsequent years. The annual rate of growth works out to 8.90 per cent per annum (compound) for the Five-Year Plan period (1978—83), 9.10 for the Medium-term Plan (1983—89) and 9.02 for the Perspective Plan period (1978—89). The envisaged annual rate of growth of State income (9.02 per cent compound) may appear to be on the higher side as compared to the growth rate during 1950-51 to 1975-76 (2.92 per cent compound). But if the objective is to break the economic stagnation from which the State economy has been suffering, this is the only way. Incidentally, it may be mentioned that the average annual growth rate during 1974—76 was of the order of 8.15 per cent which suggests the attainability of the envisaged rate of growth.

Estimated investment

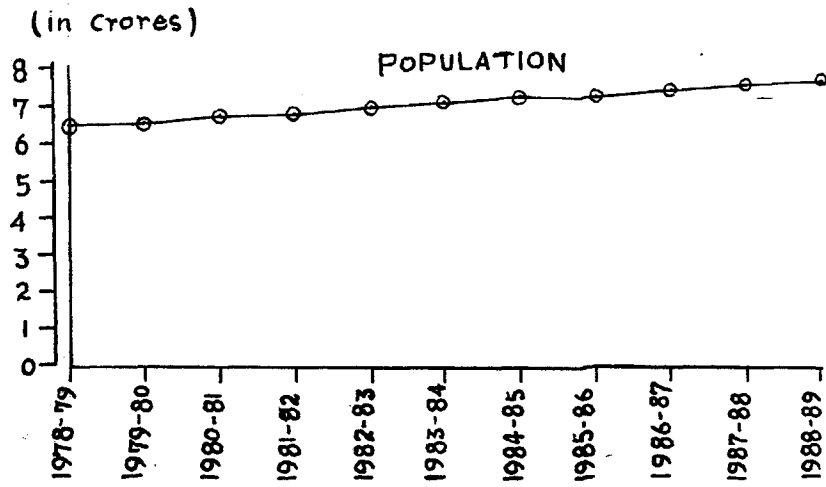
4.5. Investment requirements have been worked out on the basis of the postulated incremental income over the various years of the Perspective Plan and the over-all capital-output ratios applicable to the Five-Year Plan (1978—83) and the Medium-term Plan (1983—89). In this regard, it is necessary to mention that the income growth could be projected on the basis of either Cobb-Douglas production function* or Harrod-Domar growth model †. The former model assumes that the output is brought about by both capital and labour, while the latter model assumes that the output flows from the increment in capital stock alone. The latter assumption is a realistic one in a labour surplus economy like ours where the supply of labour does not operate as a constraint and where the marginal product of labour tends to be zero. In other words it is being held that income generation is largely a function of capital.

4.6. The marginal capital-output ratios during the Fourth and Fifth Plan periods worked out respectively to 3.22 and 3.53. The ratio in the Perspective Plan is expected

* $Y = AK^\alpha L^\beta$, where Y=total income, K=capital, L=Labour, A is a constant and α and β are elasticities.

† $Y_t - Y_{t-1} = \Delta Y_t = \frac{1}{\alpha} K_{t-1}$ where ΔY_t implies incremental change in income, α , the incremental capital-output ratio, Y_t the output in the year 't' and K_{t-1} , the capital investment in the year 't-1'. Here, a lag of the one year between the investment and income generation has been assumed.

PROJECTED POPULATION OF BIHAR (1978-89)



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FIG:- 6

to be still higher mainly because of big irrigation and power programmes envisaged in the Plan. Again in cement and fertiliser industries, where the capacity has to be expanded, project costs have increased enormously. Further, agricultural development is also becoming more and more capital intensive. The capital-output ratio of over 4 in the Indian economy during the period 1960-61 to 1975-76 as against the lower ratios assumed in the earlier Plans (about 3 in the Fifth Plan) also suggests the possibility of higher capital-output ratio in the Perspective Plan for the State. It is postulated that the capital-output ratio will increase to 4.0 in the Five-Year Plan (1978-83) and 4.2 in the Medium-term Plan (1983-89). The overall ratio in the Perspective Plan is likely to be of the order of 4.1.

4.7. Given the postulated incremental income and the capital-output ratios, the capital required for the Five-Year Plan (1978-83) and the medium-term plan (1983-89) could be worked out. A time-lag of one year has been allowed, on an average, between the investment and income generation. Thus, the investment made in the last year of the Fifth Plan has been related to the income to be generated in the first year of the Five-Year Plan (1978-83) and the investment to be made during the Five-Year Plan to the income to be generated during the five-year period beginning from the second year of the Five-Year Plan and ending with the first year of the Medium-term plan and so on. The model worked out in this manner is presented in Table 2.

4.8. It could be seen from Table 2 that the total investment required in the Five-Year and Medium-term Plans will be of the order of Rs. 9,000 and Rs. 19,000 crores at 1973-74 prices or Rs. 12,000 and Rs. 24,000 crores at 1976-77 prices respectively as under :—

(Rupees in crores.)

	At 1973-74 prices	At 1976-77 prices
Five-Year Plan (1978-83)	9,340	11,769
Medium-term Plan (1983-89)	19,012	23,955
Perspective Plan (1978-89)	28,352	35,724

4.9. The envisaged investment of Rs. 35,724 crores at 1976-77 prices includes Rs. 1,572 crores proposed to be spent on Special Employment Schemes during the Perspective Plan period to provide casual work during the interim period to those who will remain unemployed till full employment is reached.

TABLE 2—PROJECTED INCOME AND INVESTMENT IN THE PERSPECTIVE PLAN PERIOD (1978-89)

	Five-Year Plan (1978-83)					Medium-term Plan (1983-89)					
	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
1	2	3	4	5	6	7	8	9	10	11	12
1. Income at the end point (Rs. crores).	4,140	4,510	4,912	5,360	5,850	6,385	6,972	7,615	8,316	9,082	9,953
2. Income increase (Rs. crores).	340	370	402	450	490	535	587	643	701	765	873
3. Investment requirement (Rs. crores).	1,480	1,638	1,800	1,960	2,140	2,465	2,700	2,944	3,217	3,666	4,020
4. Investment as percentage of income.	35.70	35.70	36.60	36.60	36.62	38.60	38.70	38.70	38.70	40.37	40.40
5. Population (crores)	6.45	6.54	6.66	6.79	6.92	7.02	7.15	7.24	7.34	7.45	7.54
6. Per capita income (Rs.)	642	687	736	788	845	908	976	1,051	1,132	1,220	1,320
7. Rate of growth of per capita income.	6.82	7.00	7.13	7.13	7.23	7.45	7.48	7.68	7.70	7.78	8.19
8. Rate of growth of income.	8.93	8.93	8.93	9.12	9.14	9.14	9.19	9.20	9.20	9.21	9.59
9. Capital-output ratio ..	..	..	..	4.0:1	..	..	4.2:1	..	..	..	..

Break-up of investment by investing agencies

4.10. The projected investment of Rs. 11,769 and Rs. 23,955 crores at 1976-77 prices in the Five-Year and Medium-term Plans have been allocated at the macro-level among the three investing agencies on the basis of trends of allocation during the Third, Fourth and Fifth Five-Year Plans. The share of the three investing agencies in the total investment during the Third, Fourth and Fifth Five-Year Plans are given in Table 3. Data on the investment in the State sector have been taken from the plan documents of the Government of Bihar. Estimates of direct Central investment are based on the various Plan documents of the Government of India and those for the private sector have been obtained by multiplying the all-India investment in the private sectors in the different Plans by the ratio of the average State income to average national income during the respective quinquennium.

TABLE 3
INVESTMENT DURING THE THIRD, FOURTH AND FIFTH FIVE-YEAR PLANS BY INVESTING AGENCIES

(Rupees in crores.)

Plan	State sector	Direct Central investment	Private sector	Total
Third Plan	325 (30)	443 (42)	296 (28)	1,064 (100)
Fourth Plan	481 (24)	831 (42)	650 (34)	1,962 (100)
Fifth Plan	1,296 (38)	1,106 (32)	1,045 (30)	3,447 (100)

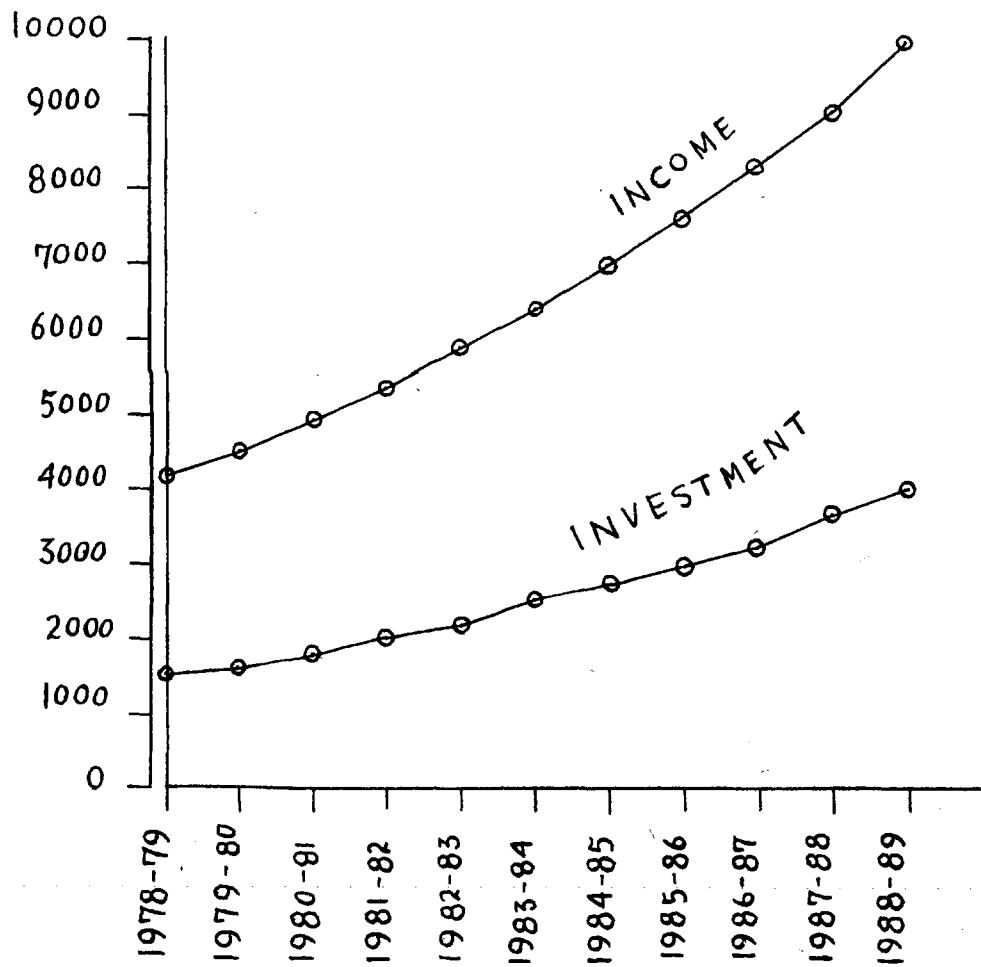
4.11. The State Government has to play a major role in building up the core sectors of the economy. The social infra-structure has also to be strengthened and the minimum needs fulfilled. Steps towards eradication of poverty and attainment of full employment have also to be continued. All these objectives taken together would mean an increase in the investment by the State Government. Although there are various difficulties on the part of State Government in mobilising additional resources from the existing sources, there is ample scope for raising institutional finance hitherto inadequately tapped. It has been assumed that the investment by the State Government would increase from 38 per cent of the total investment in the Fifth Five-Year Plan to about 50 per cent both during the Five-Year Plan (1978-83) and the Medium-term Plan (1983-89).

4.12. Since the Perspective Plan visualises an increasing role of the State Government in the total investment, the share of the Central Government in the total investment has been marginally reduced from the fifth Plan level of 32 per cent of the total investment to about 30 per cent both during the Five-Year Plan and the Medium-term Plan.

4.13. Private sector will continue to play a major role in the economy. However, there may be a marginal decline in its percentage share in the total investment. The average share of the private sector in the total investment during the Third, Fourth, and Fifth Five-Year Plans works out to 31 per cent. It has been assumed that the share would be around 20 per cent of the total investment both during the Five-Year and Medium-term Plans.

PROJECTED INCOME & INVESTMENT
IN
THE PERSPECTIVE PLAN PERIOD

(Rs. in crores)



J. Alam

FIG:- 7

4.14. On the basis of the percentage shares in the total investment of the three investing agencies as discussed above, the total investment during the Five-Year and Medium-term Plans by the three investing agencies is likely to be as in Table 4.

*TABLE 4

PROJECTED INVESTMENT DURING THE SIXTH AND MEDIUM-TERM PLANS BY INVESTING AGENCIES AT 1976-77 PRICES.

(Rupees in crores.)

	State sector	Direct Central investment	Private sector	Total
Five-Year Plan (1978—83)	6,060 (51)	3,413 (29)	2,296 (20)	11,769 (100)
Medium-term Plan (1983—89)	11,977 (50)	7,187 (30)	4,791 (20)	23,955 (100)

Sectoral allocation of investment

4.15. Inter-sectoral allocation of investment on a rational basis is constrained by severe data limitations. In order to work out such allocation it is necessary to have reliable sectoral estimates of incremental capital output ratios for which the economy has to be disaggregated into sectors with a fairly homogeneous commodity composition. Otherwise, a change in the relative weights of different commodities in the sectoral output might vitiate the postulated capital-output ratio of that sector. Secondly, time-series data on output and investment for such disaggregated sectors should also be available. In the absence of such information, it is not possible to work out meaningful sectoral capital-output ratios. Thirdly, different rates of utilisation of capacity in different sectors and even in the same sector at different times further complicate the estimates. For these reasons, it has not been possible to work out the sectoral allocation of investment endogenously from the model on the basis of sectoral incremental capital-output ratios.

4.16. In view of the above limitations the inter-sectoral allocation of investment has been done on the basis of the outlays suggested for different sectors by the various Divisions of Planning Board. The suggestions of the Divisions are based on the reports of the various Task Forces constituted for the purpose. The inter-sectoral distribution also takes into account the need to provide for various items of public consumption on a much bigger scale, such as free education upto Matriculation, fresh drinking water facilities to all the villages in the State, health care, house-sites/houses for weaker sections of the society, etc.

4.17. The inter-sectoral allocation of investment in the Five-Year and medium-term Plans worked out as above is given in Table 5. The provisions shown in the table are higher than in the Draft Approach to the Five-Year Plan brought out by the Planning Board by Rs. 6,321 crores—Rs. 698 crores in the Five-Year Plan (1983—89) and Rs. 5,623 crores in the Medium-term Plan. This is to provide for new items not

*Infra, p. 45, para 3.18.

conceived of at the time when the Draft Approach was prepared and also to cover increased outlays on some of the existing items.

TABLE 5—SECTORAL ALLOCATION OF INVESTMENT DURING THE FIVE-YEAR AND MEDIUM-TERM PLANS

(Rs. in crores at 1976-77 prices)

Sector	Five-Year Plan (1978—83)		Medium-term Plan (1983—89)	

1. Agriculture and allied activities	715	2,000
2. C. D., Co-operation and Panchayats	100	300
3. Irrigation and flood control	1,603	3,500
4. Power	2,050	4,000
5. Industries and Mining	2,509	5,500
6. Transport and Communications	1,921	3,500
7. Social services	1,621	3,200
8. Miscellaneous	86	1,547
9. Special employment schemes	1,164	408
TOTAL	11,769	23,955

Table 6 compares the sectoral distribution of investment so arrived at with the one given in the Draft Approach.

TABLE 6—COMPARATIVE STATEMENT OF SECTORAL ALLOCATION OF INVESTMENT AS IN THE DRAFT APPROACH AND TABLE 5.

(Rs. in crores at 1976-77 prices.)

Sector	Five-Year Plan (1978—83)		Medium-term Plan (1983—89)	
	Draft Approach	Table 5	Draft Approach	Table 5
	1. Agriculture and allied services	..	715	715
2. C.D., Co-operation and Panchayats	..	100	100	300
3. Irrigation and flood control	..	1,603	1,603	3,500
4. Power	2,050	2,050	4,000
5. Industry and Mining	..	2,509	2,509	5,500
6. Transport and Communications	..	1,616	1,921	3,500
7. Social Services	..	1,407	1,621	3,200
8. Miscellaneous	86	1,547
9. Special employment schemes	..	1,071	1,164	408
TOTAL	..	11,071	11,769	23,955

4.18 Even though, the sectoral incremental capital-output ratios have not been used explicitly to project sectoral investment, the implied incremental capital-output ratios for the major sectors for the Five-Year and Medium-term Plans are given in Table 7. The table also, gives similar ratios for the Fourth and Fifth Plans for comparison.

TABLE 7—IMPLIED SECTORAL CAPITAL-OUTPUT RATIOS.

Sectors	Fourth Plan	Fifth Plan	Five-Year Plan (1978—83)	Medium-term Plan (1983—89)
1. Agriculture and allied activities ..	1.04	1.87	1.89	1.7
2. Mining and Manufacturing ..	6.58	5.92	3.81	4.46
3. Transport and C mmunications ..	2.78	4.42	11.38	9.59
4. Social services .. ..	..	2.08	3.78	2.51
5. Miscellaneous	20.04	15.51	20.55	19.61
All sectors	3.22	3.53	4.00	4.20

4.19. Sectoral distribution of the estimated investment by investing agencies, viz., the State Government, direct Central investment and the private sector, will be presented after the deliberations of the various Divisions of the Planning Board on the reports of the Task Forces are completed.

CHAPTER V

ATTAINING FULL EMPLOYMENT

One of the main objectives of the Perspective Plan is to create adequate employment opportunities so that the backlog of unemployment is cleared and the addition to the labour force made each year is also taken care of. The present chapter makes an attempt to estimate the backlog of unemployment inclusive of under-employment by 1977-78 and the addition to the labour force *vis-a-vis* the creation of job opportunities during the Perspective Plan period (1978-89).

Magnitude of unemployment in 1970-71

5.2. The volume of unemployment at any point of time can be taken as the difference between the labour force available and the number of persons actually employed. The available labour force includes the number of persons employed in gainful occupations as well as the persons who are willing to work at the prevailing rates of wages but do not get work. The present convention or standard is to consider 40 per cent of the total population to constitute the labour force. Taking into account this norm and the population of Bihar in 1971 (563.53 lakhs), the employable labour force works out to 225.41 lakhs. But as this norm is only a rough approximation and does not take into account the factors likely to influence the participation rates of different segments of population according to sex, age and other characteristics, it has not been adopted for estimating the employable labour force. The labour force here has been estimated on the basis of the all-India participation rates worked out by the Expert Committee appointed by the Planning Commission for working out labour force participation rates. The participation rates in 1971 as worked out by the Expert Committee for the age-group 15-34 and 35-59 according to sex and rural-urban residence are given in Table 1.

Table 1

Labour force participation rates (1971)

Age-group	<i>Per cent</i>			
	Rural		Urban	
	Male	Female	Male	Female
1	2	3	4	5
15-34	89.6	49.3	75.4	18.8
35-59	97.0	51.8	93.3	24.9

5.3 The participation rates given in Table 1 excludes the participation rates of the working children below 15 and the working population of 60 and above. The policy objective should evidently be to provide employment to the labour force between the ages 15 and 59. This is based on the assumption that child labour will be abolished at the earliest.

5.4 Table 2 given below reveals that the population of Bihar between the age 15 and 59 in 1971 was 290.29 lakhs consisting of 146.84 lakh males and 143.45 lakh females.

Table 2
Population of Bihar between the ages 15 and 59 (1971)

(In lakhs)

Age-group	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7
15—34 ..	72.64	76.95	10.63	8.36	83.27	85.31
35—59 ..	56.43	53.37	7.14	4.77	63.57	58.14
TOTAL ..	129.07	130.32	17.77	13.13	146.84	143.45

5.5 Applying the participation rates given in Table 1 to the population given in Table 2, the employable labour force in 1971 works out to 202.85 lakhs as shown in Table 3.

Table 3
Estimated labour force (1971)

(In lakhs)

Age-group	Rural		Urban		Total		Total
	Male	Female	Male	Female	Male	Female	
1	2	3	4	5	6	7	8
11—34 ..	65.09	37.94	8.01	1.57	73.10	39.51	112.61
35—59 ..	54.74	27.65	6.66	1.19	61.40	28.84	90.24
TOTAL	119.83	65.59	14.67	2.76	134.50	68.35	202.85

5.6. According to the Census of 1971, the number of workers in Bihar was 174.89 lakhs. But this number does not represent jobs reckoned in adult units. It includes working children below the age of 15 and agricultural workers who do not get employment all the year round due to seasonal factors in agriculture. The number of working children below 15 in 1971 was 10.60 lakhs and the agricultural workers 143.86 lakhs. Assuming two children's jobs to be equivalent to one adult's job, the number of jobs held by this class comes to 5.30 lakhs in adult units. Regarding the agricultural workers, it is

seen that they are employed for about 200 days in a year^(*). Assuming the normal employment period of agricultural workers to involve nine months or 273 days (of eight hours) per year † about 73 per cent of 143.86 lakhs, *i.e.*, 105.02 lakhs, can be taken as employed. Thus the number of jobs reckoned in adult units available in 1971 after making due allowance for seasonality in agriculture works out to 174.89 [5.30+(143.86—105.02)] *i.e.*, 130.75 lakhs.

5.7 Subtracting the number of jobs available in 1971 (130.75 lakhs) from the employable labour force (202.85 lakhs), the number of additional jobs required to provide full employment comes to 72.10 lakhs. This represents the magnitude of unemployment and under-employment in 1970-71.^(**) It works out to 12.79 per cent of the total population or 35.52 per cent of the labour force. In other words, the number of full time jobs available in 1970-71 was 64.48 or 64 per cent of the total job requirements.

5.8 The estimated volume of unemployment (inclusive of under-employment) discussed in the foregoing para. is based on the data contained in the Census Report and, therefore, suffers from the limitations generally applicable to all Census data. An attempt has, therefore, been made to cross-check the volume of unemployment on the basis of a comprehensive survey on employment—unemployment conducted by the National Sample Survey Organisation (NSSO) during the 27th Round (October, 1972—September, 1973) both in the rural and urban areas of Bihar. The estimates of employment—unemployment presented in the 27th Round Survey cover the population of age 5 and above.

5.9 The survey results reveal that of the total estimated 502.38 lakh persons of age 5 and above for March, 1973, 290.68 lakh persons reportedly neither do any gainful work nor do they offer themselves for work. The remaining 211.70 lakh persons constitute the labour force, their proportions being 42.28 per cent (or 192.11 lakhs) and 36.83 per cent (or 19.59 lakhs) of the respective rural and urban population.

5.10 The magnitude of those who had practically no work continually over a long period and were seeking work or were available for work throughout, was extremely small. They were only 0.66 per cent (or 3.03 lakhs) and 1.99 per cent (or 1.05 lakhs) of the respective rural and urban population. They may be called 'chronically' unemployed. The total number of 'chronically' unemployed persons, therefore, worked out to 4.08 lakhs for Bihar as against 3.86 millions for the country as a whole.

5.11 Table 4 gives the cross classification of 'chronically' unemployed persons by educational standard with a view to providing an idea of the quality of those persons for deciding the nature of jobs to be created for them. It could be seen from the table that the most affected persons are the persons having lower educational attainments. The percentage of 'chronically' unemployed of the general education group 'above primary and upto secondary' in the rural and urban areas to the respective total, worked out to 55.45 and 53.90 as against the corresponding all-India figures of 53.70 and 53.54. Those belonging to general education group 'literate and upto primary' accounted for 10.89 and 17.43 per cent of the respective total of 'chronically' unemployed in the rural and urban areas. The all-India percentage, in this case, worked out to 18.09 and 24.25 respectively. 'Graduate and above' constituted only 6.60 and 15.72 per cent of the respective total in the rural and urban areas, the corresponding all-India figures being 8.04 and 11.72 per cent. The number of job-seeking registrants in the different Employment Exchanges in Bihar according to their educational standard also revealed the same feature. Of the total number of persons currently on the live register, the number of registrants with educational qualification 'graduate and above' constituted only 9.26 per cent of the total number of unemployed

*According to the Second Agriculture Labour Enquiry published in 1960, an agricultural labourer, on an average, gets employment for a little less than 200 days in a year.

†Planning Commission, Draft Five-Year Plan (1978-83), Volume II, page 117.

**The number of unemployed and under-employed in 1953 in Bihar worked out to 87.61 lakhs, accounting for 20 per cent of the total population or 50 per cent of the employable labour force Report of the Bihar Unemployment Committee, 1960, Volume I, page 125).

persons (7.15 lakhs) on live register of the Employment Exchanges as on 31st December 1972 as against 8.95 per cent estimated by the NSSO (27th Round Survey).

Table-4

Distribution of 'chronically' unemployed by sex, education and residence

(In lakhs)

Educational Standard	Rural			Urban		
	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7
1. Illiterate ..	0.490 (18.29)	0.330 (94.29)	0.820 (27.06)	0.110 (11.29)	0.026 (34.67)	0.136 (12.95)
2. Literate and up to Primary.	0.330 (12.31)	..	0.330 (10.89)	0.181 (18.56)	0.002 (2.67)	0.183 (17.43)
3. Above primary and upto secondary.	1.660 (61.94)	0.020 (5.71)	1.680 (55.45)	0.530 (54.36)	0.036 (48.00)	0.566 (53.90)
4. Graduate and above	0.200 (7.46)	..	0.200 (6.60)	0.154 (15.79)	0.011 (14.66)	0.165 (15.72)
TOTAL ..	2.680 (100.0)	0.350 (100.0)	3.030 (100.0)	0.975 (100.0)	0.075 (100.0)	1.050 (100.0)

5.12 The estimated figure of 4.08 lakhs 'chronically' unemployed in Bihar, however, does not reflect the basic malady of the unemployment problem. A large part of the population who reportedly engage themselves in gainful activity do suffer from some kind of under-employment or under-utilisation of their available labour time. The total number of persons who did not have stable and adequate employment worked out to 53.74 lakhs as against 63.34 millions for the country as a whole. The break-up of 53.74 lakhs of the estimated under-employed into various categories is given below. In the present study, however, the higher figure of unemployment (inclusive of under-employment) of 72.10 lakhs in 1970-71, discussed at para. 7, has been adopted for planning purposes:—

(In lakhs)

	Rural	Urban	Total
1. Working as regular wage/salary earner in farm or non-farm enterprise and also seeking work or available for additional work.	3.72	1.22	4.94
2 Working in own-farm or non-farm enterprise and also seeking work or available for additional work.	14.41	0.89	15.30
3 Casual wage labour intermittently unemployed and seeking work or available for work.	25.86	1.41	27.27
4. Helper (*)	6.03	0.20	6.23
TOTAL	50.02	3.72	53.74

*As the relevant data about helpers in own farm or non-farm activities, who constitute 33.05 lakhs have not been tabulated, their work content is not known. But following the NSSO, it can be reasonably assumed that their work content will not be more than that for the persons categorised as working in own farm or non-farm activities in the capacity of self-employed. Based on this assumption, the number of helpers is estimated at 6.23 lakhs.

Estimated labour force (1971—89)

5.13 Since the use of participation rates for estimating labour force requires projection of population by age and sex, the projections made by the Demographic Research Centre, Patna University have been adopted for the study. They have given 5-yearly population projections for Bihar by age and sex from 1976 to 1991. The total population of the State, according to their report, is expected to increase from 563.5 lakhs in 1971 to 617.5 lakhs in 1976, 669.7 lakhs in 1981, 749.5 lakhs in 1986 and 828.7 lakhs in 1991. An attempt has been made to project the population of the State between the ages 15 and 59 for the years 1973-74, 1977-78, 1982-83 and 1988-89. The population for 1973-74 has been projected on the basis of the calculated growth rate (compound) during the quinquennium 1971 to 1976. Similarly, the population projections for 1977-78, 1982-83 and 1988-89 are based on the growth rates (compound) applicable to the quinquennia 1976 to 1981, 1981 to 1986 and 1986 to 1991 respectively. Table 5 gives the projected population of Bihar between the ages 15 and 59 by sex.

Table 5

Population projection for Bihar between the ages 15 and 59 (1973—89)

(In lakhs)

Year	Male		Female	
	15—34	35—59	15—34	35—59
1	2	3	4	5
1973-74	94.89	66.46	92.81	64.11
1977-78	105.67	70.57	101.95	67.88
1982-83	121.45	75.95	114.35	72.91
1988-89	140.61	94.10	129.08	81.41

5.14 Since the population projections for Bihar are not available for rural and urban areas separately, for projecting labour force, the combined participation rates (rural+urban) have been worked out by age and sex on the basis of the data contained in Tables 2 and 3. The combined rates are shown in Table 6.

Table 6

Labour force combined (Rural+ Urban) participation rates (1971)

(Per cent)

Age-group		
	Male	Female
15—34	87.78	46.31
35—59	96.58	49.60

5.15 Applying the participation rates given in Table 6 to the projected population given in Table 5, the likely additions to the labour force are as shown in Table 7. It has been assumed here that the participation rates will not change substantially during the perspective Plan period. This is based on the projection of participation

rates worked out by the Expert Committee appointed by the Planning Commission for working out the labour force participation rates (Annexure 1).

TABLE 7
ESTIMATED ADDITION TO LABOUR FORCE (1971—89)
(In lakhs)

Period	Male		Female		Total
	15—34	35—59	15—34	35—59	
1971—74 ..	5.70	3.00	2.18	1.23	12.41
1974—78 ..	9.46	3.97	4.23	1.77	19.43
1978—83 ..	13.85	5.20	5.73	2.59	27.37
1983—89 ..	16.82	7.87	6.77	4.22	35.68

Estimated volume of unemployment in 1973-74 and 1977-78

5.16 It could be seen from Table 7 that the addition to the labour force during 1971—74 is estimated at 12.41 lakhs. Assuming that the number of jobs during 1971—74 is of the same percentage to the labour force as in 1970-71, the number of additional jobs during 1971—74 will be 64 per cent of 12.41 lakhs, *i.e.*, 7.94 lakhs. The backlog of unemployment (inclusive of under-employment) by 1973-74, *i.e.*, by the end of the Fourth Five-Year Plan, may, therefore, be taken as 72.10 (12.41—7.94), *i.e.*, 76.57 lakhs.

5.17 As an alternative, another method to estimate the number of additional jobs during 1971—74 has been tried. This is based on the employment-output norms which have been calculated for different sectors at 1973-74 prices on the basis of the occupational distribution of population in 1971 and the State income in that year. For this purpose, the number of agricultural workers in 1970-71 has been taken as 105.02 lakhs instead of 143.86 lakhs for the reasons already explained at para. 6. The norms are as in Table 8.

TABLE 8
EMPLOYMENT-OUTPUT NORMS (1971)

Sector	Number of workers per Rs. one crore worth of output- (in thousands).
1. Agriculture and allied activities	5.90
2. Small-scale Industries	6.35
3. Mining and manufacturing	1.45
4. Transport and communications	1.62
5. Other services	2.50

5.18. As the agricultural operations are likely to become more and more capital intensive in nature during the Perspective Plan period (1978—89), the productivity of labour in agriculture and allied activities will gradually increase. Further, the number of agricultural workers is likely to reduce during the same period due to expansion of non-agricultural activities. As a result of the operation of these two factors the employment-output norm in agriculture and allied activities is likely to register gradual decline. It has been assumed that for Rs. one crore worth of output at 1973-74 prices in agriculture and allied activities, the number of workers will reduce from 5.90 thousands in 1970-71 to 5.60 thousands by 1977-78, 4.90 thousands by 1982-83 and 4.20 thousands by 1988-89.

5.19. The above norms have been applied to the State income data for 1973-74 to obtain the estimates of employment in different sectors. It is estimated that the volume of employment in 1973-74 was of the order of 136.94 lakhs (Table 9). Since the employable labour force by 1973-74 is estimated at 202.85 +12.41 lakhs, i.e., 215.26 lakhs, the volume of unemployment inclusive of under-employment at the end of 1973-74 work out to 78.32 lakhs which is almost the same as the first estimate of 76.57 lakhs discussed at para. 16. For planning purposes, the higher figure of 78.32 lakhs has been adopted.

TABLE 9

ESTIMATES OF EMPLOYMENT BY SECTORS IN 1973-74 AND 1977-78.

Sectors	Volume of employment (In lakhs)	
	1973-74	1977-78
1. Agriculture and allied activities	112.31	119.39
2. Small Scale industries	3.10	3.87
3. Mining and manufacturing	8.70	10.08
4. Transport and communications	2.07	3.20
5. Other services	10.76	17.46
TOTAL	136.94	154.00

5.20 The employable labour force by 1977-78 is estimated at 215.26+19.43 lakhs, i.e., 234.69 lakhs. Based on the projected State income for 1977-78 (Annexure II), the employment-output norms give the total employment at 154.00 lakhs in 1977-78 (Table 8). The volume of unemployment inclusive of under-employment at the end of 1977-78 is, therefore, estimated at 80.69 lakhs.

Employment outlook for 1982-83 and 1988-89

5.21 The backlog of unemployment (inclusive of under-employment) at the end of 1977-78, as discussed in the foregoing para, stood at 80.69 lakhs. It is estimated that the addition to the labour force during the Five-year Plan (1978—83) will be 27.37 lakhs. On the other hand, the projected State income for 1982-83 (Annexure 2) and the employment output norms (Table 8) give the total employment at 210.62 lakhs in 1982-83 (Table 10) which implies creation of 56.62 lakhs additional job opportunities during the Sixth Plan. The backlog of unemployment (inclusive of under-

employment) by 1982-83, therefore, is expected to reduce to 80.69 + 27.37—56.62 lakhs, i.e., 51.44 lakhs.

TABLE 10

ESTIMATED VOLUME OF EMPLOYMENT IN 1982-83 AND 1988-89.

(In lakhs)

Sector		1982-83	1988-89
1. Agriculture and allied activities	..	157.44	223.35
2. Small-scale Industries	..	6.32	12.00
3. Mining and manufacturing	..	16.71	29.45
4. Transport and communications	..	5.02	8.55
5. Other services	..	25.13	44.35
TOTAL	.. ..	210.62	317.70

5.22 The addition to the labour force during the Medium-term Plan (1983—89) is estimated at 35.68 lakhs. The volume of employment at the end of 1988-89 on the basis of the projected State income for 1988-89 and the employment-output norms works out to 317.70 lakhs (Table 10), showing creation of additional job opportunities to the tune of 107.08 lakhs during the Medium-term Plan. The backlog of unemployment (inclusive of under-employment) by the end of the Perspective Plan, therefore, works out to 51.44 + 35.68—107.08 lakhs, i.e., (—) 19.96 lakhs, which implies more vacant jobs by the end of the Perspective Plan than the number of unemployed. Full employment is actually expected to be reached in 1987-88 when the volume of unemployment inclusive of under-employment is estimated at only 0.40 lakh, which is well within the tolerable limit.

5.23 Table 11 gives at a glance the addition to the labour force, additional job opportunities likely to be generated and the volume of unemployment (inclusive of underemployment) by the end of 1982-83 and 1988-89.

TABLE 11

EMPLOYMENT OUTLOOK FOR 1982-83 AND 1988-89.

(In lakhs)

Plan period		Labour force	Additional jobs likely to be generated.	Volume of unemployment at the end point.
Fifth Plan (1974—78)	..	..	..	80.69
Five Year Plan (1978—83)	..	27.37	56.62	51.44
Medium term Plan (1983—89)	..	35.68	107.08	(—)19.96

5.24. As a cross-check, another method has been tried to estimate the employment opportunities likely to be generated during the perspective plan period on the basis of investment targets. Estimates of capital requirement for employing one labourer, however, vary enormously from industry to industry and from place to place. According to the employment norms discussed in the Appendix to the Third Five-Year Plan of the Government of India, Rs. 1 crore invested in irrigation generate 7,000 jobs, power 1,600, and Railways 1,900. For small-scale industries, employment of one person has been estimated to mean an investment of Rs. 5,000 on the average, for handicrafts, the estimate is Rs. 1,500, for coir and sericulture it is roughly Rs. 1,000. Prof. Mahalanobis in his paper on "Approach of Operational Research to Planning in India" published in Sankhya (Vol. XVI, Parts I and II) in 1955, gave the values of capital requirement per engaged person for different sectors as in Table 12.

TABLE 12
CAPITAL REQUIREMENT PER ENGAGED PERSON.

Sector	Capital requirement per engaged person (Rs.).
1. Large-scale industries producing investment goods.	20,000
2. Large-scale industries producing consumer goods.	8,750
3. Agriculture and small and household industries.	[2,500
4. Services (Health, Education, etc.) ..	3,750

The National Council of Applied Economic Research, New Delhi in their Draft Report on the Perspective Plan of Industrial Development of Bihar (1978-79 to 1988-89) have also worked out the investment required to employ an additional person at 1973-74 prices on the basis of limited and fragmentary information available from different sources. The results are given in Table 13.

TABLE 13
INVESTMENT REQUIRED TO EMPLOY AN ADDITIONAL PERSON.

Sector	Rs. '000 at 1973-74 prices.
1. Agriculture and allied pursuits ..	12
2. Households and small-scale industries	5
3. Mining and large industries ..	40
4. Power generation and distribution ..	1,80
5. Transport and communications ..	30
6. Others including services ..	9

5.25. Obviously, the first two sets of norms given above cannot be accepted now as the wages and prices of various inputs have gone up considerably since the norms were fixed. The NCAER's norms are the latest and as such they have been adopted for cross-checking the results arrived at on the basis of employment, output norms, with only a minor variation in the norm pertaining to agriculture and allied pursuits in which case the norm has been taken as Rs. 10,000 for employing an additional person instead of Rs. 12,000 worked out by the NCAER as the agriculture in Bihar is not expected to become capital intensive to this extent.

5.26. After deciding upon the sectoral investment-employment norms, the next question is to relate these norms to the sectoral investment in the Five-Year Plan (1978—83) and the Medium-term Plan (1983—89) arrived at on the basis of micro studies as discussed in Chapter III (Table 6). The volume of investment includes the investment in the State sector, direct Central investment and investment in the private sector. The results are presented in Table 14.

TABLE 14
ESTIMATED ADDITIONAL JOB OPPORTUNITIES (1978—89)

(In lakhs)

Sector	Five-Year Plan (1978—83)	Medium-term Plan (1983—89)
1. Agriculture and allied activities	16.00	28.52
2. Power	0.90	1.30
3. Small industries	14.38	22.16
4. Mining and manufacturing	3.28	8.44
5. Transport and communication	4.27	6.96
6. Others including social services	12.40	27.70
TOTAL	51.13	95.08

5.27. Thus at the end of 1982-83, the backlog of unemployment will get reduced to 80.69+27.37—51.13 lakhs, i.e., 56.93 lakhs. The backlog of unemployment at the end of the Perspective Plan period will stand at 56.93+35.68—95.08 lakhs, i.e. (—)2.47 lakhs. Both the methods, thus, drive at the conclusion that there will be more vacant jobs than the number of unemployed by 1988-89. In the present study, the figures arrived at by the first method have been adopted. The structural pattern of employment that would emerge by the end of the Perspective Plan is presented in Annexure 3.

Volume of unemployment in Person-years

5.28. The above analysis of unemployment does not take into account the extent of under-employment. Similarly, the job opportunities do not refer to full-time jobs. An attempt is made in this section to resolve the figures of unemployment and under-employment to a common denominator of unemployment in terms of person-years on the basis of the 27th Round Survey data of the NSSO. The same will apply to the conversion of job opportunities into full time jobs.

5.29. Chronic unemployment is a very small part of the unemployment problem in the State as in the whole country, because very few workers remain unemployed throughout the year. (In 1972-73, the volume of Chronic unemployment in Bihar was 4.08 lakhs.) Many of them find some work for some weeks or months but remain unemployed for the rest of the year. Therefore, it is necessary to have some measure of irregular unemployment by weekly-status of employment. One of them is "Weekly unemployment", i.e. the number of persons who did not find even an hour of work during the survey week and are seeking or available for work. In 1972-73, the unemployed person-weeks in Bihar aggregated to 9.60 lakhs in the rural areas and 1.30 lakhs in the urban areas, the total being 10.90 lakhs. But even this estimate of weekly unemployment is not satisfactory, because many workers do not get work even for a whole week. They get some work on some days and are looking for work on other days even during the same week. The rate of unemployment obtained by using weekly status classification procedure, therefore, underestimated the incidence of unemployment as the priority assigned to employment over unemployment was in built in the data collection procedure. To overcome this conceptual

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constraint unemployed days, rather than unemployed persons should be counted. In 1972-73, the unemployed person-days in Bihar amounted to 20.54 lakhs, 18.77 lakhs in rural areas and 1.77 lakhs in urban areas. The unemployment rate in 1972-73, measured as the ratio of person-years unemployed to person-years available works out to 9.8 per cent in the rural areas and 9.0 per cent in the urban areas *vis-a-vis* 8.0 and 9.0 respectively for the country as a whole. Table 15 gives the estimated volume of unemployment in equivalent person-years for 1973-74, 1977-78, 1982-83 and 1988-89. These estimates, are based on the ratio of the number of unemployed person-years (20.54 lakhs) to the number of unemployed/underemployed (75.00 lakhs) in 1972-73. The ratio works out to 0.274:1.

TABLE 15
ESTIMATED VOLUME OF UNEMPLOYMENT IN EQUIVALENT PERSON-YEARS (1973-89).

		<i>(In lakhs)</i>	
Year		Volume of un- employed/ underemployed	Volume of un- employment in person-years.
1973-74	.. ..	78.32	21.46
1977-78	.. ..	80.69	72.10
1982-83	.. ..	51.44	14.10
1988-89	.. ..	(-)19.96	(-)5.47

Policy prescription

5.30. From the foregoing discussions, it is obvious that the problem 'over' or 'open' unemployment is not that serious as the problem of under-employment. The figure of open unemployment in Bihar in 1972-73 according to the 27th Round Survey of the NSSO worked out to only 1.08 lakhs as against 53.74 lakhs estimated for the under-employed. As mentioned earlier, the nature of jobs to be created for the 'chronically' unemployed persons depend on the quality of those persons by their educational standard. Although the problem of unemployment is quite serious among the educated (Graduate and above), it could be seen from the Table 4 presented earlier that the problem of those having less educational attainments is more acute and calls for urgent action.

5.31. As for the underemployed who suffer from different kinds and degrees of underemployment (para. 12), the policy prescription will be different for different categories. For some, provision may have to be made to create an additional work in farm or non-farm enterprises, while for others, additional jobs may have to be created. The creation of either work or jobs for some, particularly the women in the rural areas, may need creation of work at home.

5.32. It is important to note that emphasis should be placed on creating enough work in the rural areas. This would curb under-employment there and also prevent the regular exodus of job-seekers to the urban areas. Further, the creation of additional work in the country-side would increase the effective demand of the rural population, which in turn, would induce creation of additional work in the urban areas and consequently reduce unemployment there.

5.33. While creating jobs, it should be borne in mind that the schemes chosen are productive and fit into the over-all area development plans. The first step should

*Arrived at by interpolation

be to explore the possibility of expanding and accelerating such on-going plan projects which have got sizeable employment potential. Next step should be to open such special works which are productive and self-generating like minor and medium irrigation works, soil and water conservation, grass-land and pasture development, afforestation, fish-culture, development of irrigation commands, development of cottage and small-scale industries, self-employment schemes, etc. In case, the construction of village roads is chosen, the road constructed should be of a certain specified standard.

5.34. The long-range solution of rural and urban unemployment and under-employment, therefore, lies in intensification of agriculture and allied activities, cottage and small-scale industries and self-employment schemes. Till that state of rural development is reached, a separate employment programme for the residual or spill-over labour force, with additional funding and focus on employment, is, therefore, necessary for quite some time to come. But these programmes should be conceived within the frame-work of the over-all development process and properly integrated with the area development programmes already in operation.

5.35. An attempt has been made to estimate the amount of money required for wage employment works till full employment is achieved at the rate of Rs. 5 per day (Rs. 3 towards minimum wage and Rs. 2 material component) and 273 working days in a year. For this exercise, the number of unemployed person-years shown in Table 14 has been used. Figures for the intermediate years have been interpolated. The estimated sum of money, as could be seen from Table 16, comes to 1572.13 crores, of which Rs. 1163.87 crores would be required in the five-year Plan (1978—83) and Rs. 409.26 crores in the Medium-term Plan (1983—89).

TABLE 16

AMOUNT OF MONEY REQUIRED FOR WAGE EMPLOYMENT WORKS
(1978—89).

Year	Unemployment (person-years in lakhs).	Amount of money (Rs. crores at 1976-77 prices)
1978-79	19.90	271.63
1979-80	18.50	252.52
1980-81	16.92	230.95
1981-82	15.65	213.62
1982-83	14.37	196.15
1983-84	11.52	157.25
1984-85	9.02	123.12
1985-86	6.30	85.99
1986-87	2.96	40.40
1987-88	0.11	1.50
1988-89	0.00	0.00

ANNEXURE 1

Projected participation rates (1971-81)

(Per cent)

Year	Age-group	Rural		Urban	
		Male	Female	Male	Female
1971	15-34	89.6	49.3	75.4	18.8
	35-59	97.0	51.8	93.3	24.9
1976	15-34	89.1	18.8	74.9	20.8
	35-59	96.5	51.3	93.3	25.9
1981	15-34	88.6	48.3	74.4	22.8
	35-59	96.5	50.8	93.3	26.9

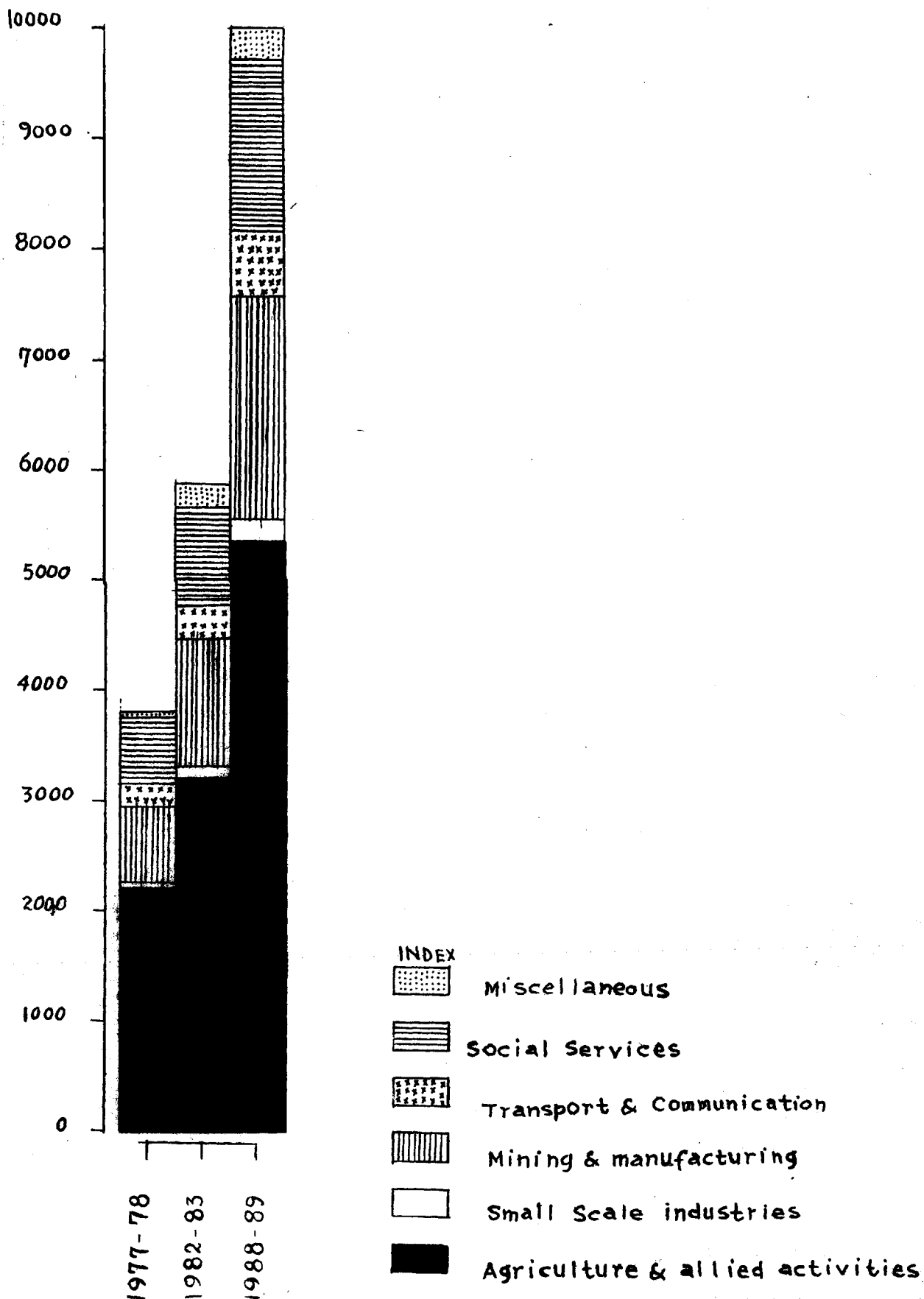
ANNEXURE 2

PROJECTED PATTERN OF DISTRIBUTION OF SDP

(Rs. in crores at 1973-74 prices)

	1977-78	1982-83	1988-89
1. Agriculture and allied activities ..	2131.80 (56.1)	3199.95 (54.7)	5364.67 (53.9)
2. Small scale industries ..	60.80 (1.6)	99.45 (1.7)	189.11 (1.9)
3. Mining and manufacturing ..	695.40 (18.3)	1152.45 (19.7)	2030.41 (20.4)
4. Transport & communications ..	197.60 (5.2)	310.05 (5.3)	527.51 (5.3)
5. Social Services ..	676.40 (17.8)	971.10 (16.6)	1552.67 (15.6)
6. Miscellaneous ..	38.00 (1.0)	117.00 (2.0)	288.63 (2.9)
TOTAL ..	3800.00 (100.00)	5850.00 (100.00)	9953.00 (100.00)

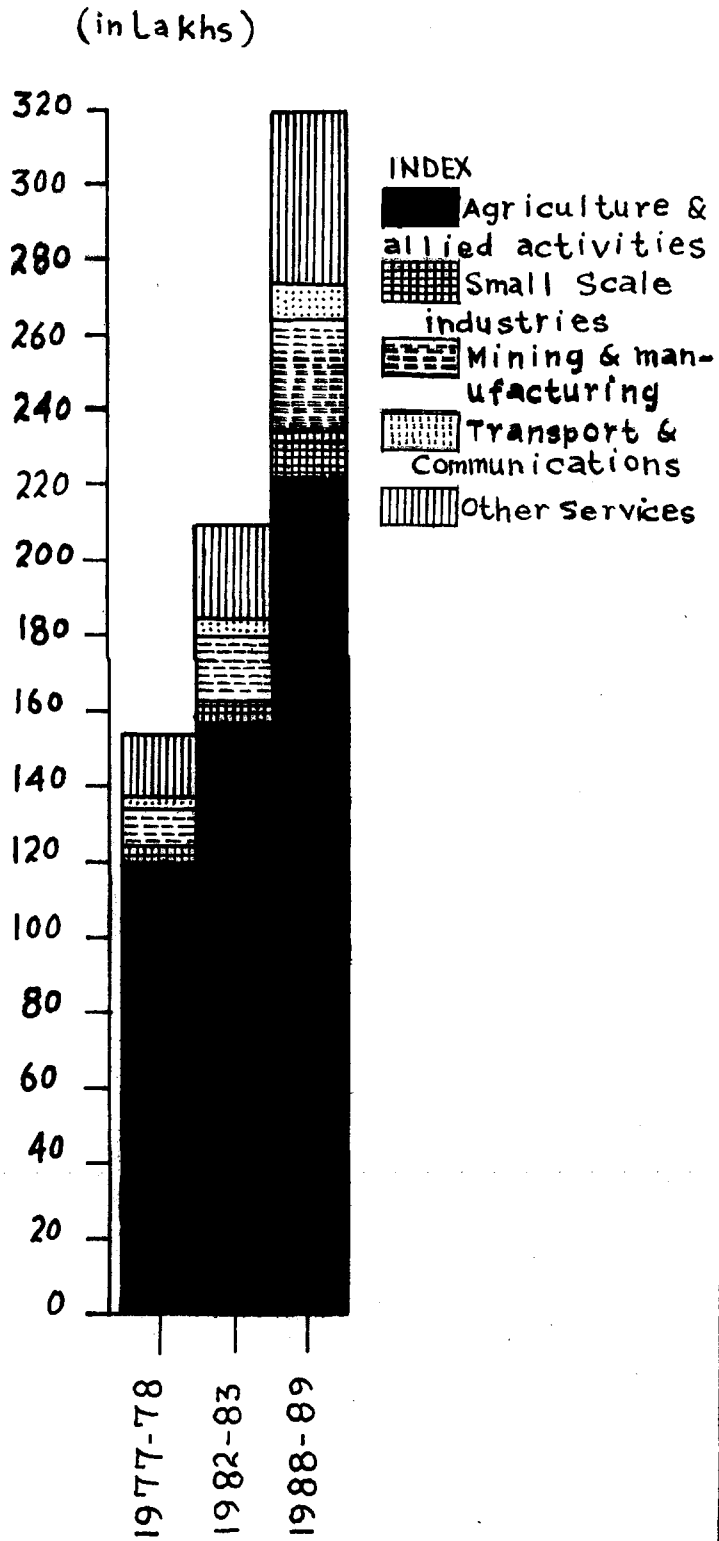
PROJECTED SECTORAL PATTERN OF STATE DOMESTIC PRODUCT
IN 1977-78, 1982-83, & 1988-89



J. Alam, cartographer

FIG:- 8

**SECTORAL EMPLOYMENT PATTERN
IN
1977-78, 1982-83, and 1988-89**



J. Alam, cartographer

FIG - 9

ANNEXURE 3

ACTUAL/ENVISAGED STRUCTURAL PATTERN OF EMPLOYMENT IN BIHAR
(1970-89)*(Per cent)*

Sectors.	1970-71	1973-74	1977-78	1982-83	1988-89
1. Agriculture and allied activities.	80.45	82.01	77.53	74.75	70.30
2. Small scale industries ..	2.94	2.26	2.51	3.00	3.78
3. Mining and manufacturing ..	5.08	6.35	6.54	7.93	9.27
4. Transport and communications	2.20	1.52	2.08	2.38	2.69
5. Other services	10.30	7.86	11.33	11.94	13.95
TOTAL ..	100.00	100.00	100.00	100.00	100.00

CHAPTER VI

ERADICATION OF POVERTY

Poverty in retrospect

One of the main objectives of the Perspective Plan of Bihar is to catch up with the estimated all-India per capita income level of Rs. 1,320 at 1973-74 prices by 1988-89. But it is not enough to raise the per capita income; it is also necessary to bring about a more equitable distribution of income and wealth. The State should plan in such a way that the people in the lower strata of income get successively higher and higher share in the State income. The present chapter makes an attempt to examine how far the level and pattern of investment contemplated in the Perspective Plan will succeed in bringing about a reduction in the number of people below the poverty line.

6.2. An examination of the N.S.S. data relating to income distribution reveals that the distribution of income has been highly unequal in the State. Assuming a minimum consumption level of Rs. 20 per capita per month at 1960-61 prices as the poverty line based on the Planning Commission's earlier norm, the percentage of people below the poverty line in Bihar for the year 1964-65 to 1969-70 works out generally to over 50 per cent as shown in Table 1. It could be seen therefrom that there has been a widening of mass poverty.

TABLE 1
PERCENTAGE OF PEOPLE BELOW POVERTY LINE

Year	Percentage of people below poverty line.	Percentage of acutely destitute persons.
1964-65	49.80	7.41
1965-66	48.80	6.64
1966-67	55.38	7.65
1967-68	51.11	7.06
1968-69	56.89	12.77
1969-70	52.50	8.23

The deepening aspect of mass poverty is all the more a disquieting feature. The percentage of acutely destitute persons defined as those having per capita per month consumption of Rs. 10 or less at 1960-61 prices, has also gone on increasing as could be seen from the table.

Prospect for the eradication of poverty.

6.3. The usual method for projecting the percentage of people below the poverty line is the income distribution method. In this method, it requires to be examined if the income (expenditure) distribution follows the well-known log-normal pattern. The next step consists in shifting the mean of the base year log-normal distribution in the year under consideration, keeping the skewness of the base year distribution constant. The shifting of the mean of the distribution means an upward revision of the expenditure classes by the ratio of the average per capita consumption in the base year to those projected for future years. But this method could not be applied in this case as the 28th Round NSSO data for Bihar on consumer expenditure do not follow log-normal pattern. Had the corresponding State samples data been pooled together with the Central Samples data, the problem could have been overcome. But this could not be tried as the State samples data for 1973-74 are yet to be processed by the State Directorate of statistics and Evaluation. As an alternative, the regression method discussed below has been used.

6.4. The total income of the people below the poverty line (Y^p) has been assumed to be linearly dependent on four variables, viz. income from the agricultural sector (X^a), value of food production (Ft), Government expenditure on the social services (G^s) and State income (Yt). The above four variables have considerable impact on the income of the people below the poverty line. A major portion of their income is spent on food consumption. Also the Government expenditure on social services activities such as family planning, child-care, education, community organisation and health, directed especially at poor communities has a direct impact in lifting the people above the poverty line. Similarly, the agricultural income and the State income are the other two important variables for the study.

6.5. The N.S.S.O. data on the consumer expenditure in Bihar gives the number of persons in thirteen total expenditure classes for the year 1964-65, 1965-66, 1968-69 and 1969-70. For estimating the total income of the people below the poverty line, the minimum level of consumption for each year from 1964-65 to 1969-70 (excluding 1966-67 and 1967-68 for which the N.S.S. data are not available) corresponding to Rs. 20 per capita per month at 1960-61 prices has been worked out by suitably allowing for the increase in prices in the intervening years. Thereafter, the percentage of people below this specified level has been calculated. In the absence of the data on income, the total expenditure of the persons below the poverty line has been assumed to be equal to the income. In fact, the expenditure of these persons may exceed the income due to high indebtedness in the lower strata of income earners. Once the percentage of people below the poverty line is known, the number of people below the poverty line could also be known. The next consists in computing the average per capita monthly income of the people below the poverty line, which when multiplied by the population gives the total income of the people below this line at current prices. These have then been converted into 1973-74 prices by using suitable price indices. For the years 1966-67 and 1968-69 for which the N.S.S. data are not available, the percentage of people below the poverty line has been estimated

on the basis of comparison of the per capita income of the State with the previous year. The results are presented in Table 2.

TABLE 2
INCOME OF THE PEOPLE BELOW POVERTY LINE (1964—70)

(Rs. in lakhs).

Year	Minimum Level of consumption per month (Rs.)	Percentage of people below poverty line.	Total population (in lakhs)	Population below poverty line (in lakhs)	Average per capita monthly income of people below poverty line (Rs.)	Total income of people below poverty line (Rs. in lakhs).	Total income of people below poverty line at 1973-74 prices
1	2	3	4	5	6	7	8
1964-65	23.92	49.89	501.96	250.43	16.92	5,08.47	10,84.43
1965-66	26.38	48.08	511.77	246.06	18.80	5,55.11	10,72.26
1966-67	30.05	55.38	521.77	288.92	17.86	6,19.21	10,50.06
1967-68	33.54	51.11	531.97	272.89	22.35	7,25.95	11,03.04
1968-69	33.15	56.89	542.37	308.55	22.20	8,21.05	12,63.28
1969-70	34.38	52.50	552.97	290.31	24.41	8,50.38	12,59.71

6.6. It could be seen from Table 2 that the percentage of people below the poverty line has varied from year to year, the highest reaching in the year 1968-69. The average monthly per capita income of nearly 50 per cent or more of the population has varied from a bare minimum of Rs. 16.92 to Rs. 24.41 at the respective year's prices.

6.7. For calculating the value of foodgrains production for the year under reference, the following method has been adopted in the absence of suitable data. The data on the quantity and wholesale prices per quintal of major foodgrains have been collected for the year 1974-75. The average wholesale price per quintal for foodgrains was then calculated. The average price comes to Rs. 171.87 per quintal. This has been multiplied by suitable conversion factors for prices to obtain average price for each year under reference. The quantity of foodgrains produced in the various years under reference has been multiplied by the respective average price to compute the values of the foodgrains at the current prices. These have been converted into 1973-74 prices.

6.8. The data on agricultural income, Government expenditure on social services and State income have also been converted into 1973-74 prices. All the relevant data discussed above are presented in Table 3 in units of hundred crores of rupees.

TABLE 3

VALUES OF THE VARIABLES USED FOR PROJECTING INCOME OF THE PEOPLE BELOW POVERTY LINE.

(Rs. '00 crores at 1973-74 prices)

Year	Income of the people below poverty line Y_t^p	Agricultural income Y_t^a	Value of foodgrains production F_t	Government expenditure on social services G_t^s	State income Y_t
1	2	3	4	5	6
1964-65	10.84	16.49	9.55	0.25	31.02
1965-66	10.72	17.62	9.10	0.26	32.37
1966-67	10.50	12.74	4.59	0.12	27.38
1967-68	11.03	17.93	9.34	0.16	31.15
1968-69	12.63	16.45	9.34	0.19	30.80
1969-70	12.59	15.90	8.61	0.12	32.49

6.9. By relating the past data on the income of the people below the poverty line to foodgrains production, agricultural income, aggregate income and expenditure on social services, a line has been fitted on the basis of the data contained in Table 3. The equation to the fitted line is:

$$Y_t^p = 13.72721 - 0.49568 Y_t^a + 0.80575 F_t - 12.54907 G_t^s + 0.11264 Y_t$$

$$R^2 = 0.85$$

The co-efficient vector of the regressors has been obtained on the basis of the usual CLS estimator $\hat{\beta} = (X'X)^{-1} X'Y$. The inverse $(X'X)^{-1}$ being a 5×5 matrix has been obtained by inverting $X'X$ with the help of computer. The 't' test was carried out for testing the hypothesis $H: \beta_i = 0$, i.e., no correlation between the regressors and the regressand the hypothesis was rejected at 5 per cent level of significance. The observed values corresponding to the different β_i 's ($H: \beta_i = 0$) are: -0.45190 , 0.65703 , -0.83001 and 0.01330 which are significant at 5 per cent level.

6.10. Check for the existence or non-existence of multi-collinearity among the explanatory variables is also essential for the above exercise as it is well-known that the presence of multi-collinearity makes the sampling variance of the estimated co-efficients large. As the solution vector $\hat{\beta} = (X'X)^{-1} X'Y$ was obtained it is evident that the perfect multi-collinearity does not exist. An attempt has also been made to test the extent of multi-collinearity. For this, the co-efficients of multiple determination, R^2 's between each explanatory variable in term and the remaining three explanatory variables were calculated and the F test was carried out. All the F-values have been found to be statistically significant at 5 per cent level.

6.11. It could be seen from the equation given at paragraph 10 that the Government expenditure on social services has a significant contribution to the income of the people below the poverty line. In other words, as the Government expenditure on social services increases the total income of the people below the poverty line reduces. Since the income of each person below the poverty line has been assumed

to be equal to the average income of the group, this would mean a corresponding decline in the number of people below the poverty line. The income from the agricultural sector also indicates result in the same direction.

6.12. The value of the variables Y_t^a , F_t , G_t^s and Y_t are known for the terminal years of the Fourth, Fifth, Sixth and Medium-term (1983-89) plans as part of the Perspective Plan exercise. The actual/projected values of the variables Y_t^a , F_t , G_t^s and Y_t for the years 1973-74, 1977-78 and 1982-83 and 1988-89 are given in Table 4.

Table 4
Projected values of Y_t^a , F_t , G_t^s and Y_t up to 1988-89.

(Rs. '00 crores at 1973-74 prices)					
Year	Income from agricultural sector (Y_t^a)	Value of foodgrains production (F_t)	Government expenditure on social services (G_t^s)	State income (Y_t)	
1	2	3	4	5	
1973-74	20.28*	10.84	0.20*	35.78*	
1977-78	21.31	14.65	0.40	38.00	
1982-83	31.96	17.44	0.60	58.50	
1988-89	53.65	22.33	1.30	99.53	

*Actual.

6.13. Since the relation among the different variables are known as per the equation to the fitted line (para 10), the values of Y_t^p , i. e., the total income of the people below the poverty line, can be projected for the relevant years. Similarly once the total income of the people below this line is known, their number can be obtained by dividing the total income by the average monthly income (expenditure) of the people below the poverty line.

6.14. Since the minimum level of consumption is the upper limit of consumption of the persons below the poverty line, Rs. 20 per capita per month at 1960-61 prices, i.e. Rs. 51 per capita per month at 1973-74 prices, sets the upper limit to the poverty line. The average expenditure (or income) of the people of this class, which is below the minimum consumption level works out to Rs. 35 per mensem in 1973-74 current prices. As the planned economic development gains momentum, the people in the lower expenditure classes gradually move to higher and higher expenditure classes which means a gradual increase in the average expenditure (income) of the people below the poverty line. It has been assumed here that the average monthly expenditure (income) at 1973-74 prices will increase from Rs. 35 in 1973-74 to Rs. 40 in 1977-78, Rs. 45 in 1982-83 and Rs. 50 in 1988-89.

6.15. As discussed at para 14, the total income of the persons below the poverty line Y_t^p divided by the average annual income gives the number of persons below the poverty line. The total income and the percentage of people below the poverty

line at the end of the Fourth, Fifth, Five year plan (1978-83) and Medium-term plan (1983-89) are given in Table 5.

Table 5

Estimated number of people below poverty line (1973-89)

Year	Total income of people below poverty line (Rs. crores).	No. of people below poverty line (crores)	Projected population (crores).	Percentage of people below poverty line.
1	2	3	4	5
1973-74	1437.14	3.40	5.86	58.00
1977-78	1422.92	2.96	6.33	46.76
1982-83	1099.76	2.03	6.92	29.33
1988-89	Nil.	Nil.	7.54	Nil.

6.16. As could be seen from Table 5, the percentage of people below the poverty line is expected to register considerable fall from 58 per cent in 1973-74 to nil by the end of the Perspective Plan. This can be possible if the independent variables behave in the observed way. The conclusion, can, therefore, be drawn that the targets of investment, the investment pattern and the targets set out in the Perspective Plan are consistent with the objective of eradication of poverty.

6.17. An attempt has been made to estimate the percentage of people below the poverty line for rural and urban areas separately. This has been done on the basis of the ratio of rural to urban population below the poverty line in 1973-74 calculated on the basis of the projected population for 1973-74 and the consumer expenditure data given in the 28th Round Survey Report of the N.S.S.O. The results are presented in Table 6.

Table 6

Estimated percentage of people below poverty line by residence (1973-74 to 1988-89)

Year	Rural	Urban	Total
1973-74	69.01	50.98	58.00
1977-78	47.01	44.44	46.76
1982-83	29.45	27.94	29.33
1988-89	Nil.	Nil.	Nil.

6.18. The estimates of the percentage of people below the poverty line given in Table 6 are based on the assumption of a minimum consumption level of Rs. 20 per capita per month at 1960-61 prices as the poverty line. The equivalent of 1960-61 minimum consumption level for subsequent years during which the prices have risen, has been determined on the basis of the index number of wholesale prices published in the Monthly Bulletin of the Reserve Bank of India.

6.19. The estimates of the percentage of people below the poverty line vary a great deal due to the divergence in the norm fixed for the poverty line and the price index chosen for determining the equivalent of the norm for subsequent years during which the prices have risen. In order to facilitate inter-State comparison of poverty percentage, an attempt has been made to recast the estimates given in Table 6 on the basis of the latest norm of poverty line worked out by the Planning Commission @ viz. a minimum consumption level of Rs. 61.8 and Rs. 71.3 per capita per month at 1976-77 prices for rural and urban areas respectively. The equivalent of 1976-77 minimum consumption level for 1973-74 during which the prices were lower has been determined on the basis of the consumer price index number for agricultural labourers (CPIAL) for rural areas and consumer price index number for industrial workers (CPIIW) for urban areas. Both these official index numbers have been taken from the Indian Labour Journal, a monthly publication of the Labour Bureau, Ministry of Labour. The CPIIW is not directly available for any State. The Labour Bureau constructs this index for 50 Centres in different States, of which there are 5 centres in Bihar. In order to compute the State CPIIW for Bihar from the 5 centres index numbers, a weighting diagram* obtained from the N. S. S. O., has been used. The choice of the official index numbers, viz., CPIAL and CPIIW, is based on the methodology adopted by Prof. Raj Krishna in the Report of the Finance Commission, 1978.

6.20. The estimates of the percentage of people below the poverty line in 1973-74 have been reworked out on the lines indicated above on the basis of the consumer expenditure data contained in the 28th Round Survey of the N. S. S. O., which are now available. The poverty percentage works out to 69.49 (76.00 for rural areas and 51.26 for urban areas). The respective all-India percentage estimates are 66.59, 66.06 and 48.79. The projected figures for 1977-78, 1982-83 and 1988-89 for Bihar have been arrived at by using the linear relationship existing between the projected poverty percentage for 1973-74 in Table 6 (58.00) and the poverty percentage worked out for the same year on the basis of N. S. S. O. data (69.49). The rural-urban break up has been worked out on the basis of the relationship existing between the projected figures of poverty percentage for rural, urban and total as given in Table 6. The adjusted estimates of poverty, which have been adopted for planning purposes, are presented in Table 7.

Table 7

Adjusted estimates of percentage of people below poverty line by residence
(1973-74 to 1988-89).

Year.	Rural.	Urban.	Total.
1973-74	76.00	51.26	69.49
1977-78	56.32	53.24	56.02
1982-83	35.29	33.48	35.13
1988-89	Nil	Nil	Nil

* Planning Commission, Draft Five Year Plan 1978-83, Vol. II, page 36.

* Report of the Finance Commission, 1978, Appendix IV-9, Annexure VI, page 221.

6.21. The conclusions drawn in the foregoing paras are possible only when the variables behave in the observed way. It should be noted here that poverty cannot be eradicated and the living standard of the people raised by some magic wand. The problem of eradication of poverty is one of providing employment and raising the productivity of low level employment. "Employment' is the surest way to enable the vast numbers living below the poverty level to raise above it".* But it is necessary to ensure that employment provision does not become an end in itself. The following measures can help enlarging productive employment and eradication of poverty :—

- (i) Redistribution of land acquired after the imposition of ceiling among the landless labourers and small and marginal farmers.
- (ii) Working out an investment programme to generate large number of jobs in minor irrigation, dairying and animal husbandry, poultry, fisheries, forestry and small-scale and tiny industries.
- (iii) Provision of security of tenure to share-croppers and temporary tenants.
- (iv) Launching of special programmes like rural works programmes. Village roads constructed in the process must be of a specified standard.
- (v) Creation of opportunities of self-employment by providing credit to the weaker sections of the society in rural and urban areas.
- (vi) Improvements in the methods of public distribution system at subsidised prices for weaker sections.
- (vii) Expansion of social services directed particularly towards poor communities such as family planning, child-care, education and health, and intensive attempt to improve drinking water, sanitation and housing of poor communities.
- (viii) Setting up of special Development Councils at Panchayat/Block level on which majority representation is given to the small and marginal farmers, artisans and landless labourers, to implement the programmes of rural development directed to help the poor. It is, therefore, necessary to revolutionise the Development Councils for effective implementation of the schemes.
- (ix) Implementation of the present law about debt redemption.
- (x) Enforcement of Minimum Wages Act to all categories of workers including women and agricultural labourers.

6.22. *To sum up.*—The real answer to the eradication of poverty is employment. People are poor because they are unemployed/ under employed. The main thrust of the strategy for eradication of poverty is, therefore, provision of full employment. Besides, there are a number of policy measures, pointed out above, which will hasten the pace of eradication of poverty.

*Planning Commission Approach to the Fifth Plan (1974—79), p. 3.

CHAPTER VII

AN INTER-SECTORAL BALANCE OF THE STATE ECONOMY FOR 1982-83 AND 1988-89.

Economic development causes an increase in the supply of goods and services in the economy. At the same time, it raises the level of demand through an increase in money incomes. One of the objectives of planning is to ensure a balance between the aggregate supply of and demand for various goods and services and to secure internal consistency of the plan model. In the context of a State economy, however, it is difficult to attempt such an exercise due to limitation of data on the exports from and imports to the State. Despite these difficulties, an attempt has been made to estimate roughly the balance of the State economy between supply and demand for 1982-83 and 1988-89.

7.2. The aggregate demand for any particular year consists of the following :—

- (i) inter-industry demand;
- (ii) private consumption;
- (iii) public consumption;
- (iv) gross fixed capital formation;
- (v) changes in stocks; and
- (vi) net exports.

The demand of various sectors has been worked out in value terms. The aggregate supply of goods and services of different sectors has been taken to be equivalent to the incomes likely to be generated as a result of the implementation of various schemes contemplated in the Perspective Plan of Bihar (1978—83). Due to limitation of data as mentioned in the foregoing para, net exports could not be estimated in the present exercise. An excess of supply over demand in any sector in the present exercise will, therefore, indicate in a very rough way an outflow of goods and services and vice-versa.

7.3. For the present analysis, the economy has been divided into seven broad sectors :—

- (i) agriculture and allied activities;
- (ii) mining;
- (iii) large-scale industries;
- (iv) small-scale industries;
- (v) power;
- (vi) transport and communications; and
- (vii) others including services.

ESTIMATE OF DEMAND

Inter-industry demand

7.4. The original 38×38 transaction demand matrix* has been consolidated into a 7×7 transaction demand matrix. Input-output-co-efficients have then been worked out from the matrix. The co-efficient matrix is given in Table 1.

7.5. In the present exercise, it has been assumed that the input-output co-efficients will remain constant over the Perspective Plan period (1978—89). The original inter-industry transaction matrix was constructed at 1969-70 prices. Since the input-output co-efficients are pure number they can be used for future years also without any adjustment for prices.

*Ghosh, P.P., 'A regional planning model for Bihar in an input-output Framework' (mimeographed), A.N.S. Institute of Social Studies, Patna (1975).

6. The inter-industry demand can be expressed as :

$$Y=AX, \text{ where}$$

Y is the inter-industry demand vector; X , the output vector; and A , the input-output matrix.

TABLE 1
Input-output matrix

Sector	Agriculture and allied activities	Mining	Large scale industries	Small-scale industries	Power	Transport and communications	Others including services
1	2	3	4	5	6	7	8
1. Agriculture and allied activities.	0.17474	..	0.09666	0.34590	..	0.07651	0.00757
2. Mining .. ..	..	0.03194	0.11197	..	0.09548	0.04647	0.00386
3. Large-scale industries ..	0.02127	0.07641	0.27776	0.03967	0.01364	0.09038	0.07726
4. Small-scale industries ..	0.00682	..	0.00003	0.01681	..	0.00002	..
5. Power	0.00056	0.03040	0.01924	0.00678	0.17651	0.00813	0.00313
6. Transport and Communications.	0.00130	0.03086	0.05178	0.01962	0.03691	0.02382	0.02284
7. Others including services ..	0.01217	0.01482	0.11436	0.07516	0.01616	0.05455	0.02121

7.7. The output vector (X) in 1982-83 and 1988-89 has been exogeneously determined (Chapter IV) and is presented in Table 2.

TABLE 2
Projected pattern of State Domestic Product

Sector	(Rs. crores at 1973-74 prices)	
	1982-83	1988-89
1. Agriculture and allied activities ..	3199.95	5364.67
2. Mining	334.04	588.82
3. Large-scale industries ..	818.41	1441.59
4. Small-scale industries ..	99.46	189.11
5. Power	117.00	288.63
6. Transport and communications ..	310.05	527.51
7. Others including services ..	971.16	1552.67
TOTAL ..	5850.00	9953.00

Given X and A , the intermediate demand (Y) required to support this level of output can be found out. Since X is at 1973-74 prices and A is a matrix of pure numbers, Y will be at 1973-74 prices.

7.8. The sectoral inter-industry demand for 1982-83 and 1988-89 are shown in Table 3.

TABLE 3

Inter-industry demand in 1982-83 and 1988-89 by sectors

Sector	(Rs. crores at 1973-74 prices)	
	1982-83	1988-89
1. Agriculture and allied activities ..	688.97	1194.28
2. Mining	131.64	238.29
3. Large-scale industries ..	429.49	738.61
4. Small-scale industries ..	23.51	39.81
5. Power	54.57	110.02
6. Transport and communications ..	92.67	162.17
7. Others including services ..	165.81	319.46
TOTAL ..	1586.66	2802.64

Private consumption

7.9. In the original inter-sectoral transaction model*, the total private consumption in 1969-70 was estimated at Rs. 2,181 crores at current prices (or Rs. 3,426 crores at 1973-74 prices). The per capita private consumption worked out to Rs. 491. Although the per capita income of the State during the period 1969-70 to 1975-76 at constant (1969-70) prices has fallen and is not expected to grow at a significant rate till 1977-78, the same cannot be assumed of the per capita consumption. It would not be unreasonable to assume a marginal annual increase of 1/4 to 1/2 per cent in per capita private consumption at 1969-70 prices during the period 1969-70 to 1977-78 or by 2.75 per cent during the period over 1969-70 level at 1969-70 prices. It has been further assumed that the per capita private consumption would grow at the rate of about 6.50 per cent annually at constant (1969-70) prices during the period 1978-79 to 1982-83 because of the measures to remove inequality and other measures to increase social consumption. During the same period, it has been postulated that the per capita State income would grow at the rate of 7 per cent per annum (compound) (Chapter IV). On the basis of the aforesaid assumptions, the per capita private consumption level works out to Rs. 412 at 1969-70 prices in 1982-83. This when multiplied by the projected population of the State in 1982-83 (6.92 crores) gives the total private consumption at Rs. 2,850 crores at 1969-70 prices, or Rs. 4,226 crores at 1973-74 prices, which shows an increase of about Rs. 10,00 crores in private consumption at 1973-74 prices during the period 1969-83.

7.10. The Sardar Patel Institute of Economic Development, Ahmedabad has calculated the increment in private consumption for selected commodities for Bihar with respect to unit increment in total private consumption based on the 19th Round data of the N.S.S.O. The commoditywise classification given by them was rearranged into broad sectors to meet the requirements of the present exercise and the corresponding ratios were then used to project the incremental change in private consumption for different sectors over 1969-70 level at 1973-74 prices on the assumption of constancy of the ratios over time. The private consumption expenditure for different sectors for the base year is known from the original inter-sectoral transaction matrix. The total

private consumption expenditure for different sectors for 1982-83 and 1988-89 at 1973-74 prices have been obtained by adding the incremental change to the base year figures. These are presented in Table 4.

TABLE 4

Estimated/projected values of private consumption in 1969-70, 1982-83 and 1988-89

Sector	(Rs. crores at 1973-74 prices)		
	1969-70	1982-83	1988-89
1. Agriculture and allied activities	19,36	24,11	34,68
2. Mining .. .. .	..	..	..
3. Large-scale industries ..	2,85	4,16	7,08
4. Small-scale industries ..	2,30	3,25	5,38
5. Power	6	33	91
6. Transport and communications	2,12	2,87	4,53
7. Others including services ..	3,57	7,54	11,92
TOTAL ..	32.26	42,26	64,50

Public consumption

7.11. It is estimated that the value of public consumption in Bihar in the year 1973-74 was Rs. 21.12 crores at 1969-70 prices*. This works out to Rs. 31.26 crores at 1973-74 prices. The total revenue expenditure of the Government of Bihar in 1973-74 was of the order of Rs. 299.94 crores at current prices. The public consumption in 1973-74, therefore, constituted 10.42 per cent of the total expenditure. This proportion has been applied to the projected figures of revenue expenditure in 1982-83 and 1988-89 to estimate the aggregate public expenditure for these years. On the basis of the elasticity of revenue expenditure to income, the revenue expenditures for 1982-83 and 1988-89 has been projected at Rs. 408 and Rs. 530 crores at 1973-74 prices respectively@. Using the estimated proportion for 1973-74 (10.42 per cent), the figures of aggregate public consumption work out respectively to Rs. 42.51 and Rs. 55.23 crores. For determining the sectoral break down, the all India proportion, as worked out by the Planning Commission**, has been used. The sectoral estimates of public consumption are given in Table 5.

TABLE 5

Sectoral distribution of public consumption in 1982-83 and 1988-89.

Sector	(Rs. crores at 1973-74 prices)	
	1982-83	1988-89
1. Agriculture and allied activities ..	19.72	25.63
2. Mining	0.05	0.24
3. Large-scale industries	10.18	13.23
4. Small-scale industries .. .. .	..	..
5. Power	0.62	0.77
6. Transport and communications ..	7.94	10.40
7. Others including services	4.00	4.96
TOTAL ..	42.51	55.23

*Ibid.

@ "An appraisal of resource availability" (mimeographed) Perspective Planning Division, Bihar State Planning Board, Patna (1977).

**An input-output table for the Indian Economy for 1959, Planning Commission, Government of India, New Delhi.

Capital formation

7.12. Though there are some estimates of capital formation prepared by the Central Statistical Organisation and some other institutions available for the country as a whole, the regional estimates of this important economic variable are almost completely lacking. Hence, the task of projecting the total gross capital formation for future years becomes a difficult proposition. Shri Ghosh's estimates of the value of gross capital formation in Bihar to the tune of Rs. 173.29 and 210.81 crores in 1973-74 and 1978-79 at 1969-70 prices* could be used as the base for projection purposes. In the absence of any knowledge about capital co-efficient matrices the value of gross capital formation in the terminal years 1982-83 and 1988-89 has been projected on the basis of assumed rate of growth. Though it has not been possible to find out the average annual growth rate of capital formation, a crude estimate indicates that it has been under 3 per cent.** For projection purposes, the annual growth rate has been taken as 4 per cent (compound) for the period 1978-83 and 5 per cent (compound) for the period 1983-89. Having estimated the aggregate figures the sectoral distribution of the aggregates has been found out on the basis of the distribution pattern obtaining in 1969-70@. The projected sectoral values are given in Table 6 at 1973-74 prices.

Table 6

Sectoral distribution of projected value of capital formation in 1982-89

(Rs. crores at 1973-74 prices)

Sector	1969-70	1982-83	1988-89
1	2	3	4
1. Agriculture and allied activities	1.72 (1.06)	4.22	5.39
2. Mining	0.00 (0.00)	0.00	0.00
3. Large-scale industries	82.96 (51.38)	204.55	261.07
4. Small-scale industries	3.66 (2.25)	9.00	11.44
5. Power	0.00 (0.00)	0.00	0.00
6. Transport and communications	7.68 (4.75)	18.92	24.14
7. Other including services	65.49 (40.55)	161.44	206.05
TOTAL	161.51 (100.00)	398.18	508.09

*Ghosh, P. P., Op. cit.

**Ibid.

@Ibid.

Changes in stock

7.13. Theoretically speaking, there exists a relationship between changes in stock and gross capital formation. In practice also, inventory investment is made out of capital formation in that particular sector. Shri Ghosh* found this relationship to be 7 per cent of the total capital formation in Bihar in 1973-74. For the Indian economy, the Planning Commission estimated this ratio to be 12.5 per cent. Since Shri Ghosh's estimate is rather on the low side, the Planning Commission's estimate has been adopted as the basis for projecting the change in stock in 1982-83. For 1988-89, this ratio has been assumed to increase to 15 per cent. The sectoral distribution has been obtained by using the proportion for 1969-70. Sectoral distribution of projected value of changes in stock in 1982-83 and 1988-89 are given in Table 7.

Table 7

Sectoral distribution of projected values of changes in stock in 1982-83 and 1988-89.

(Rs. crores at 1973-74 prices)

Sector	1969-70	1982-83	1988-89
1. Agriculture and allied activities	4.71 (32.92)	16.38	25.09
2. Mining	0.78 (5.45)	2.71	4.16
3. Large-scale industries	8.82 (61.63)	30.67	46.98
4. Small-scale industries	0.00 (0.00)	0.00	0.00
5. Power	0.00 (0.00)	0.00	0.00
6. Transport and communications ..	0.00 (0.00)	0.00	0.00
7. Other including services .. .. .	.00 (0.00)	0.00	0.00
TOTAL	14.31 (100.00)	49.76	75.23

Estimate of supply

7.14. After projecting the various components representing the demand side of the picture, the next question is to project the sector-wise value of out-put. As the deliberations of the various Task Forces, set up by the Planning Board to carry out in-depth studies on the various aspects of the Perspective Plan (1978-89), are not yet complete their estimates of sector wise physical outputs are not available. In the absence of these basic data, as a rough guide, the sector-wise SDP projected by the Perspective Planning Division of the Planning Board has been taken to represent the supply side of the picture in 1982-83 and 1988-89. (Table 2).

*Ibid

Sectoral demand—supply balance

7.15. The total sectorwise demand has then been compared with the respective supply and the divergence worked out. This is presented in Table 9. A positive gap between supply and demand indicates export of the goods and services of the sector and vice-versa. It will be seen from the Table 8 that at the end of 1988-89, agriculture appears as a major exporting sector. This is quite in consonance with our plan objectives. Industries will continue to be an importer, although, on the whole, the economy will be having a net positive balance by 1988-89. The Five-Year Plan (1978—83), however, may not be able to make Bihar a self-sufficient economy.

TABLE 8
SECTORWISE BALANCE BETWEEN DEMAND AND SUPPLY IN 1982-83 AND 1988-89.

(Rs. crores at 1973-74 prices)

Sector	1982-83			1988-89		
	Total demand	Total supply	Balance	Total demand	Total supply	Balance
1	2	3	4	5	6	7
1. Agriculture and allied activities.	3123.00	3199.95	76.04	4718.39	5364.67	646.28
2. Mining	134.40	334.04	199.64	242.69	588.82	345.83
3. Large-scale industries ..	1090.89	818.41	(-)272.48	1767.89	1441.59	(-)326.30
4. Small-scale industries ..	357.51	99.45	(-)258.06	589.25	189.11	(-)400.14
5. Power	88.19	117.00	28.81	201.79	288.63	86.84
6. Transport and communications	406.53	310.05	(-)96.48	649.71	527.51	(-)122.20
7. Others including services ..	1085.25	971.10	(-)114.15	1722.47	1552.67	(-)169.80
TOTAL	6286.68	5850.00	(-)436.68	9892.19	9953.00	60.81

CHAPTER VIII

RESOURCES FOR THE PERSPECTIVE PLAN

A preliminary econometric study conducted by the Perspective Planning Division of the Bihar State Planning Board indicates the financial feasibility of the projected level of investment for the Perspective Plan of the State, provided adequate Central assistance is made available to the State along with larger institutional finance and market borrowings. The size of investment for the Perspective Plan (about Rs. 36,000 crores) indicated in Chapter IV of this document will be met from five sources, viz., State's own resources, direct Central investment, institutional finance, market borrowings and private sector investment. A final view on the relative shares of the State Government, direct Central investment, institutional finance, market borrowings and private sector investment in the total investment will be taken after the pattern of distribution of the proposed public sector outlay in the Central Five-Year Plan, 1978—83 (Rs. 69,380 crores) between the Central Plan, States and Union Territories is decided by the Planning Commission. The devolution of resources by the Seventh Finance Commission will also have to be taken into consideration.

8.2. In this connection, it is necessary to mention that the existing formula for the allocation of Central assistance to the States needs revision so as to give greater weightage to backwardness and level of poverty as the formula appears to be leading to greater regional disparities. Further, the existing ratio of loans to grants (70 : 30) may also have to be reversed to 30 : 70, so that the burden of debt repayment as well as of interest payment on the States is reduced.

8.3. In addition, funds made available by the Centre to the States for tackling natural calamities such as floods and droughts should be of the nature of grants rather than loans, as they add to the States' debt burden, even for dealing with natural calamities. Besides, such assistance should be outside and not within the plan ceiling, as has been the case in the Fifth Plan.

8.4. Institutional finance has been very inadequately tapped in Bihar. As mentioned earlier in Chapter I of this document, the incremental credit-deposit ratio during June, 1969 to June, 1976 in Bihar worked out to only 47.5 per cent as against 76.5 per cent for the country as a whole. The total credit-deposit ratio in June, 1976 was also only 43.5 per cent for Bihar as against 76.8 per cent for the country as a whole. In the matter of market borrowings also Bihar's share in the total borrowings for the country during the Fourth Five-Year Plan was only 5 per cent, although Bihar accounts for over 10 per cent of the total population of the country. Even in 1976-77, when the position was slightly better, the figure for Bihar worked out to only 6.7 per cent of the total. The per capita borrowing is also the lowest in Bihar. Special efforts have, therefore, to be made to ensure that larger institutional finance and market borrowings flow to this State. For this purpose, the administrative machinery and infra-structure also need to be strengthened.

E R R A T A

Page	Description	For	Read
1	Para 1, line 1 ..	.. micro	macro
	Para 2, line 2 ..	.. 35,000	36,000
10	Para 2, .18, line 4 ..	.. 782.84	632.84
	Para 2.19, line 5 ..	.. cross	across
12	Para 2.28 last line ..	.. 33.12	32.12
	Para 2.29, line 5 ..	.. g2.2	32.2
16	Para 2.39, line 7 ..	.. fall	fell
19	Para 2.58, line ..	.. Sixth Plan	Five Year Plan(1978—83)
24	Para 2.79, line 2 ..	.. vioissitudes	vicissitudes
	line 3 ..	.. insulte	insulate
26	Appendix II, heading ..	.. 1950	1950—76
27	Appendix II, heading ..	.. 1950	1950—76
29	Para 3.5, line 5 ..	.. 902	9.02
30	Para 3.11, line 1 ..	.. Bihar 1976.77	Bihar in 1976-77
31	Para 3.14, line 16 ..	.. gloring	glaring
32	Para 3.16, second line from below ..	.. 3.5	4.1
	Foot-note ..	.. p.76	p.46
42	Para 4.4, 5th line from below ..	.. 2.92	2.75
	2nd line from below ..	.. 8.15	5.88
43	Table 2, row 2, col. 11 ..	.. 765	766
45	Table 4, heading ..	.. SIXTH PLAN	FIVE-YEAR PLAN (1978—83)
47	Table 7, row 1, col. 5 ..	.. 1.7	1.67
50	Para 5.6, second line from below ..	.. 174.89	174.89—
53	Para 5.16, second line from below ..	.. 72.10	72.10+
58	Table 15, row 2, col. 3 ..	.. 72.10	22.10
	Para 5.30, first line ..	.. 'over'	'overt'
59	Para 5.35, last line ..	.. 409.26	408.26
	Table 16, row 1, col. 3 ..	.. 271.63	270.63
64	Table 2, just below Table heading ..	(Rs. in lakhs)	delete
	just below col. 8 heading ..	..	(Rs. in lakhs)
65	Table 3, row 3, col. 5 ..	.. 0.12	0.14
	row 4, col. 5 ..	.. 0.16	0.12
66	Para 6.12, line 2 ..	.. SIXTH PLAN	FIVE-YEAR PLAN (1978—83)
73	Table 4, row 7, col. 2 ..	.. 3.37	3.57
	row 7, col. 3 ..	.. 7.54	7,54
	row 8, col. 2 ..	.. 32.26	32,26
76	Para 7.15, line 2 ..	.. Table 9	Table 8